

THESIS

PREDICTING UNSATURATED SOIL STRENGTH FOR MOBILITY ASSESSMENTS

Submitted by

Matthew D. Bullock

Department of Civil and Environmental Engineering

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Master's Committee:

Advisor: Joseph Scalia

Co-Advisor: Jeffrey D. Niemann

Sean Gallen

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## ABSTRACT

### PREDICTING UNSATURATED SOIL STRENGTH FOR MOBILITY ASSESSMENTS

Accurate estimation of surficial soil moisture and soil strength is integral in the determination of vehicle mobility across landscapes for applications from agriculture to national defense. Especially important is the ability to estimate trafficability over large spatial extents at fine resolutions (10-30 m, or finer, grid cells). While methods exist to estimate soil strength across landscapes, these methods are empirical and rely on class average soil behavior or field measurements that are often difficult or impossible to acquire. In addition, modern terramechanics models require moisture-variable soil strength parameters (e.g., friction angle and cohesion) that cannot be easily acquired in the field. To tackle this issue, the Strength of Surficial Soils (STRESS) model was developed to estimate moisture-variable soil strength with a physics-based approach rooted in unsaturated soil mechanics. However, there has been a lack of field soil moisture and soil strength data from a spatially diverse landscape with which to evaluate the STRESS model. To test the STRESS model, a field study was conducted at the 4,000 ha Maxwell Ranch in the northern Colorado foothills. Soil moisture and soil strength were determined with HydraProbes and cone penetrometers, respectively, at 86 locations across the ranch on 10 dates from May to August 2022. The data were then used to test the STRESS model and determine if soil strength trends could be estimated from topographical and soil textural differences across the landscape. High variability was observed in soil strength measurements via field rating cone index (RCI) stemming from

fine-scale terrain and soil features as well as variability in cone penetrometer use. Observed trends show lower soil strengths for greater soil moistures, steeper slopes, higher vegetation, and lower soil fines content. The STRESS model was able to estimate field RCI values with a mean relative error of 37.5%, while a pre-existing model had a mean relative error of 47.4%. The STRESS model was able to reproduce strength trends with fines content but failed to reproduce vegetation and topographical trends. Thus, the STRESS model outperforms the current RCI prediction method, but the uncertainty in the predictions remains large.

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## 1. INTRODUCTION

Empirical models have been developed to compute vehicle travel routes and provide GO/NOGO maps that are essential to many applications including military operations planning and determining vehicle trafficability (Rula and Nuttall, 1971, Smith and Meyer, 1973). The North Atlantic Treaty Organization (NATO) Reference Mobility Model (NRMM), created by the US Army and NATO, empirically estimates mobility from vehicle, terrain, and environmental inputs (Jurkat et al., 1975, Haley et al., 1979, Ahlvin and Haley, 1992). Building on NRMM, the Next Generation NRMM (NG-NRMM) (McCilough et al., 2017) has been developed to implement complex terramechanics models (Choi et al., 2018) that require a deeper understanding of soil properties to model vehicle terrain interaction. Accurate estimation of soil strength is a critical input to both the NRMM and NG-NRMM.

As soil moisture increases, soils typically exhibit lower strength due to decreased capillary forces within soil pores (Fredlund et al., 1978, Lu et al., 2010). Decreases in soil strength reduce the ability of vehicle tires or treads to provide thrust and steering (Bekker, 1960). Current models characterize soil strength in terms of rating cone index (RCI) (Stevens et al., 2017), which can be determined in the field by a cone penetrometer (Waterways Experiment Station (WES), 1948) or estimated with an empirical relationship based on soil type and moisture content (Knight, 1961, Smith and Meyer, 1973, Sullivan et al., 1997). While RCI has long been used to characterize soil strength, mechanistic soil strength properties are increasingly needed for modern mobility modeling (viz., complex terramechanics models; Choi et al. 2018). Soil strength properties such as internal friction

angle and cohesion can be estimated from RCI (Rohani and Baladi, 1981, Perkins et al., 1992, Mason et al., 2020), however, these methods require assumptions that may not apply to field conditions and can produce non-unique results. Non-unique parameters may result in substantial errors when ingested into and propagated through complex terramechanics models.

The Strength of Surface Soils (STRESS) model was proposed to apply physics-based unsaturated soil mechanics to determine surficial soil strength (Pauly, 2019, Bindner, 2020). The STRESS model predicts the moisture invariant soil internal friction angle and moisture variable cohesion for a given surficial soil based on measured or modeled soil moisture content and soil texture. The outputs of the STRESS model can then be used directly in terramechanics models (e.g., NG-NRMM) or combined to determine RCI. The STRESS model has previously been evaluated using a 100 ha grassland site at 21 sampling locations across three dates (Pauly, 2019), but there is not currently field data at a larger scale (> 100 ha) to evaluate the performance of the model in reproducing natural trends in soil strength.

Because soil moisture is critical to RCI estimation and measurements cannot be collected at all locations of interest, the U.S. Army has developed models to predict soil moisture through simple water budget calculations and an empirical equation to estimate RCI from soil moisture (Smith and Meyer, 1973; Sullivan et al., 1997; Mason et al., 2001; Frankenstein and Koenig, 2004). These models require various meteorological inputs to produce fine scale (10-30 m grid cells) soil moisture. Models also exist to downscale coarse resolution soil moisture (> 1 km) from satellite data or weather forecasting models to fine resolutions using statistical methods (Perry and Niemann, 2007, Kwon et al.,

2017), conceptual hydrologic models (Wilson et al., 2005, Busch et al., 2012, Eylander et al., 2023), and machine learning methods (Chen et al., 2020, Vergopolan et al., 2021). One thoroughly tested model from the second group is the Equilibrium Moisture from Topography, Vegetation, and Soil (EMT+VS) model (Coleman and Niemann, 2012, Ranney et al., 2015, Cowley et al., 2017, Hoehn et al., 2017). The EMT+VS model predicts soil moisture at fine scales (10-30 m grid cells) by modeling the water balance of the hydrologically active soil layer based on coarse-scale soil moisture inputs and fine-scale topographic and vegetation attributes.

The goals of this study are (1) to determine if soil strength can be predicted from temporally and spatially varying landscape attributes and (2) to test if the STRESS model, in conjunction with EMT+VS soil moisture estimates, accurately captures these variations at the landscape scale (i.e., ~1000 ha). To meet this goal, a dataset of surficial soil moisture, strength, and texture was collected across a wide range of terrain and soil conditions and over an area large enough to be relevant for general terramechanics applications. Sampling occurred on 10 dates between May and August 2022 at Maxwell Ranch, which is in the foothills of northern Colorado. A total of 86 locations were measured on each date for volumetric soil moisture and RCI soil strength. Soil samples were also collected, and soil composition was determined in the laboratory. Results from sampling are presented, and observations on how soil strength varies with topography, vegetation, soil texture, and soil moisture are described. The STRESS model is applied to the site, and predictions of soil strength in terms of RCI are compared to field RCI values and RCI estimates from a pre-existing model.

## 2. STUDY SITE AND DATA COLLECTION

### 2.1 Study Site

Soil moisture and strength sampling were conducted at Maxwell Ranch, which is 53 km northwest of Fort Collins, Colorado (Figure 2-1). Maxwell Ranch is a working cattle ranch covering approximately 4000 ha. Located in the Laramie foothills, the ranch sits at the transition from mountain to plains. Elevations range from 1964 m to 2286 m with an average slope of 0.22 m/m. The region is in a cold semi-arid climate (approximately 43 cm annual precipitation), and most precipitation falls as snow in the winter. The region is located in the US EPA ecoregion of the northwestern forested mountains. Vegetation consists primarily of grasses, with some shrublands (primarily mountain mahogany and antelope bitterbrush) and scattered evergreen forests (primarily ponderosa pines and pinon pines) (NLCD, 2019).

The underlying geology of Maxwell Ranch largely consists of coarse-grained pink (i.e., potassium feldspar-rich) granite of the Sherman batholith and sandstones of the Fountain and Ingleside formations. Soils are largely derived from the Sherman granite, and Figure 2-2 shows the site soil classifications from the Soil Survey Geographic Database (SSURGO) (Soil Survey Staff, 2022). Unified Soil Classification System (USCS) soil compositions are mapped in Figure 2-2a and United States Department of Agriculture (USDA) soil classifications are shown in Figure 2-2b. The site largely consists of gravelly soils with little variability and an average depth of 45 cm (Soil Survey Staff, 2022). While greater soil variation is present in the southwest portion of the site, this area

was inaccessible during sampling due to ranch operations. Additional soil and geological information for Maxwell Ranch is summarized in Appendix A.

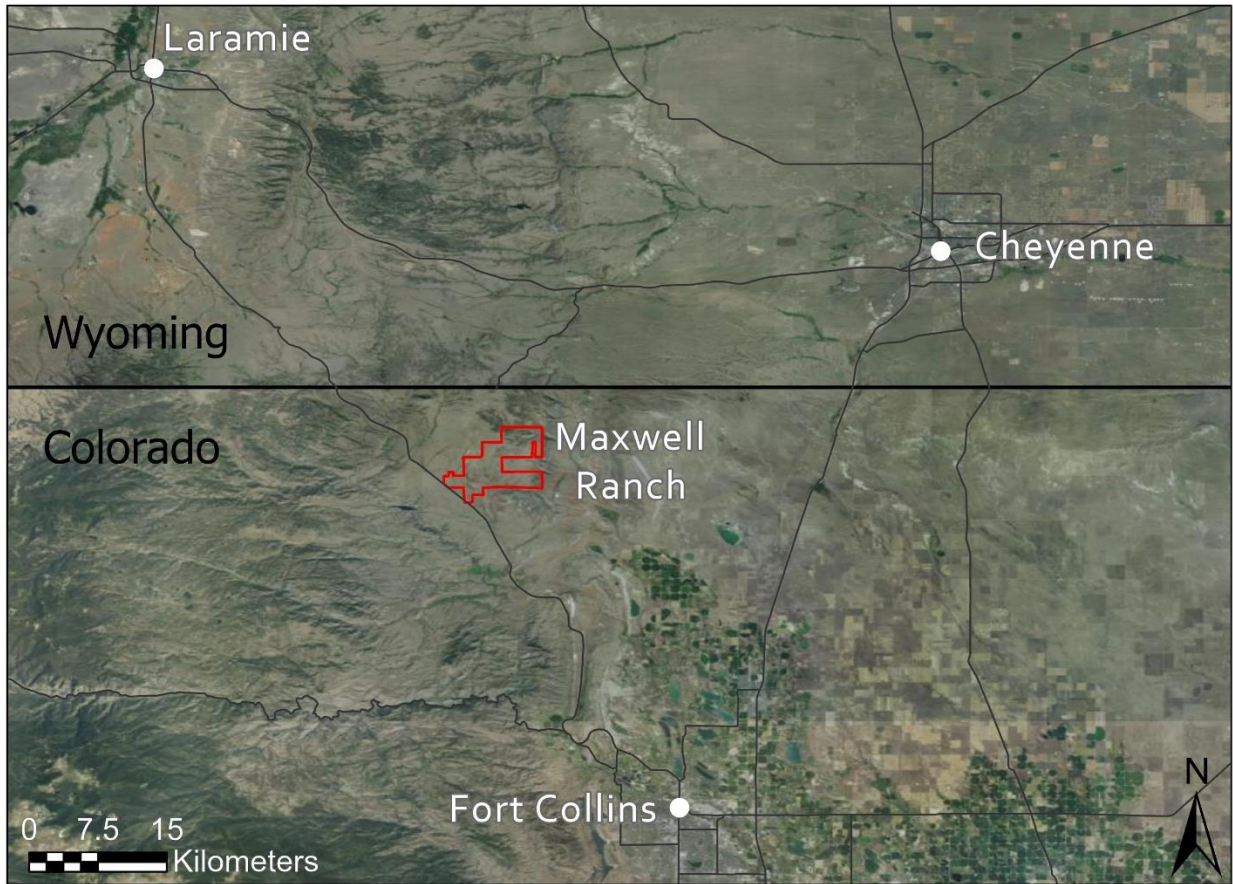


Figure 2-1: Satellite photo of Maxwell Ranch region with ranch boundary shown in red.

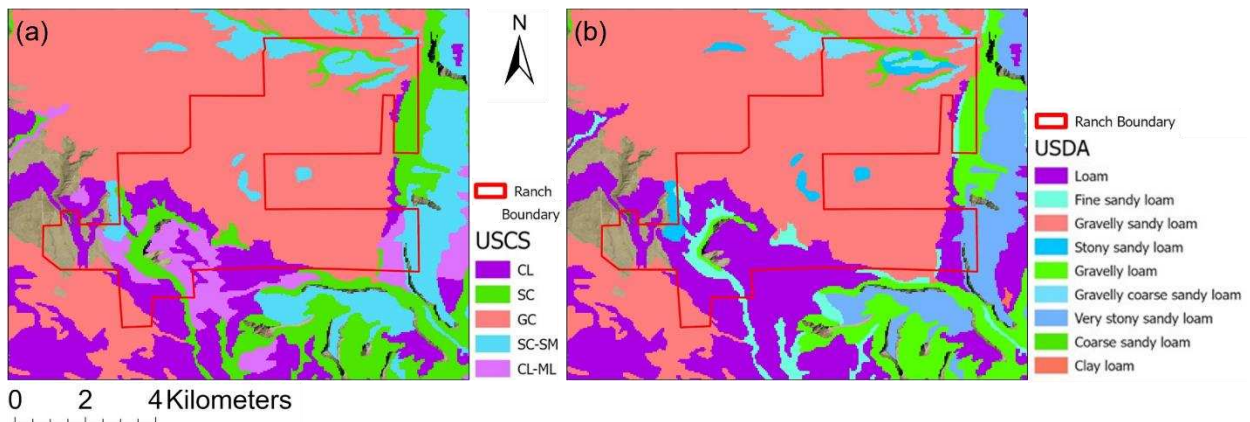


Figure 2-2: Maps of Maxwell Ranch region with (a) USCS soil classifications and (b) USDA soil classifications. USCS soil classifications for the site include lean clay (CL), clayey sand (SC), clayey gravel (GC), silty/clayey sand (SC-SM), and silty clay (CL-ML).

## 2.2 Data Collection

### 2.2.1 Soil Moisture and Strength Sampling

Four sampling regions (Regions A, B, C, and D) were established to capture the different topographic, vegetation, and soil conditions that occur within the ranch (Figure 2-3). Detailed maps of regions A-D and pictures of the sampling regions are shown in Figure 2-4. Region A consists of high topographic relief with forested hillslopes and grassy valleys. Region B consists of open ponderosa forests and limited relief. Region C is dominated by grasslands with sparse ponderosa and shrubs. Region D consists of rugged shrubland with scattered pinon pines. Within each sampling region, 18-24 points were selected to represent a diverse range of topographic and vegetation conditions while avoiding redundancy. The key variables considered for point selection were slope, topographic aspect, contributing area, and vegetation, all of which can be important drivers of soil moisture and thus soil strength (Werbylo et al., 2014).

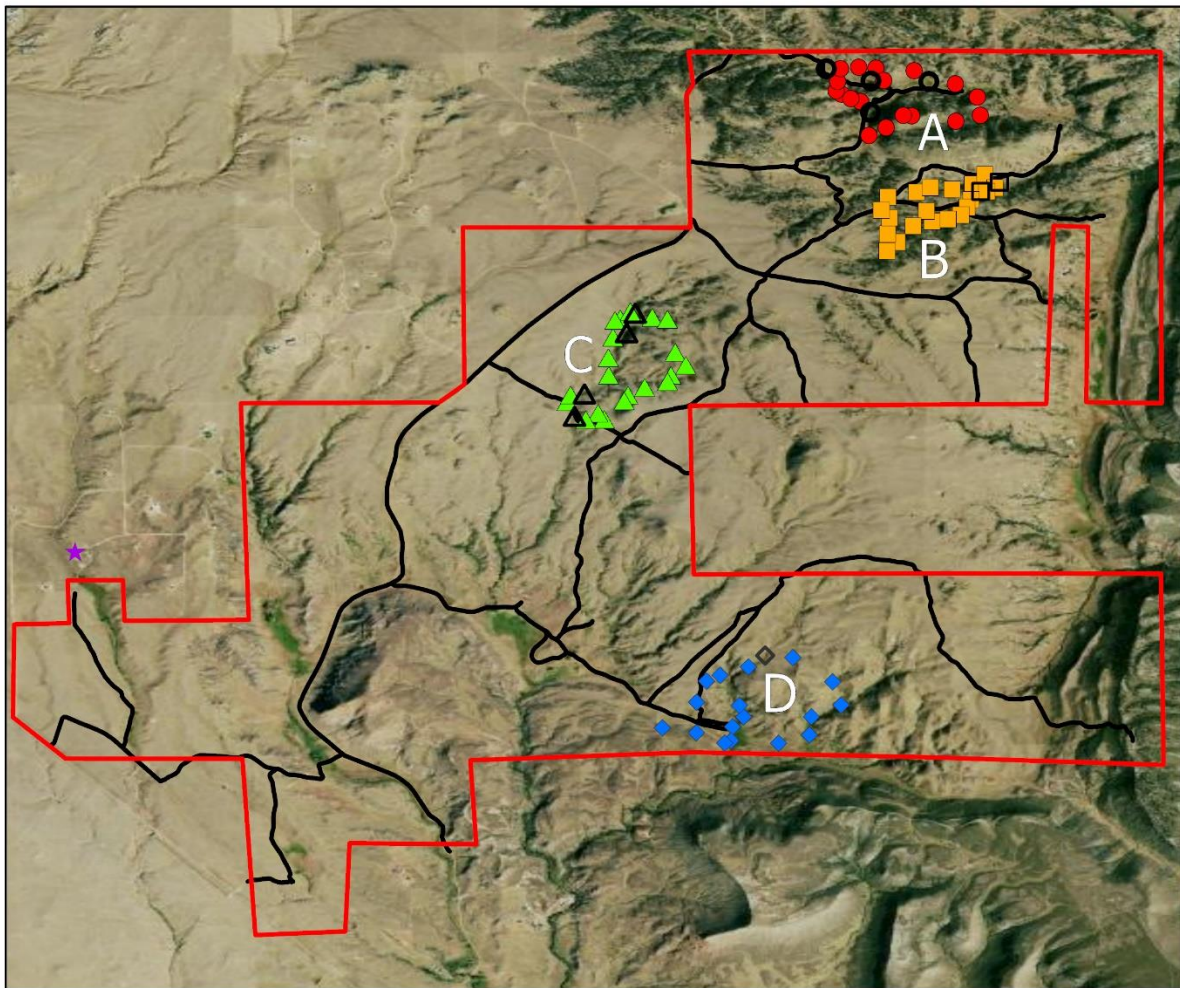
Once sampling locations were identified using available datasets, they were inspected in the field. Multiple sampling locations in low-lying areas were observed to have a thick vegetation mat that provided additional strength due to significant root strength. Points with this vegetation mat were expected to have substantial root strength, which is not considered in this study and would not be appropriate for model testing. Thus, the following points were excluded from the analysis: A4, A7, A11, A20, B7, B8, C1, C4, C8, C11, and D10. These points are indicated in Figures 2-3 and 2-4 using symbols with the color removed.

The sampling at each location consisted of soil moisture measurements using the portable Stevens Water HydraProbe II for volumetric soil moisture and the Humboldt

Manufacturing Cone Penetrometer for surficial soil strength. The HydraProbe measures the average volumetric water content in the top 0-5 cm of soil using coaxial impedance dielectric reflectometry (Stevens Water, 2018). The cone penetrometer is a standardized device consisting of a 3.23 cm<sup>2</sup> base area 30-degree right circular cone that is inserted into the soil at a rate of 3 cm/s (Wong, 2010). The cone was inserted to approximately 5 cm to measure the peak soil strength over the depth for which soil moisture was measured. The device outputs the cone index (CI) reading in pounds-per-square inch, which was converted to kPa. For both devices, three readings were taken at each sampling location and averaged to give a single value for that location and date.

Soil moisture was also measured at an intermediate scale across the ranch on each sampling date using a cosmic ray neutron rover (CRNR) (Desilets et al., 2010). After being calibrated to HydraProbe measurements collected within the ~290 m radius footprint of the CRNR (radius determined based on atmospheric pressure and vegetation cover per Kohli et al., 2015), the CRNR was used to measure the soil moisture on 43 km of site access roads on each date. Results from the CRNR were used to determine site average soil moisture for the sampling dates, and those averages were used as the coarse resolution input for the EMT+VS downscaling model. Additional information on CRNR sampling is included in Appendix B.

Sampling occurred on 10 dates between May and August 2022. Dates were selected to capture the widest feasible range of moisture conditions. Precipitation data for the site are shown with the sampling dates in Figure 2-5. Substantial precipitation increased moisture at the ranch on May 31. Then, a prolonged dry-down occurred from about June 1 through July 5. Although the rain gage recorded precipitation between June



0 1.5 3 Kilometers



- Region A
- Region B
- ▲ Region C
- ◆ Region D
- ★ Weather Station
- ▭ Ranch Boundary
- Access Roads

Figure 2-3: Map of Maxwell Ranch showing the four sampling regions (Regions A, B, C, and D) along with individual sampling locations within those regions. Unfilled symbols indicate locations removed from the analysis due to their thick vegetation mat. The weather station used during sampling is located just outside the ranch boundary and provides precipitation, temperature, pressure, and humidity data.

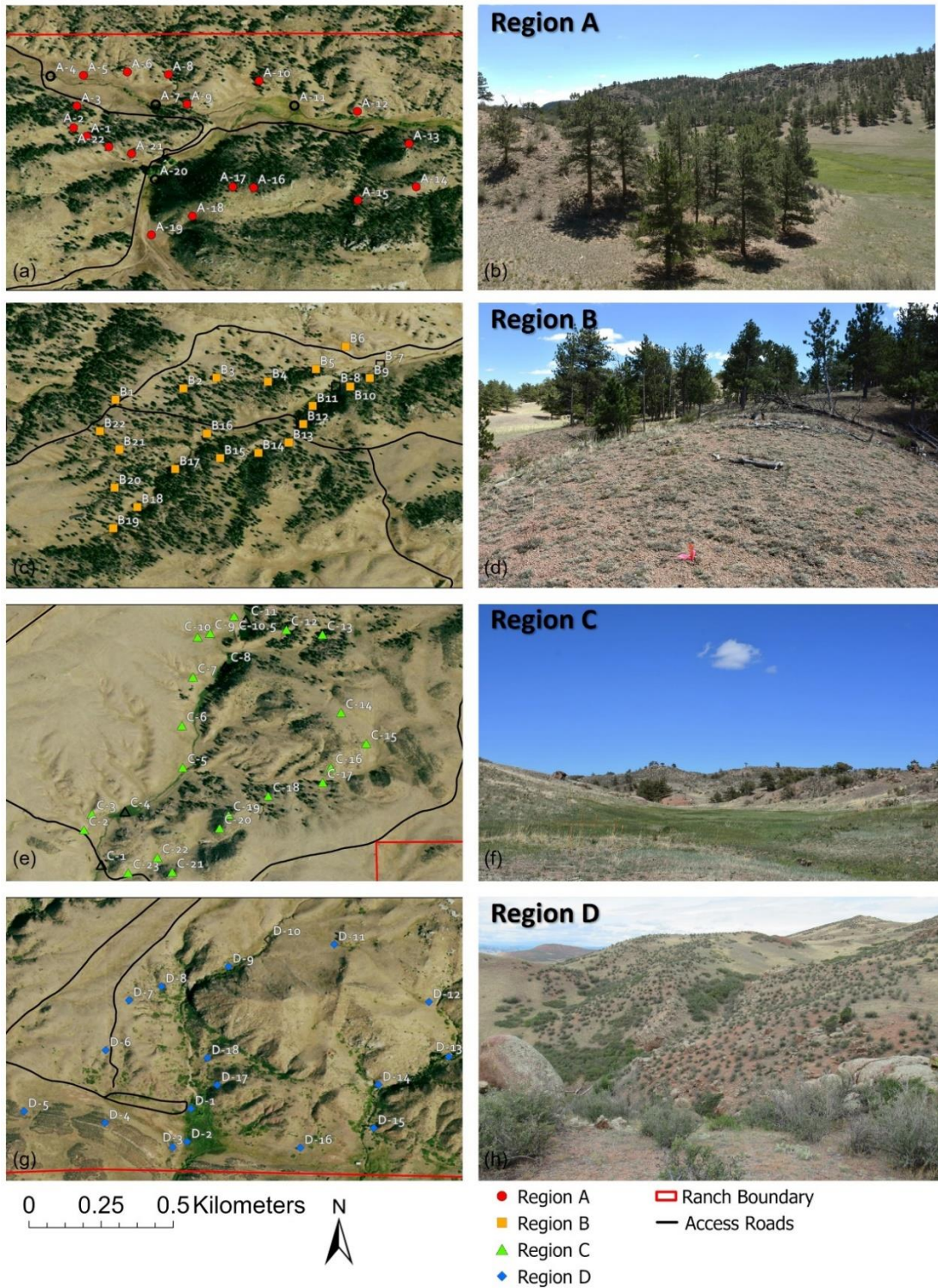


Figure 2-4: Maxwell Ranch sampling regions including (a) map of Region A sampling locations, (b) photo of typical Region A landscape, (c) map of Region B sampling locations, (d) photo of typical Region B landscape, (e) map of Region C sampling locations, (f) photo of typical Region C landscape, (g) map of Region D sampling locations, and (h) photo of typical Region D landscape.

30 and July 4, these storms missed much of the site. Another substantial precipitation event occurred on the ranch on July 27, which was followed by another period of drying between July 28 through August 5.

### 2.2.2 Soil Sampling and Lab Testing

Soil samples were collected to determine USCS and USDA soil classifications. Approximately 500 g of soil was collected at each location to a depth of 5 cm. Sieving was completed on the samples to the #200 sieve (0.075 mm) to determine particle size distributions for USCS classification per ASTM D6913 (ASTM, 2017). To determine gradations below 0.075 mm, a METER Group digital hydrometer was used on a separate portion of the sample per ASTM D7928 (ASTM, 2021). Sieving and hydrometer results were then combined to determine the USDA soil classifications. In addition to the soil gradation determination, soil plasticity was determined through Atterberg testing to determine the USCS classification per ASTM D4318 (ASTM, 2018).

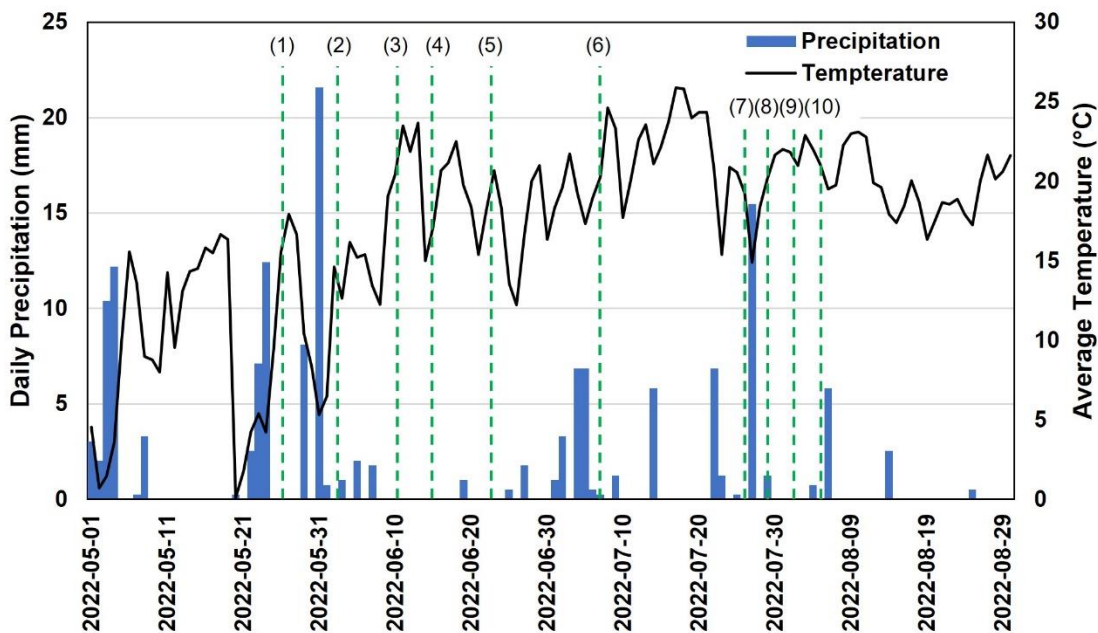


Figure 2-5: Maxwell Ranch daily precipitation and daily average temperature from the KCOLIVER 12 weather station. Dashed green lines indicate sampling dates, and numbers in parentheses signify sampling events.

### 2.2.3 Remote Sensing Data

Elevation data and multispectral imagery for the site are used to downscale soil moisture measurements in the EMT+VS model and to examine the dependence of soil strength on terrain characteristics. A digital elevation model (DEM) with 10 m grid cells was acquired from the National Elevation Dataset (USGS, 2022) (Figure 2-6a). Multispectral imagery with 10 m grid cells was acquired from the Sentinel 2 satellite (ESA, 2016) (Figure 2-6b). Imagery is available every five days, but frequent cloud cover resulted in only two usable images during the sampling campaign period (May 26, 2022 and June 15, 2022). This imagery was used to calculate the Soil-Adjusted Vegetation Index (SAVI), which describes the density of green vegetation (Huete, 1988).

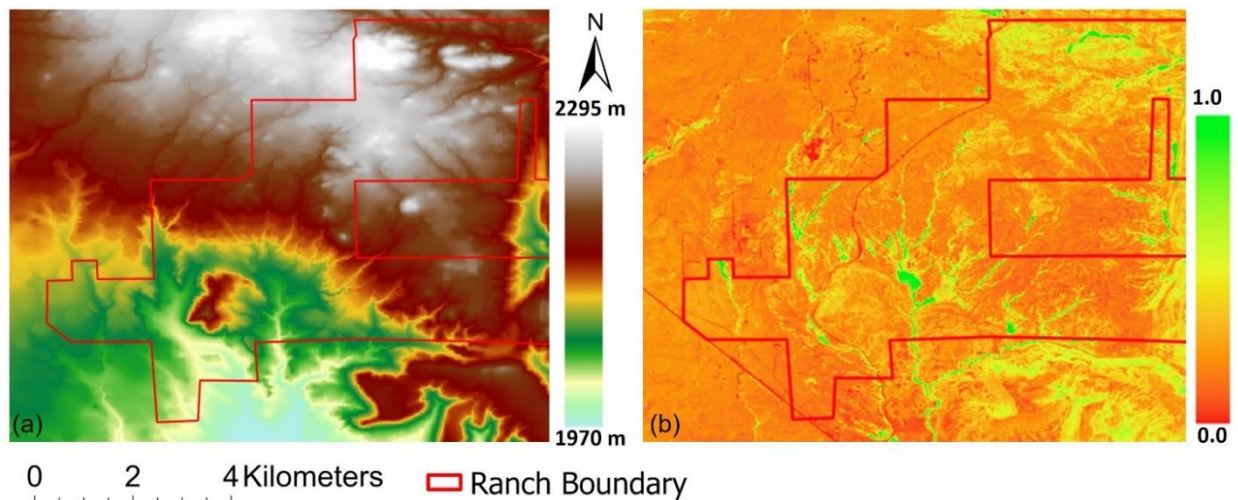


Figure 2-6: (a) Digital elevation model and (b) soil adjusted vegetation index (SAVI) for June 15, 2022, for Maxwell Ranch area.

### 3. MODELING METHODS

#### 3.1 STRESS model

The Strength of Surface Soils (STRESS) model uses the Lu et al. (2010) method for unsaturated soil strength to estimate terramechanics strength parameters. Model inputs include soil moisture in the form of volumetric water content ( $\theta$ ) and soil texture in the form of USDA percent sand and percent clay. The percent sand and percent clay are first used in ROSETTA (Schapp et al., 2001) to estimate van Genuchten (1980) soil water retention parameters. Then, the USDA soil data are cross walked to determine USCS classifications via the conversion developed by Garcia-Gains and Frankenstein (2015). The USCS classification is used to determine friction angle ( $\phi'$ ) and apparent cohesion ( $c'$ ) (soil adhesion) from class averages provided by the United States Naval Facilities Engineering Command (NAVFAC) Foundations and Earth Structures Design Manual (2022).

The STRESS model then uses the Lu et al. (2010) unsaturated soil strength model in the following closed form equation to calculate soil suction stress ( $\sigma^s$ ):

$$\sigma^s = -\frac{S_e}{\alpha} \left[ S_e^{\frac{n}{1-n}} - 1 \right]^{\frac{1}{n}} \quad (3.1)$$

where  $S_e$  is the effective saturation of the soil calculated as  $S_e = \theta/\theta_s$ , and the variables  $\alpha$  (inverse of air entry pressure),  $n$  (pore-size distribution), and  $\theta_s$  (saturated volumetric water content) are the van Genuchten water retention parameters (van Genuchten, 1980). The output of Equation 3.1 is then input as effective normal stress in the Mohr-Coulomb shear stress equation to quantify moisture variable cohesion ( $c_\theta$ ):

$$c_\theta = c' - \sigma^s \tan \phi' \quad (3.2)$$

This approach has limitations, including suction stress approaching infinity when soil moisture approaches zero. Thus, suction stress is capped at a maximum value, which is the assumed dry suction stress (Lu and Kaya, 2013). The dry suction stress ( $\sigma_d^s$ ) was determined using the following function:

$$\sigma_d^s = 18.691 \ln(\% \text{ fines}) + 0.1183 \quad (3.3)$$

Equation 3.8 was developed based on a best fit of published dry suction stress values and soil fines content (Lu et al., 2009, Khosravi and McCartney, 2011, Lu and Kaya, 2013, Khorshidi et al., 2017).

To facilitate comparisons between STRESS results and field measurements, RCI values are calculated for STRESS results using the method provided by Perkins (1992). This method calculates RCI by relating soil shear modulus, friction angle, cohesion, and unit weight to the geometry and shearing action of the cone penetrometer. Unit weight and shear modulus are calculated using SSURGO bulk density data.

### **3.2 EMT+VS Model**

Soil moisture was estimated with the EMT+VS model (Coleman and Niemann, 2013, Ranney et al., 2015, Cowley et al., 2017, Hoehn et al., 2017). The EMT+VS model estimates fine-resolution (10 m) soil moisture using a water balance for the surface soil layer that includes infiltration, lateral flow, deep drainage, and evapotranspiration. These fluxes are estimated based on fine-scale topographic attributes (elevation, slope, aspect, and contributing area) and fractional vegetation cover (estimated as SAVI) as well as a coarse-resolution (~9 km) soil moisture input. The EMT+VS model develops a series of analytical estimates for the fine-resolution soil moisture based on the assumption that

each flux dominates the water balance. Then, the final soil moisture is produced by a weighted average of those analytical estimates where the weights are based on the magnitudes of the fluxes.

For this study, the coarse-resolution soil moisture consists of the spatial average of the CRNR measurements for each sampling date. Model parameters that describe the site climate, vegetation, and soil were calibrated within typical ranges, and point scale HydraProbe measurements were used to evaluate the fine-scale EMT+VS output. Model parameters and performance metrics are included in Appendix D. A detailed evaluation of EMT+VS model performance at Maxwell Ranch is being conducted under a separate study.

### **3.3 Comparison RCI Model**

To provide context for the accuracy of the STRESS model soil strength estimates, RCI was also calculated for each sampling location using the method described by Smith and Meyer (1971) and Stevens et al. (2017), which approximates a current practice of the U.S. Army. This method uses soil moisture and the USCS soil classification to calculate RCI via the following equation:

$$RCI = \exp [a + b \ln(GM)] \quad (3.4)$$

where  $GM$  is gravimetric soil moisture and  $a$  and  $b$  are constants determined by the USCS classification and described by Sullivan et al. (1997). This method is referred to as the Sullivan model herein. Values calculated with this model are capped at 2068 kPa (Stevens et al., 2017), which is the upper limit of the standard WES cone penetrometer.

## 4. RESULTS AND DISCUSSION

### 4.1 Cone Penetrometer Variability

A key outcome of this study is the variability of cone penetrometer measurements collected at a given location and time. Variability in cone penetrometer measurements has been discussed previously by Kogure et al. (1985) and Kim et al. (2021), to our knowledge has not been extensively demonstrated in the literature in a field application. While the method for cone penetrometer measurement is standardized, measurement issues arise in part from variations in sub-meter terrain and soil properties, which produce local zones of high or low strength. These issues can result in wide measurement ranges in the field and potentially unreliable results when few measurements are taken. User issues such as inserting the cone at a wrong speed, inserting too deeply into the soil, and not reading the dial at maximum stress compound the terrain issues but may be reduced by training and practice.

Three cone penetrometer measurements were collected at each sampling location and date and averaged. The three measurements showed an average range of 374 kPa (when averaged across all sampling locations and dates). The wide range shows that the local variations in the soil properties and user's methodology produce substantial variations in estimated soil strength for a given location and date. In a soil containing gravel and roots (which is common at Maxwell Ranch), striking these resistive soil elements with the cone penetrometer would yield RCI values substantially higher than an adjacent location of the same soil but where the cone penetrometer did not intersect a

piece of gravel or root(s). Similarly, worm tubes, decomposed roots, etc., would result in local, on the scale of a cone penetrometer, zones of weak soil and lower RCI.

Table 4-1 presents daily statistics of all individual field strength measurements. Lower soil moisture dates (e.g., June 23) had the widest range of RCI point measurements but also included the lowest RCI measurements of the sampling campaign. All remaining analyses consider the average of the three measurements at each location and date as the underlying dataset.

Table 4-1: Daily field strength statistics for all measurements including maximum, minimum, and standard deviation of measured rating cone index (RCI).

<b>Date</b>	<b>Mean Volumetric Water Content (m<sup>3</sup>/m<sup>3</sup>)</b>	<b>Mean RCI (kPa)</b>	<b>Max. RCI (kPa)</b>	<b>Min. RCI (kPa)</b>	<b>Standard Deviation (kPa)</b>
<b>2022-05-27</b>	0.088	1159	2275	552	353
<b>2022-06-02</b>	0.151	980	1862	310	351
<b>2022-06-10</b>	0.057	1556	2592	448	577
<b>2022-06-15</b>	0.014	1678	2744	290	542
<b>2022-06-23</b>	0.005	1929	3144	193	571
<b>2022-07-05</b>	0.008	1714	2206	414	415
<b>2022-07-26</b>	0.044	1664	2475	276	521
<b>2022-07-29</b>	0.135	1459	3220	221	581
<b>2022-08-02</b>	0.056	1657	2206	483	486
<b>2022-08-05</b>	0.032	1643	2206	345	466

## 4.2 Field Results

Field measurements of RCI are plotted in Figure 4-1 against key spatially varying topographic attributes (elevation, slope, aspect, and contributing area), vegetation cover (SAVI), and soil characteristics (USCS gravel content, sand content, and fines content). Results show weak relationships between strength and most landscape attributes ( $R^2 < 0.1$ ), with stronger trends observed between RCI and slope, SAVI, and fines content

(particle sizes < 0.075 mm). The strongest of these relationships are slope with an  $R^2$  of 0.189 and soil fines content with an  $R^2$  of 0.158. The increase in strength with fines content is mirrored by a decrease in strength with increasing gravel content ( $R^2$  of 0.064). Higher slope areas likely exhibit a decrease in strength because the soils tend to be less compacted (and more mobile) on steeper slopes. Increased fines content results in a denser, stronger soil, as finer soil particles pack the pore space around the coarser soil particles, which are common at the ranch. While fines content had the strongest relationship with RCI, no soils at the site have > 50% fines content.

Weaker RCI with increasing SAVI is expected because higher vegetation areas typically have greater moisture content and lower density associated with root growth (recall that locations with thick enough vegetation to produce root cohesion were excluded from the analysis). However, the trend with vegetation density was dependent on the date that was used to estimate SAVI. An  $R^2$  of 0.147 was estimated for SAVI derived from June 15, 2022, imagery, but an  $R^2$  of 0.039 for SAVI derived from May 26, 2022, imagery. The vegetation density was higher in June, which may have led to saturation of the SAVI values and less sensitivity to spatial variations in vegetation cover.

Field RCI measurements are compared to field volumetric soil moisture measurements in Figure 4-2a. Results indicate a general trend of lower soil strength with an increase in soil moisture. This trend is expected as an increase in soil moisture generally decreases the capillary forces in the soil pores and generally lowers moisture variable cohesion. The trend, however, is weak ( $R^2 = 0.101$ ) due in part to a scarcity of high soil moisture measurements. In total, 80% of field measurements had soil moisture under 0.10 and less than 2% of measurements were over 0.20.

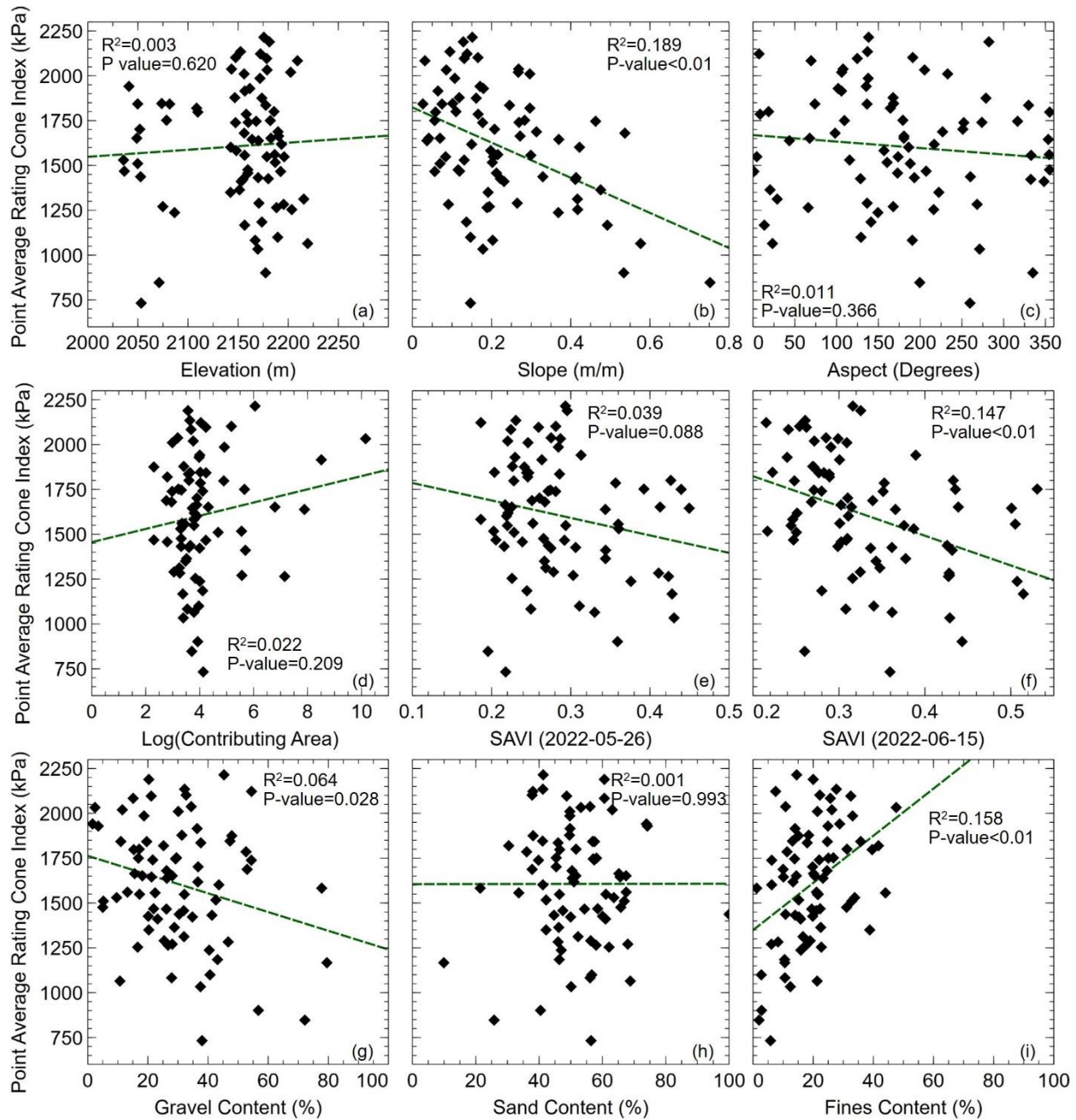


Figure 4-1: Average field RCI measurements at each location and date plotted against (a) elevation, (b) slope, (c) aspect, (d) log of contributing area, (e) SAVI on May 26, 2022, (f) SAVI on June 15, 2022, (g) USCS gravel content, (h) USCS sand content, (i) USCS fines content. Green line indicates linear best fit.

Scatter observed in the RCI data (Figure 4-2a) suggests that confounding variables have a significant impact on RCI results. Local variations in soil properties and variability in user operation are likely yielding much of this scatter and averaging three measurements at each location is not enough to remove these effects.

To overcome the noise in the RCI data, results from across the ranch were averaged for each sampling date as shown in Figure 4-2b. While little spatial variation was observed in soil moisture measurements for most dates (e.g., June 23 had water contents between 0 and 0.04), a wider range of soil moisture was observed between dates. Averaging point measurements across the ranch allows clearer observation of the relationship between soil moisture and strength. The resulting daily average data have a substantially stronger correlation ( $R^2 = 0.725$ ) indicating lower soil strength with increased soil moisture (Figure 4-2b).

### **4.3 Model Results**

STRESS model results for field sampling locations using laboratory-measured soil composition data and field measured soil moisture are presented in Figures 4-2c and 4-2d. Results show similar trends as field measurements, although the RCI values from the STRESS model exhibit less variation than the values from the field measurements for a given soil moisture. The STRESS model RCI values were averaged across the ranch by sample date in Figure 4-2d, and the results generally replicate the relationship shown by the averaged RCI measurements (Figure 4-2b). Figure 4-2e and Figure 4-2f show how the RCI values from the Sullivan model relate to soil moisture for all point locations and daily averages, respectively. The Sullivan model is unable to capture the trends or

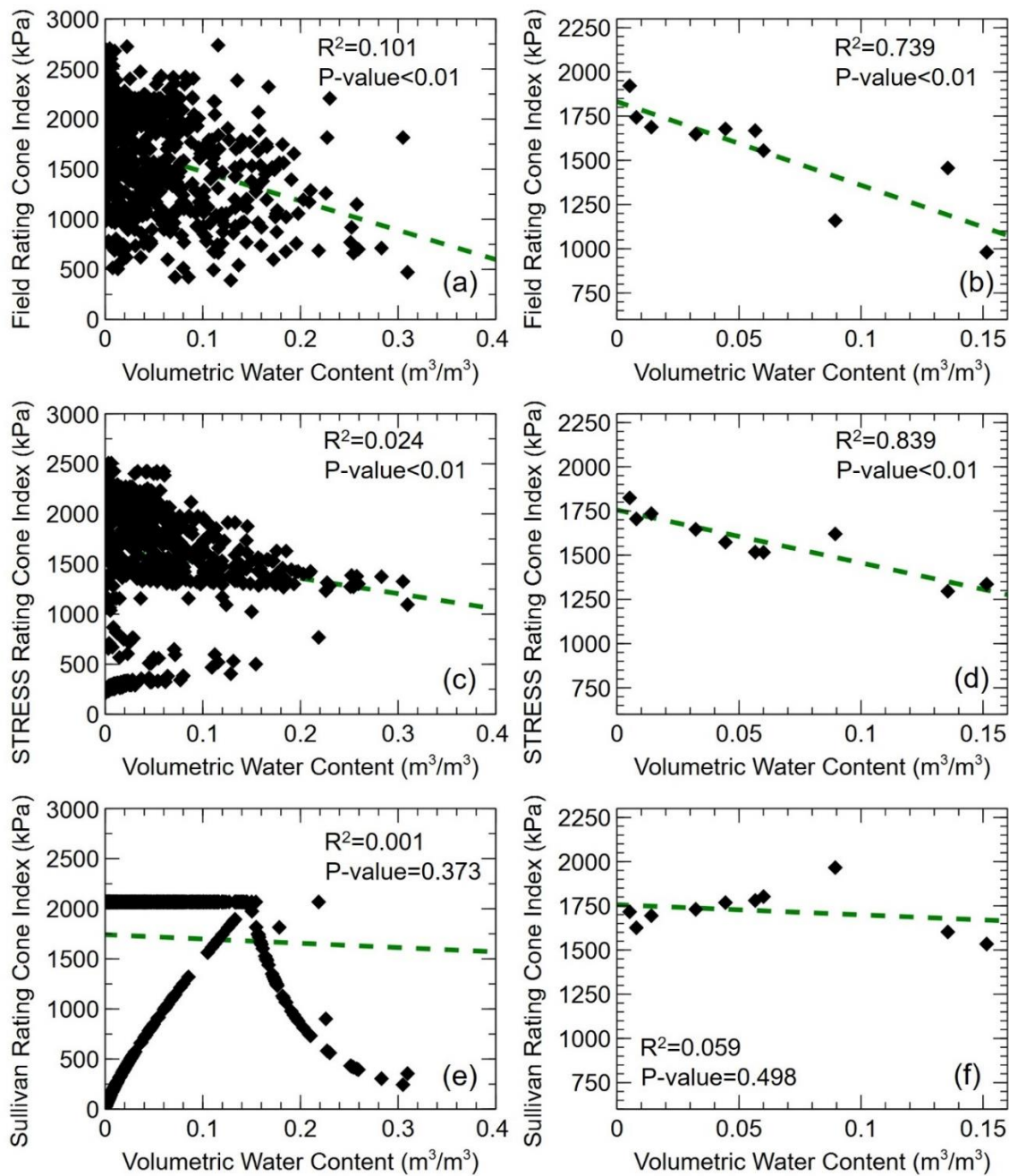


Figure 4-2: (a) Field-measured rating cone index (RCI) plotted against field-measured soil moisture and (b) spatially averaged field RCI plotted against spatially average field soil moisture. (c) STRESS model RCI plotted against measured soil moisture and (d) averaged STRESS model RCI plotted against averaged soil moisture measurements. (e) Sullivan model RCI plotted against measured soil moisture and (f) averaged Sullivan RCI plotted against averaged soil moisture measurements. Dashed lines indicate linear best fit.

variability in the field measurements of RCI with soil moisture. As the Sullivan model calculates strength from only USCS classifications (which is similar between sites at Maxwell ranch), the fine scale variations in RCI that were observed in the field data are not reproduced. The STRESS model uses particle size data from each location and appears to better simulate the soil-composition driven strength variation between points.

STRESS model and Sullivan model results are also plotted against slope, SAVI, and soil fines content in Figure 4-3 to evaluate whether the models reproduce the observed trends. Neither the STRESS model (Figure 4-3a and Figure 4-3c) nor the Sullivan model (Figure 4-3b and Figure 4-3d) produce trends relating strength to slope or SAVI. The STRESS (Figure 4-3e) and Sullivan (Figure 4-3f) models are able to reproduce the observed trend between RCI and fines content but exhibit stronger relationships than the field data ( $R^2$  of 0.358 and 0.263, respectively). This is expected as soil composition is a direct input for both models (percent sand and clay for the STRESS model and USCS classification for the Sullivan model). The stronger trend occurs for the STRESS model because the model directly uses particle size data.

The STRESS model calculated RCIs are plotted against the field RCI measurements in Figure 4-4 using both the point measurements (Figure 4-4a) and the spatial averages (Figure 4-4c). The point predictions from the STRESS model (Figure 4-4a) exhibit little correlation with the point field measurements. This result suggests that the field measurements include much variability that is not explained by the model. The STRESS model also produces an abundance of low RCI values (< 500 kPa) compared to field measurements. These low values occur for sandy soils (SP and SW USCS

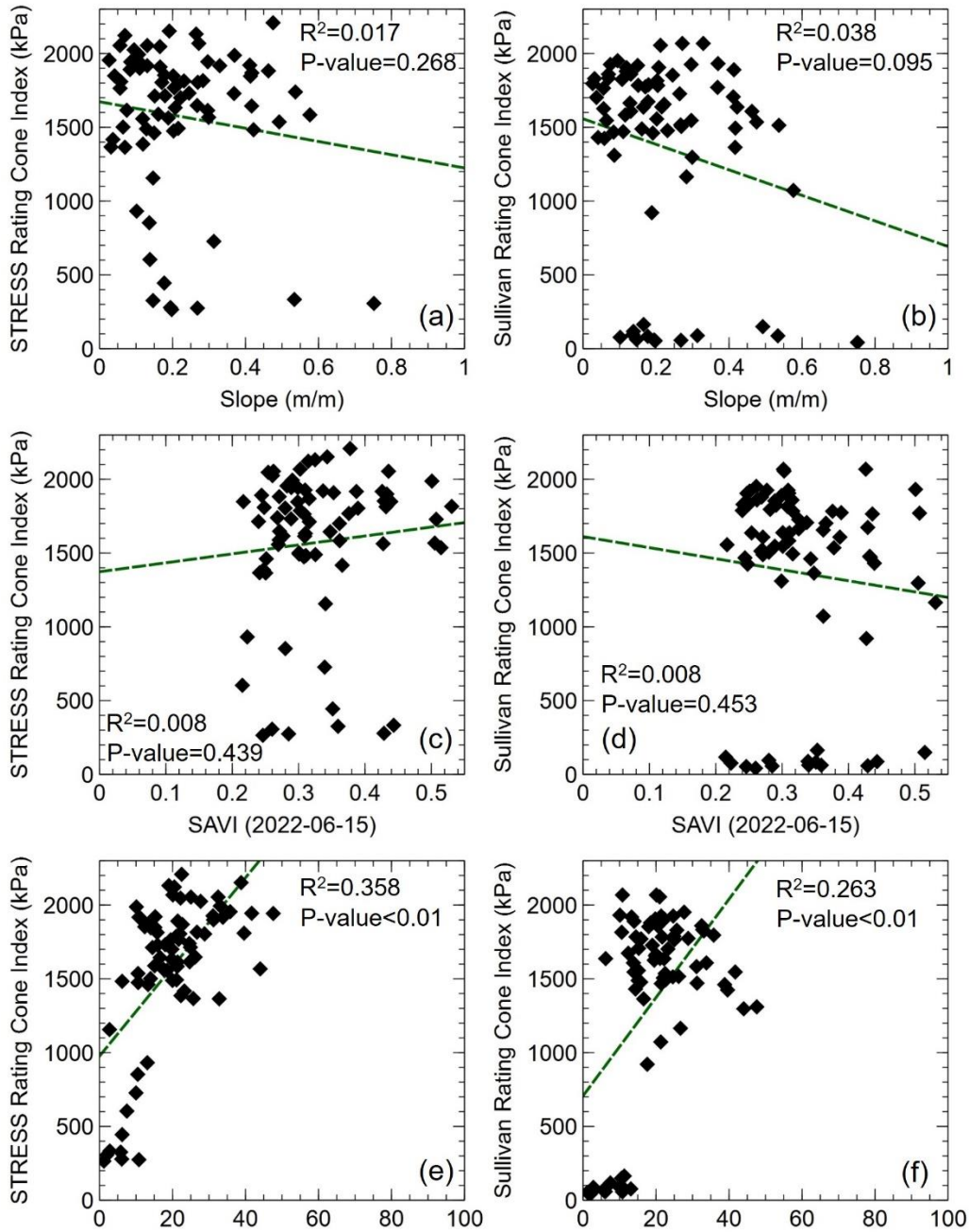


Figure 4-3: (a) STRESS model RCI plotted against slope, (b) Sullivan model RCI plotted against slope, (c) STRESS model RCI plotted against SAVI for June 15, 2022, (d) Sullivan RCI plotted against SAVI for June 15, 2022, (e) STRESS model RCI plotted against USCS fines content, and (f) Sullivan model RCI plotted against USCS fines content.

classes) as the model views these as always low strength while field results indicate greater variation. In contrast to the point results, the spatial averages (Figure 4-4c) show

that the STRESS model generally reproduces the field observations. The difference in performance likely occurs because the averaging removes the effects of local variations in soil properties and differences in user operation of the cone penetrometer that are not captured by the model. The RMSE for the STRESS model is 659 kPa for all data points. STRESS produced a mean relative error of 37.5% for all data points and 11.5% for daily averages.

RCI values were also calculated with the Sullivan model and compared to the point measurements of RCI in Figure 4-3b and daily average RCI measurements in Figure 4-3d. Overall, the performance is worse than the STRESS model. The RMSE for the Sullivan model is 769 kPa for all data points. The Sullivan model produced a mean relative error of 47.4% for all data points and 18.7% for daily averages. Additionally, 74% of predicted point RCIs (Figure 4-3c) are at or above the cap of 2068 kPa due to the dry conditions during the field campaign (91% of HydraProbe measurements < 0.15 volumetric soil moisture).

#### **4.4 STRESS Model Regional Application**

To demonstrate model functionality for an Army-relevant scenario, the STRESS model was applied to the entire Maxwell Ranch region for all sampling dates as shown in Figure 4-5. The output shows STRESS model RCI calculated using EMT+VS soil moisture and SSURGO soil texture data. The field measurements of RCI are also included on the maps for comparison. During the wettest conditions (June 2 and July 29), the STRESS model predicts weaker soils across the site. Weaker soils are predicted in the southwest portion of the site due to the higher soil fines content in that region.

STRESS predicts the weakest soils in valley bottoms due to the higher predicted soil moisture values. However, many such locations likely have strong soils due to greater root densities associated with more abundant vegetation in these areas. The current STRESS model does not account for vegetation and potential strength increases from roots.

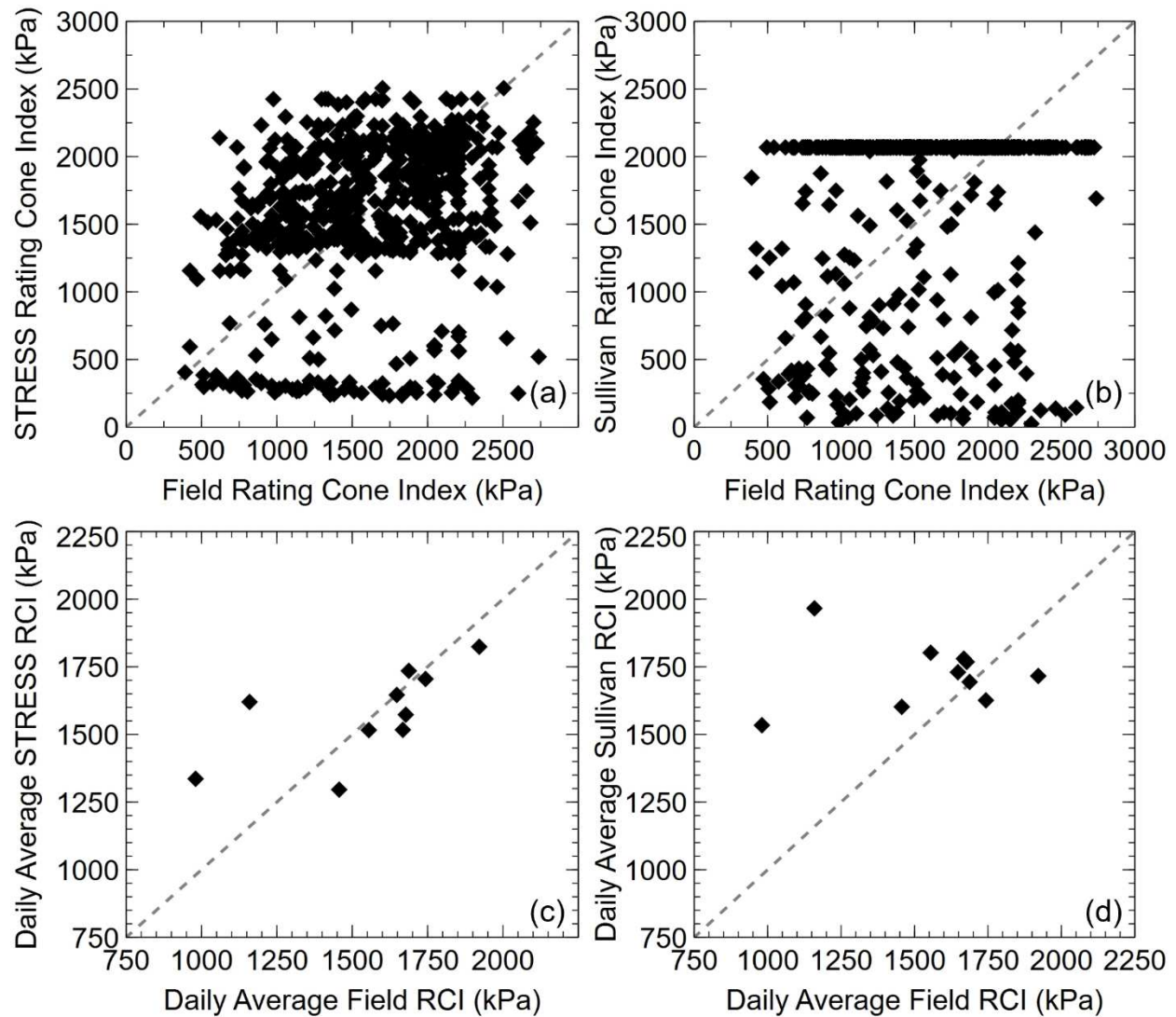


Figure 4-4: (a) STRESS model rating cone index (RCI) plotted against field-measured RCI, (b) Sullivan model RCI plotted against field-measured RCI, (c) daily average STRESS model RCI plotted against daily average field RCI, (d) daily average Sullivan model RCI plotted against daily average field RCI. Dashed line indicates 1:1 line.

The STRESS model RCI values were computed from the STRESS model's moisture variable cohesion and friction angle, and maps of these variables are shown in Figure 4-6. Increasing strength with decreasing moisture during the two drying cycles is apparent with higher moisture variable cohesion values in the southwestern portion of the site. Differences in soil composition (e.g., varying levels of fines content) drive increases and decreases in moisture variable cohesion with changes in moisture content with similar patterns to the RCI results. Limited variation is seen in the friction angles as the results are based on class averages. Friction angle and moisture variable cohesion are physics-based descriptors of soil strength that are generated by the STRESS model and cannot be produced by the Sullivan model. They are potentially valuable because they could become inputs into complex terramechanics mobility simulations.

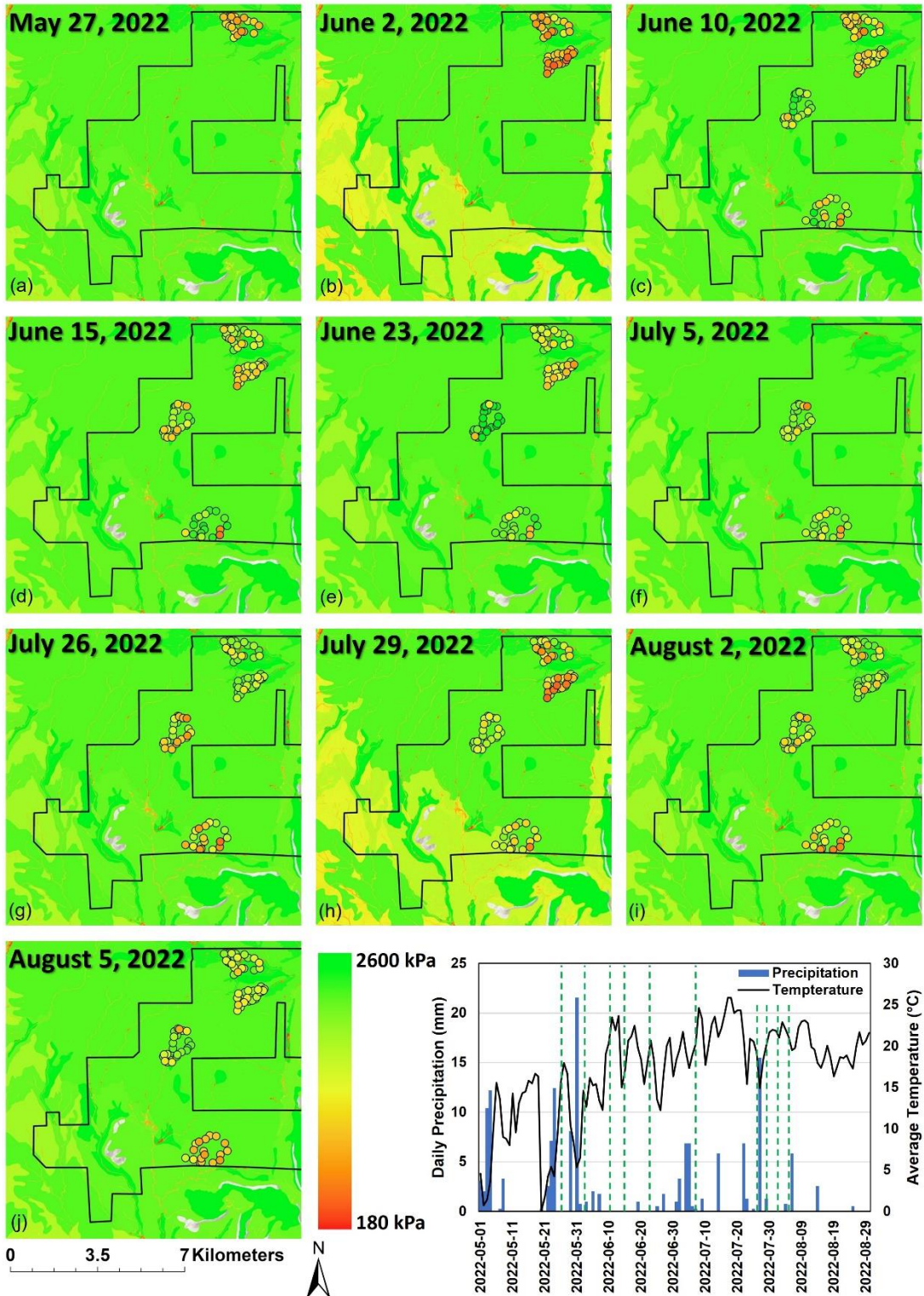


Figure 4-5: STRESS RCI for the Maxwell Ranch region on each sampling date. Circles show field measurements of RCI. May 27, June 2, and July 5 were partial data collection dates. Areas of missing results indicate rock outcrops. Maxwell Ranch boundary is shown in black.

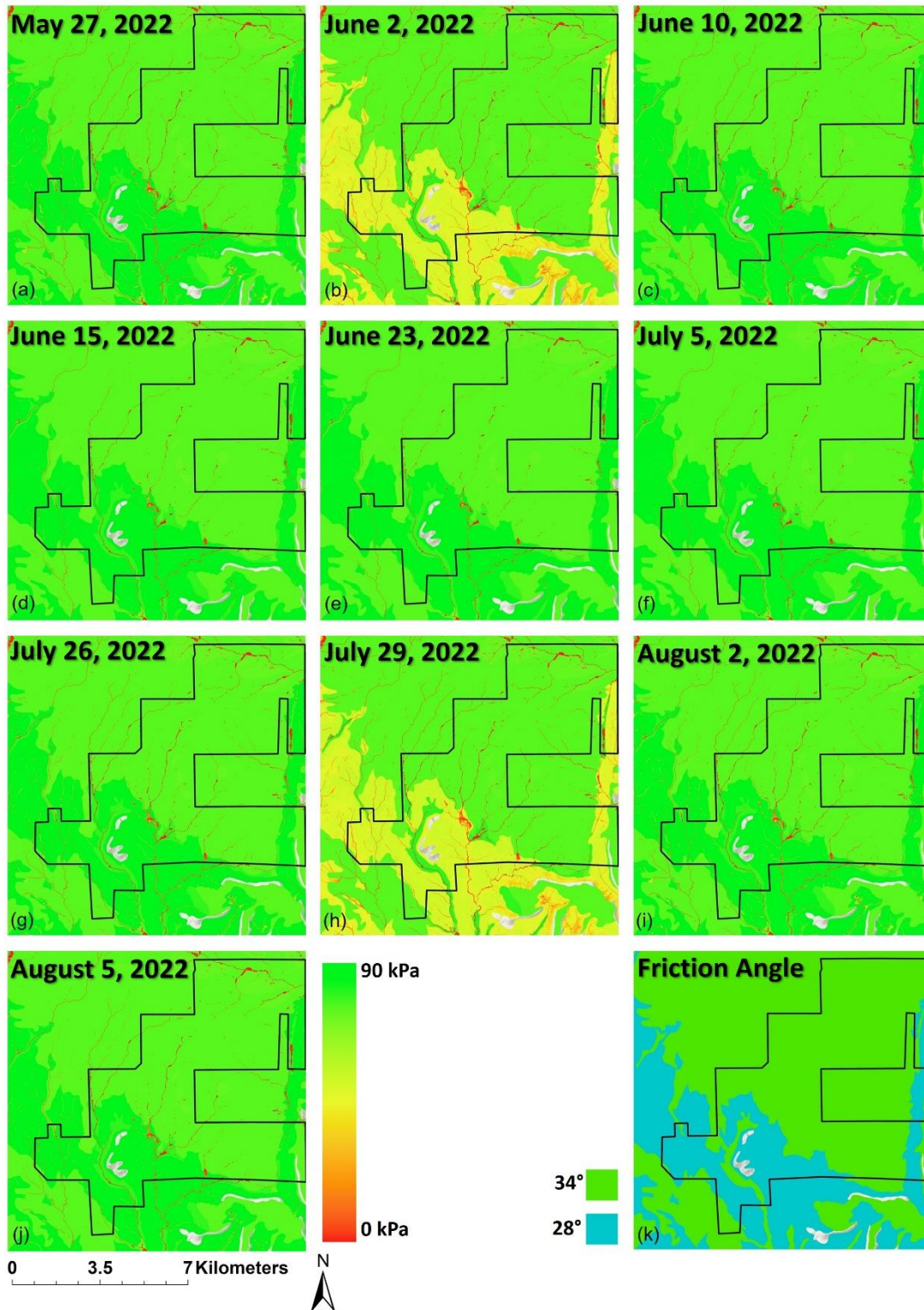


Figure 4-6: (a-j) STRESS model moisture variable cohesion and (k) friction angle for the Maxwell Ranch region on each sampling date. Areas of missing results indicate rock outcrops. Maxwell Ranch boundary in black.

## 5. CONCLUSIONS

Soil moisture (volumetric water content), soil strength (rating cone index, RCI), and soil texture measurements were collected at 86 locations on 10 dates across a 4000-ha field site in Northern Colorado to assess the dependence of soil strength on regional attributes and the performance of the strength of surface soils (STRESS) model for predicting soil strength. Rating cone index was compared to topographic attributes (elevation, slope, contributing area, and aspect), vegetation cover (soil adjusted vegetation index, SAVI), soil moisture, and soil texture (unified soil classification system, USCS, gravel content, sand content, and fines content). Field results for RCI were compared to results from the STRESS model and results from the model described by Stevens et al. (2017) (termed herein the Sullivan model).

Substantial variability was observed in the cone penetrometer data collected at each location/date during the sampling campaign. This variability could be caused by small-scale (sub-meter) variability of soil properties or by measurement errors. Because the average range of the three measurements collected at each location/date was 374 kPa, this variability likely persists in the dataset even after the three measurements are averaged. We recommend that future studies collect more RCI measurements at a given location/date to produce more accurate estimates of the average strength.

Field measurements of RCI show weak trends ( $R^2 < 0.1$ ) between RCI and most landscape variables (elevation, aspect, contributing area, USCS gravel content and sand content), with stronger relationships ( $0.1 < R^2 < 0.2$ ) with slope, USCS fines content, and vegetation cover. Weaker soils occur on steep slopes, likely due to the ongoing transport

of such soils. Higher slope areas likely exhibit a decrease in strength because the soils tend to be less compacted (and more mobile) on steeper slopes. Increased fines content results in a denser, stronger soil, as finer soil particles pack the pore space around the coarser soil particles, which are common at the ranch. A limited range of soil composition at the site may be obscuring relationships with some variables. The soils are consistently gravelly sandy loams and fines content remains below 50% across the study region.

The STRESS model reproduces the observed trend between soil moisture and RCI, and reproduces the observed relationship between fines content and RCI. However, STRESS fails to reproduce the relationships with slope and vegetation content, likely because neither variable is directly used in the STRESS model.

Mean relative error for the STRESS model was 37.5%, while the Sullivan model had a mean relative error of 47.4%. This indicates the STRESS model outperformed the Sullivan model when computing RCI compared to the field results. Still, as illustrated by the 37.5% mean relative error, substantial disagreements occur between the predictions of the STRESS model and the field observations. Some disagreement likely arises from the scatter in the RCI measurements, but other scatter likely arises from incompleteness of the STRESS model framework (e.g., the STRESS model does not include vegetation effects).

While the EMT+VS soil moisture model and the STRESS soil strength model can provide soil strength information (moisture variable cohesion, friction angle, and RCI) for mobility assessment and vehicle routing, further testing and model refinement is needed. Because the current study focused on coarse, predominately dry, soils, future field testing should consider fine grained soils and wetter conditions. Similarly, soils of non-granitic

origin and mineralogy should be evaluated. The STRESS model also neglects consideration of cohesion of roots, which may significantly alter the soil strength. The model should be extended to consider roots. Finally, both the EMT+VS and STRESS models rely on soil composition to make predictions. Methods to estimate soil composition from remote sensing may provide improved performance and allow both methods to be used where high resolution soil databases are unavailable.

## 6. LIMITATIONS AND FUTURE RESEARCH

This work was limited by site conditions present at the field site. As the field site contained one dominant soil type, the study lacked the variety of soils that would allow for a full investigation into soil textures influence on soil strength. For instance, no site soil samples contained more than 50% fines content (USCS) and clay soils were also largely absent. A wider range of soil types should be investigated in future work to determine if the trends that were observed hold, and future field sites should contain soils that were not present at Maxwell Ranch.

Limited soil moisture ranges were also a challenge. While the region is semi-arid, an less-than-typical precipitation during the sampling campaign led to an abundance of low soil moisture values ( $<0.15$  volumetric soil moisture). This lack of a wide range of moisture contents restricted the ability to investigate a full range of conditions. Future research should focus on collecting measurements on the wetter end of the spectrum as most terramechanics applications are concerned with higher moisture contents, especially in clayey soils.

Additionally, as only three measurements were taken with the cone penetrometer at each location, localized areas of increased or decreased strength had a large impact on the point average RCI. Future work should focus on taking more RCI measurements ( $>10$ ) at each location, and investigations should focus on how many measurements are necessary to get an accurate RCI value at a location.

Finally, vegetation and topographical data should be integrated into STRESS to improve strength estimates. This study showed that soil strength has minor correlation

with slope and vegetation cover (despite exclusion of high vegetation points from the analysis). These elements should be integrated into the model to improve RCI calculations.

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## APPENDIX A. SOILS AND GEOLOGICAL INFORMATION

Figure A-1 shows the spatial extent of site soils comprising various loam units. The site consists of thin coarse soils derived from the underlying granite and sandstone formations (Soil Survey Staff 2022). Underlying geology consists of three major units: Sherman batholith, Fountain formation, and Ingleside formation (Workman et. al. 2018). The Sherman batholith consists of coarse-grained biotite hornblende granite with a pink color from which most site soils are derived (Frost et. al. 1999). The Fountain and Ingleside formation are found together at the site and consist of sedimentary rock, largely sandstone, siltstone, and shales (Workman et. al. 2018).

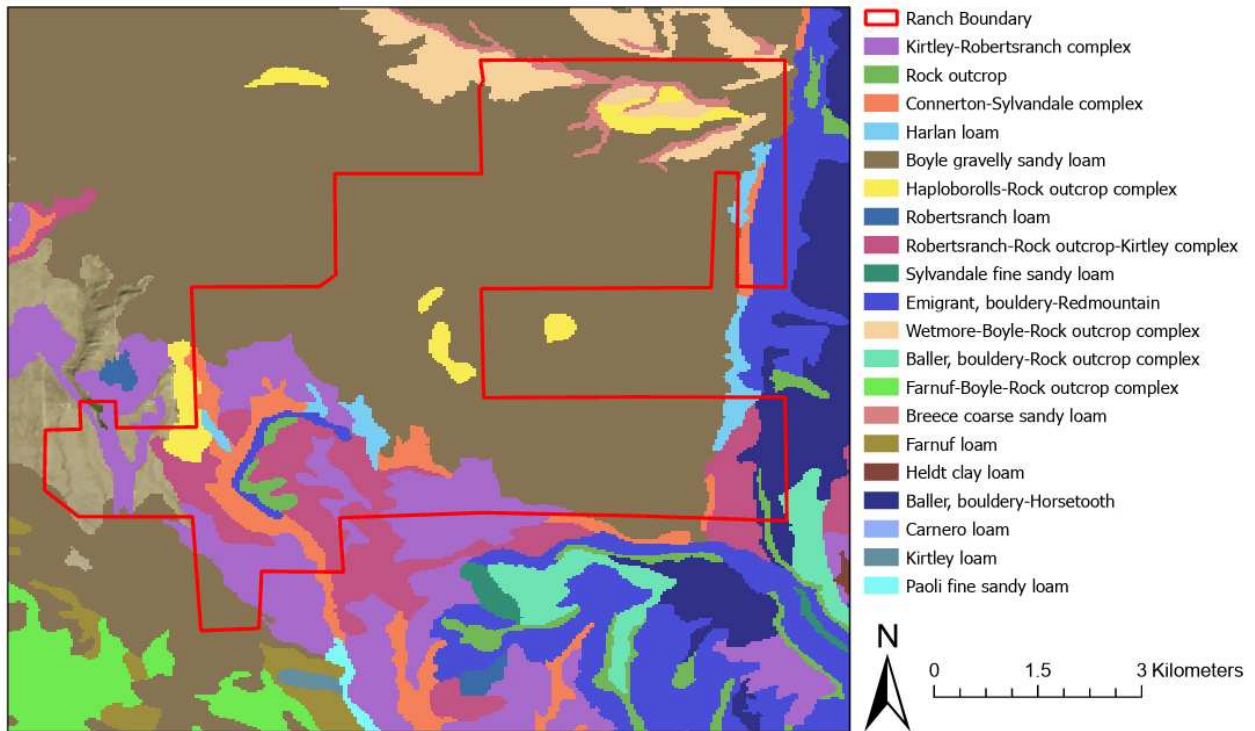


Figure A-1: Field site soil units from SSURGO.

## APPENDIX B. ROVER CALIBRATION AND STATISTICAL ANALYSIS

### Purpose

Herein I provide my basis for the selected dry neutron count ( $N_0$ ) of 1741 for the Maxwell Ranch field site and analysis of cosmic ray neutron rover results.

### Dry Neutron Count

The dry neutron count ( $N_0$ ) is a calibrated parameter that allows the conversion of pressure corrected neutron counts ( $N$ ) from a cosmic ray neutron rover (CRNR) to a gravimetric water content.  $N_0$  serves as the reference neutron count over dry soil but does not need to be acquired by measuring dry soil (Desilets et al., 2010). Instead, soil moisture is measured in the footprint of the CRNR while stationary, and those moisture values along with CRNR neutron counts are used to solve for  $N_0$  utilizing Equation A-1. This equation is the inverse of the equation provided by Desilets et al. (2010) to convert neutron counts to gravimetric soil moisture.

$$N_0 = \frac{N}{\frac{a_0}{\theta_G + a_2} + a_1} \quad (\text{B-1})$$

In order to convert gravimetric water content to volumetric water content Equation A-2 is used:

$$\theta = \theta_G * \frac{\rho_b}{\rho_w} \quad (\text{B-2})$$

where  $\theta$  is volumetric water content,  $\rho_b$  is the bulk (dry) density of the soil, and  $\rho_w$  is the density of water, assumed to be  $1 \text{ g/cm}^3$ . In order to make this conversion a bulk density value is required for Maxwell Ranch.

## **Basis for Bulk Density Values**

### Data Collected

Two separate field campaigns at Maxwell Ranch collected data pertaining to soil bulk density. The first was a data collection effort on September 27<sup>th</sup>, 2022, focused on trails at Maxwell Ranch and how trail density/moisture values compare to an adjacent off-trail point. The second was an effort to collect calibration data for the Steven's Water POGO soil moisture devices took place on October 14<sup>th</sup>, 2022. During both efforts a volume of soil was collected from the ground, the resulting hole was lined with plastic wrap, and a volume of water was added to the hole to determine the volume of soil removed. These samples were then oven dried to determine the dry mass of the collected soil.

The trail sampling campaign resulted in six landscape samples and the POGO calibration campaign resulted in an additional 10 samples. Additionally, both sample sets included soils from the two main soil units at the ranch: high organic soils in valley bottoms and coarse gravelly soils elsewhere. Bulk densities from both sampling campaigns can be seen in Table A-1. Values ranged from  $1.26 \text{ g/cm}^3$  in the organic rich areas to  $2.24$

g/cm<sup>3</sup> in the coarse soils. Averages of the field data indicate a 1.71 g/cm<sup>3</sup> for Maxwell Ranch soils.

Table B-1: Field bulk density results.

<b>Sampling Campaign</b>	<b>Sample</b>	<b>Bulk Density (g/cm<sup>3</sup>)</b>
<b>Trails</b>	T-2	1.82
	T-6	1.51
	T-7	1.61
	T-9	2.24
	T-11	1.26
	T-12	1.74
<b>POGO</b>	HS-1	1.59
	BE-1	1.55
	BE-2	1.70
	BE-3	1.48
	BE-4	1.36
	A3-1	1.92
	A3-2	2.02
	A3-3	1.94
	R1-1	1.90
	R1-2	1.63
<b>Average</b>		1.71

In addition to field data collection, a limited amount of lab testing was performed on the coarse gravelly soils to determine an acceptable bulk density range. Max dry densities of the soils were determined through proctor compaction testing per ASTM D698. Results from this testing are included in Table A-2. Results indicated a max bulk density of 1.78 g/cm<sup>3</sup>. Additional samples were prepared with a range of bulk densities for POGO calibration. A loose sample was prepared by pouring dry soil into a proctor mold resulting in a bulk density of 1.16 g/cm<sup>3</sup> and a sample was prepared by hand tamping which resulted in a bulk density of 1.60 g/cm<sup>3</sup>.

Table B-2: Proctor compaction testing results.

<b>Sample</b>	<b>Total Density (g/cm<sup>3</sup>)</b>	<b>w (g/g)</b>	<b>Dry Density (g/cm<sup>3</sup>)</b>
1	1.72	0.024	1.68
2	1.91	0.090	1.75
3	2.01	0.131	1.78
4	2.01	0.160	1.74
5	1.98	0.190	1.67

While the field samples indicate a higher bulk density than the lab samples, lab testing was conducted on soils with the gravel fraction removed. Soils at Maxwell Ranch included a high mass of gravel, greater than 15% at many locations, which would indicate higher bulk density values than the lab testing indicated.

#### Reference Bulk Density Values

Sources for general soil properties lend credence to high bulk density values for gravelly soils such as those found at Maxwell Ranch. The United States Naval Facilities Engineering Command (NAVFAC) Unified Facilities Criteria: Soil Mechanics provides ranges of soil bulk densities based on USCS soil classification. According to this source bulk densities can range from 1.44 g/cm<sup>3</sup> for silty sand to 2.10 g/cm<sup>3</sup> for a well graded gravel at 50% relative density. Soils at Maxwell Ranch largely classify as silty sands with gravel. Given the trend of increasing density with gravel, and the high level of gravels

present at the site, this source confirms that  $1.7 \text{ g/cm}^3$  is a reasonable assumption for a site average bulk density.

### **Dry Neutron Count Determination**

$N_0$  was determined for Maxwell Ranch at five calibration locations across the ranch capturing a range of different site soils, and calibration data was collected on different dates covering a range of moisture conditions. At each location, the CRNR was parked for 20+ minutes and volumetric soil moisture readings were taken with a Steven's Water HydraProbe/POGO within the rover footprint. Approximately 25 readings were taken in the four cardinal directions at 5 m, 10 m, 20 m, 30 m, 40 m, 50 m, and 60 m distances. This distance represents the area of the footprint with the strongest influence on total neutron counts (Kohli et al. 2015). During this time, and for the duration of the CRNR surveys, neutron counts were integrated at 1-minute intervals.

HydraProbe values were then averaged to determine a single water content in the CRNR footprint for the period. These average values were used to determine an  $N_0$  for each one-minute period the CRNR was parked. Values were averaged to determine an  $N_0$  for each calibration location on each date. All values were then averaged to determine a single  $N_0$  used for the sampling campaign.

Table A-3 and Figure A-1 provide volumetric soil moisture,  $N$ , and  $N_0$  for each date and calibration location. Table A-3 indicates that using the average  $N_0$  at each calibration location correctly determines the average soil moisture that was measured in the CRNR footprint. The table also presents the average  $N_0$  of 1741 proposed for the ranch.

Additionally, as shown in Figure A-1 the variation in point measurements within 60 meters of the parked rover at each calibration location. These values suggest little variation within the immediate CRNR footprint and confirm the use of an average soil moisture measurement as opposed to using the weighting function suggested by Kohli et al. (2015).

Table B-3: Average volumetric water content and dry neutron count.

Date	Calibration Location	HydraProbe Mean Water Content	Hydra Probe STD	Neutron Count	Dry Neutron Count	Rover Mean Water Content	Rover STD
05/06	R-1	0.169	0.042	1385	1848	0.169	0.014
	R-2	0.145	0.031	1378	1777	0.145	0.020
	R-3	0.131	0.039	1419	1791	0.131	0.015
	R-4	0.172	0.031	1353	1811	0.172	0.019
	R-5	0.173	0.034	1335	1793	0.173	0.022
05/27	R-1	0.132	0.030	1402	1771	0.132	0.009
	R-2	0.135	0.028	1414	1797	0.135	0.010
	R-3	0.102	0.019	1499	1797	0.102	0.031
06/02	R-1	0.216	0.035	1272	1799	0.216	0.022
	R-2	0.197	0.042	1263	1751	0.197	0.024
	R-3	0.181	0.032	1321	1795	0.181	0.019
	R-4	0.178	0.026	1339	1805	0.178	0.025
	R-5	0.167	0.040	1290	1715	0.167	0.024
06/15	R-1	0.025	0.019	1636	1645	0.025	0.011
	R-2	0.021	0.018	1649	1637	0.021	0.010
	R-3	0.019	0.012	1682	1659	0.019	0.008
	R-4	0.024	0.013	1661	1661	0.024	0.011
07/26	R-1	0.079	0.021	1483	1698	0.079	0.015
	R-2	0.052	0.019	1558	1677	0.052	0.012
<b>Average</b>					<b>1741</b>		

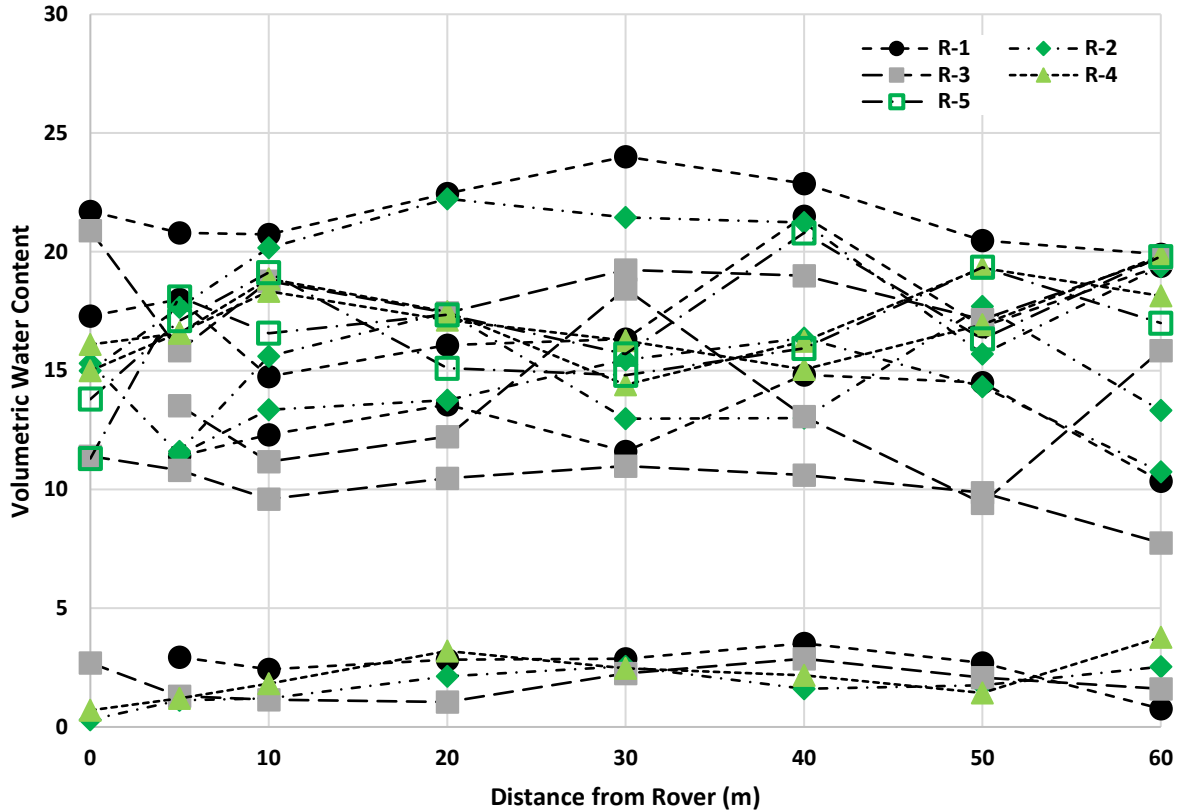


Figure B-1: Distance average volumetric water at various locations within the CRNR footprint.

Figure A-2 shows the average  $N_0$  at each calibration location along with the full range of  $N_0$  values. The lack of spatial variability in the CRNR footprint at the calibration locations can also be seen on a larger ranch wide scale. Calibration locations were chosen for their homogenous characteristics in the CRNR footprint, but the multiple locations across the ranch were chosen to capture the range of potential soils at the ranch. These results show a limited range of  $N_0$  values between the calibration locations and a similar location average.

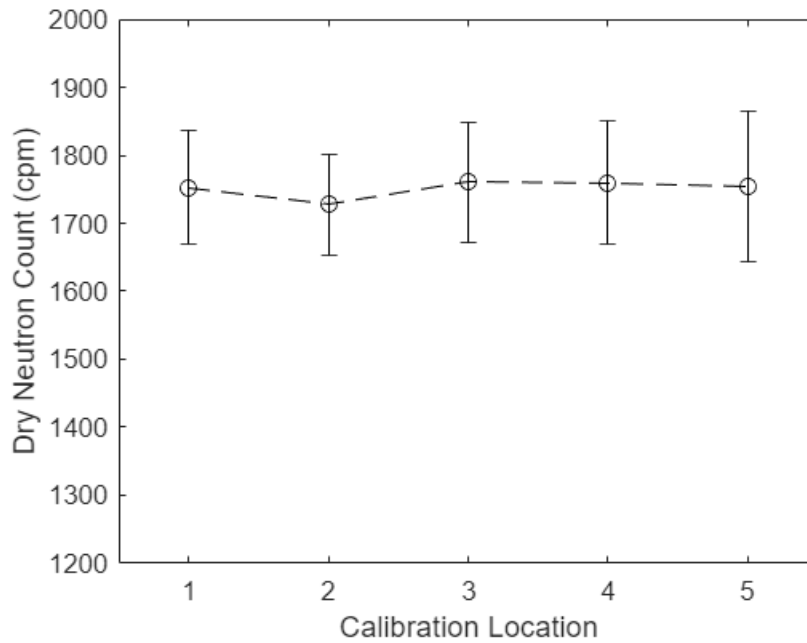


Figure B-2: Calibration location dry neutron count averages with error bars showing standard deviation of  $N_0$ .

Figure A-3 shows the  $N_0$  ranges for each calibration location and the corresponding volumetric water content at the calibration location. Variations in  $N_0$  shown on different dates can be resolved by increasing the bulk density, but as shown above the data do not support using a higher bulk density value. Further, these variations are potentially attributable to different reading depths depending on soil moisture and the lack of point data deeper than 5 cm. Per Zreda et al. (2012), the reading depth of a CRNR can vary from 12 cm in wet conditions to 76 cm in dry conditions. This variation could explain the lower values on drier dates due to a deeper CRNR reading. The deeper reading depth of the CRNR on drier dates would likely lead to the CRNR reading greater moisture than would be indicated with the 5 cm probes that were used for point moisture readings. Using the average  $N_0$  would serve to eliminate some of the variation experienced with different moisture conditions.

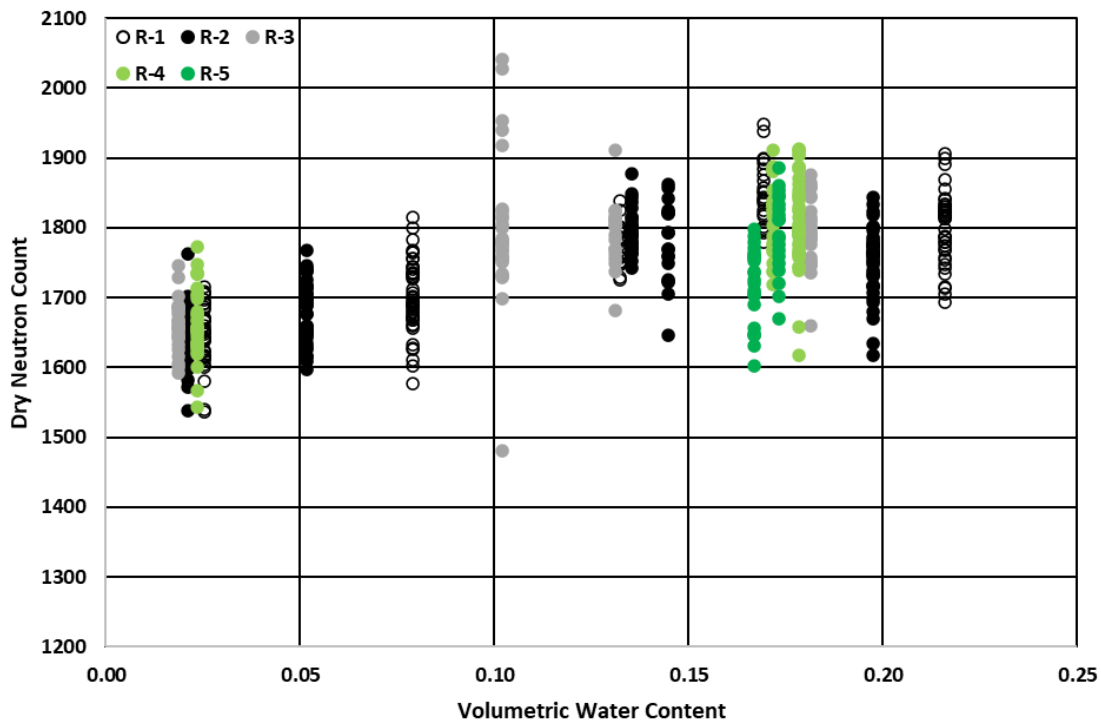


Figure B-3: Dry neutron counts for each calibration location and date.

A site average  $N_0$  has also been applied with success during other CRNR campaigns. Vather et al. (2019) completed CRNR surveys in South Africa between 2016 and 2018. During the surveys point values of soil moisture were acquired and  $N_0$  was calculated at multiple points. These values were then averaged to provide a single  $N_0$  value for the survey site. Additionally, Schron et al. (2018) performed a CRNR survey in the German lowlands in 2017. During the survey 94-point measurements and 300 rover measurements were used to calculate an average  $N_0$  for the survey sites. One  $N_0$  value was then used for a wide-ranging survey site due to the perceived homogeneity of the site similar to that of Maxwell Ranch.

## Rover Evaluation

Figure A-4 shows how the average rover water content at the calibration locations compares to the average point water content in the rover footprint when constant  $N_0$  and  $\rho_b$  values are used. Using an  $N_0$  of 1741 and  $\rho_b$  of  $1.7 \text{ g/cm}^3$  allows the rover to produce water contents that closely align with the point measurements taken at the calibration locations, and to point readings across the ranch. Error bars are included in the plot to indicate one standard deviation for both measurements. This plot shows that in most instances the standard deviation is less than the standard deviation of the point measurements. The RMSE for the rover measurements compared to the point measurements is 0.0275 indicating that the rover can accurately determine water contents close to those of the point measurements. As stated previously, over and underestimates from the rover are likely caused by the detecting depth being deeper than that of the point measurements.

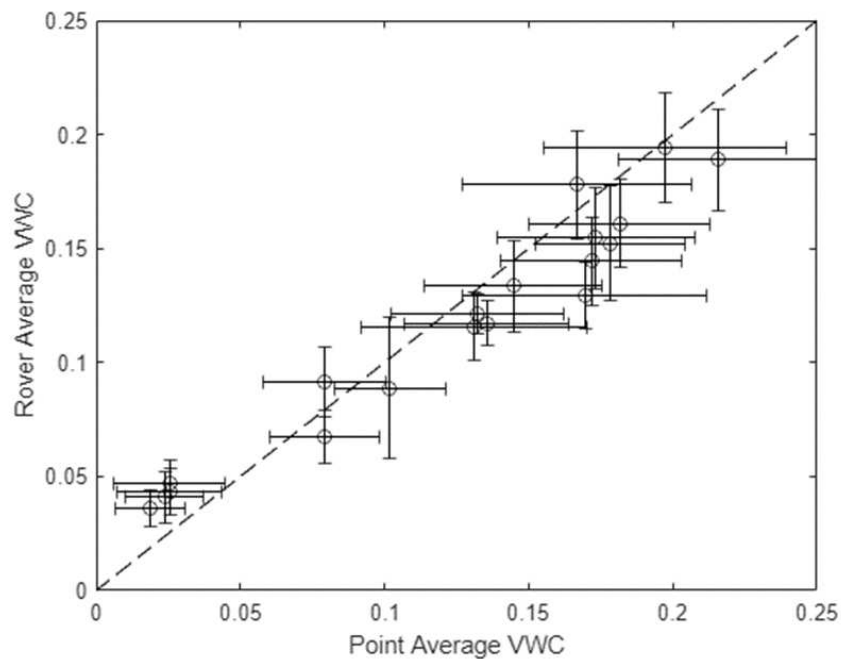


Figure B-4: Average rover water contents at calibration locations vs. average point water contents with error bars indicating one standard deviation.

Overall, standard deviation of rover water contents is relatively minor. Table A-4 provides the standard deviation of the rover water contents using the  $N_0$  of 1741 for each period the rover was parked at a calibration location. The average standard deviation of 0.017 indicates that the rover water contents have a low error.

Table B-4: Standard deviation of rover water contents at calibration locations.

<b>Date</b>	<b>Calibration Location</b>	<b>Mean Volumetric Water Content</b>	<b>Mean Standard Deviation</b>
<b>05/06/2022</b>	<b>R-1</b>	0.129	0.014
	<b>R-2</b>	0.145	0.020
	<b>R-3</b>	0.131	0.015
	<b>R-4</b>	0.144	0.019
	<b>R-5</b>	0.173	0.022
<b>05/27/2022</b>	<b>R-1</b>	0.122	0.009
	<b>R-2</b>	0.135	0.010
	<b>R-3</b>	0.102	0.031
<b>06/02/2022</b>	<b>R-1</b>	0.189	0.022
	<b>R-2</b>	0.197	0.024
	<b>R-3</b>	0.181	0.019
	<b>R-4</b>	0.152	0.025
	<b>R-5</b>	0.178	0.024
<b>06/15/2022</b>	<b>R-1</b>	0.047	0.011
	<b>R-2</b>	0.044	0.010
	<b>R-3</b>	0.036	0.008
	<b>R-4</b>	0.041	0.011
<b>07/26/2022</b>	<b>R-1</b>	0.091	0.015
	<b>R-2</b>	0.068	0.012
	<b>Average</b>	0.121	0.017

The rover also determines ranch wide average water contents that compare well to ranch wide averages from point measurements (Figure A-5). This comparison

produces an RMSE of 0.014 again indicating that the rover is accurately reproducing observed water contents across the ranch.

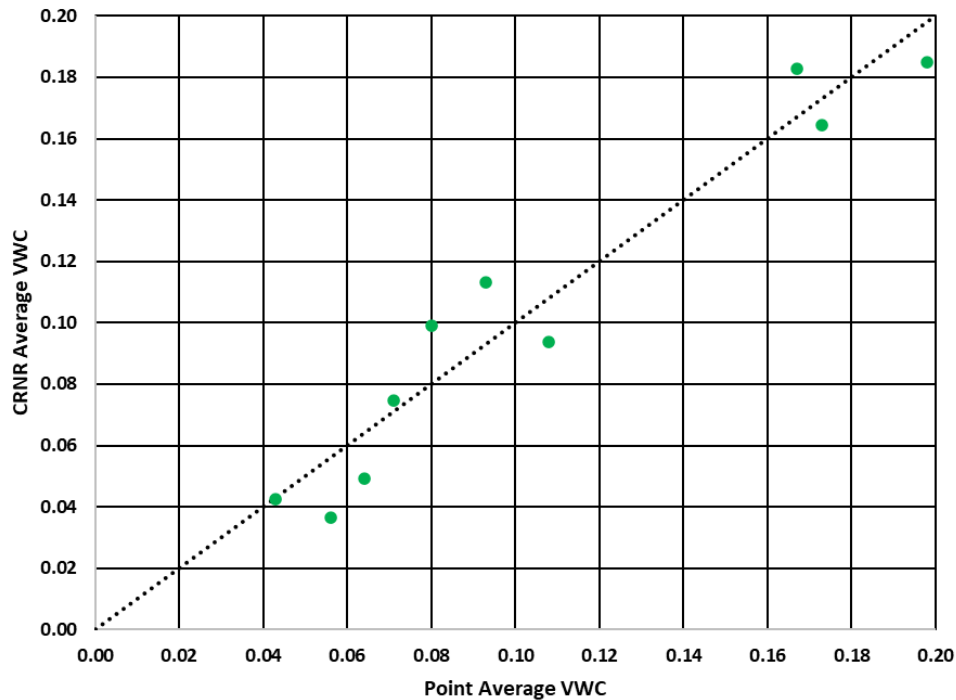


Figure B-5: Ranch average water content from CRNR vs HydraProbe point averages.

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<https://doi.org/10.1002/2015WR017169>.

Schrön, M., Rosolem, R., Köhli, M., Piuissi, L., Schröter, I., Iwema, J., et al., 2018. Cosmic-ray neutron rover surveys of field soil moisture and the influence of roads. *Water Resources Research*, 54, 6441–6459. <https://doi.org/10.1029/2017WR021719>

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Zreda, M., Desiltes, D., Ferre, T.P.A., and Scott, R.L., 2012. Measuring soil moisture content non-invasively at intermediate spatial scale using cosmic-ray neutrons, *Geophysical Research Letters*, 35, 21. <https://doi.org/10.1029/2008GL035655>

## APPENDIX C. COSMIC RAY NEUTRON ROVER DATA

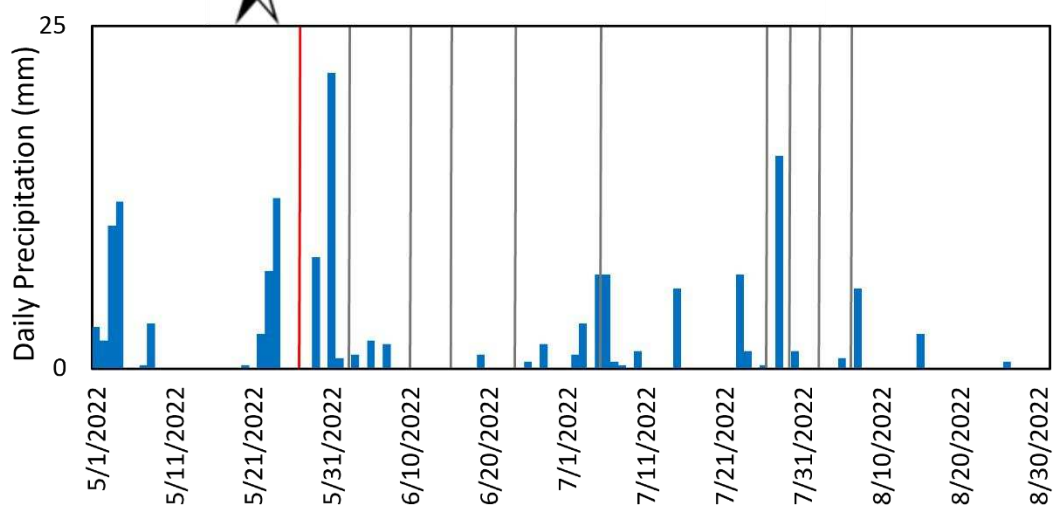
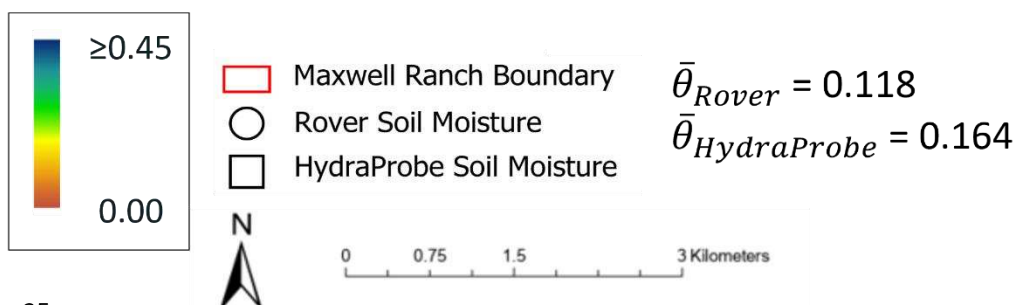
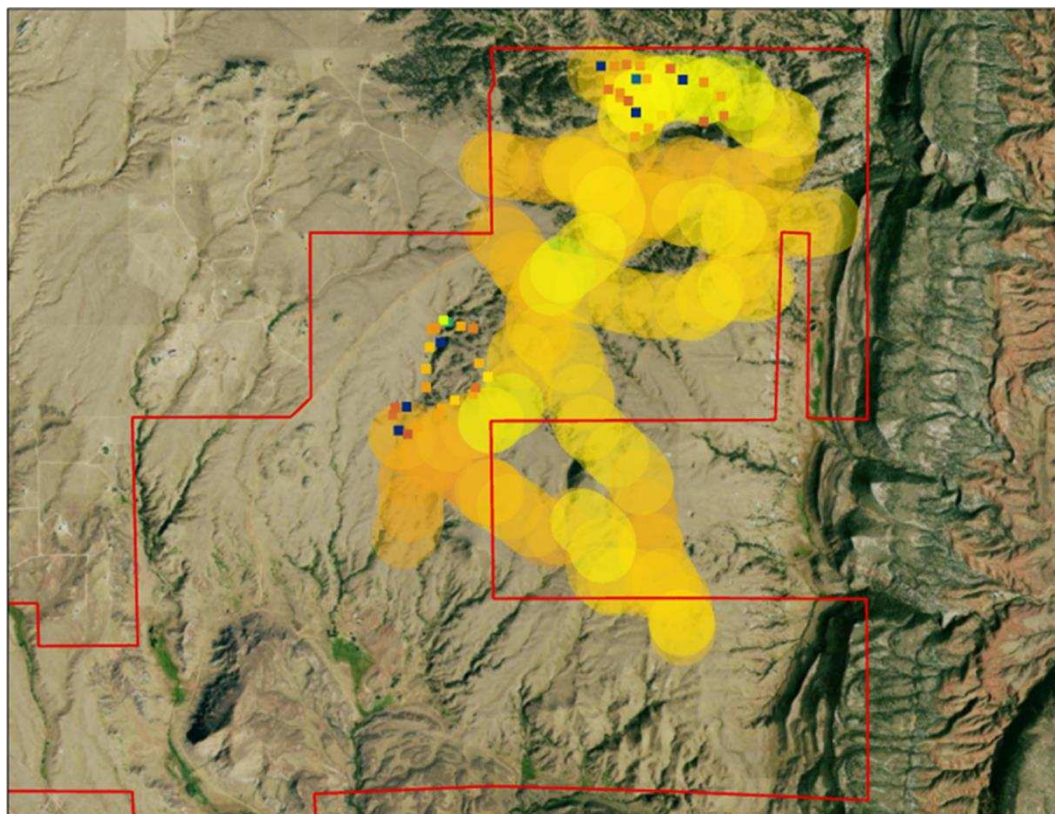


Figure C-1: Observed CRNR and HydraProbe soil moisture 05/27/2022.

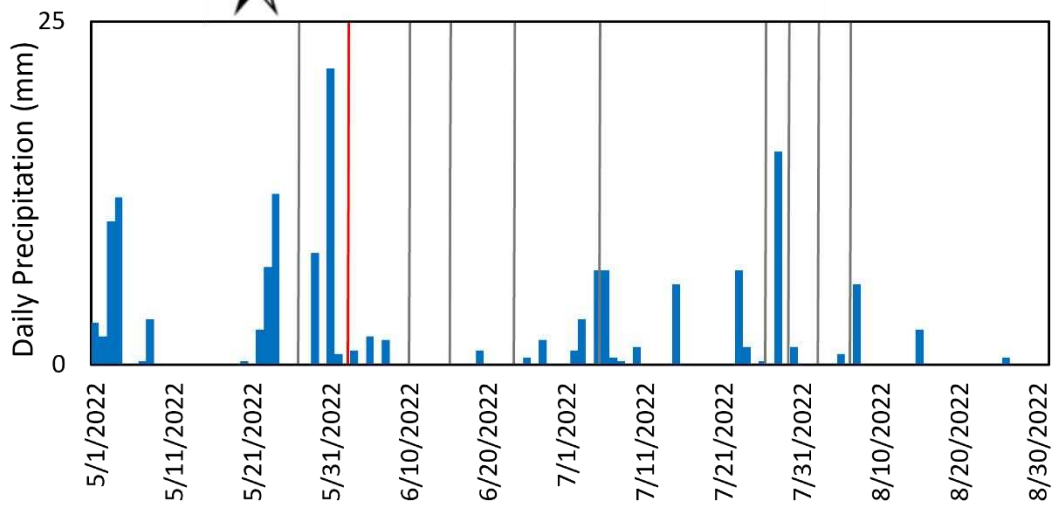
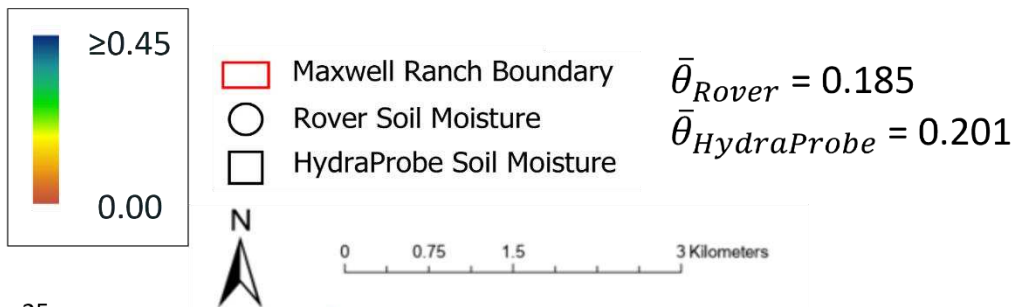
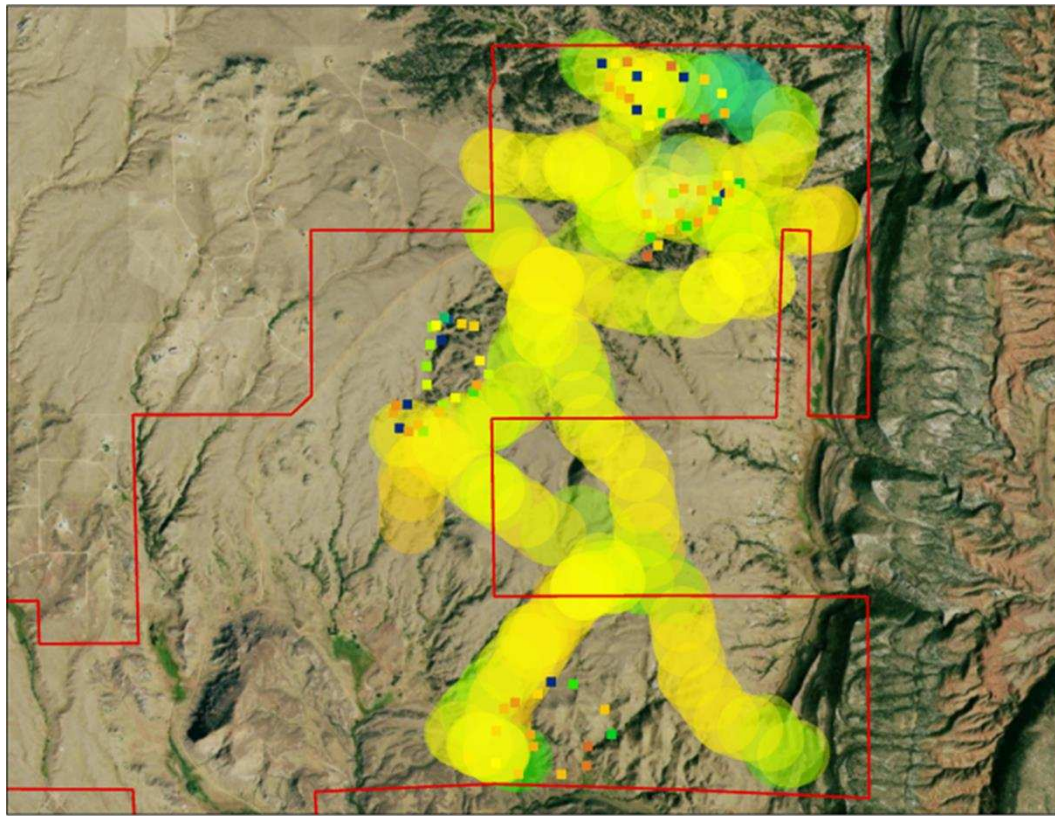


Figure C-2: Observed CRNR and HydraProbe soil moisture 06/02/2022.

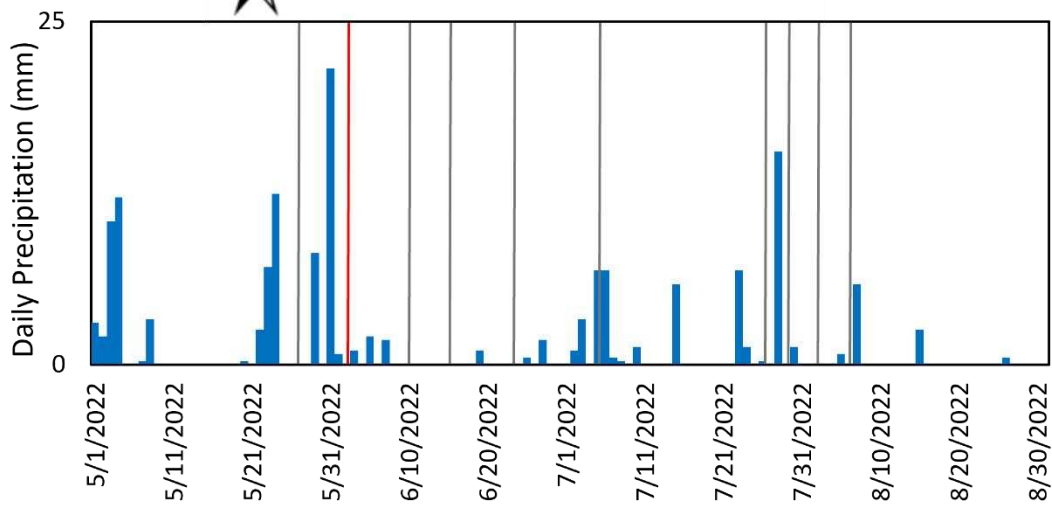
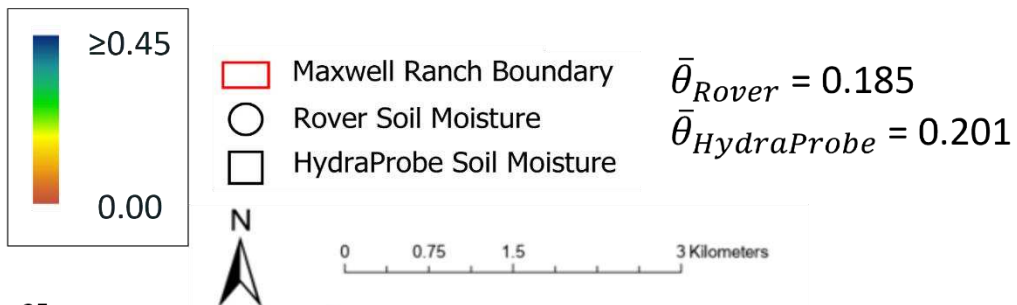
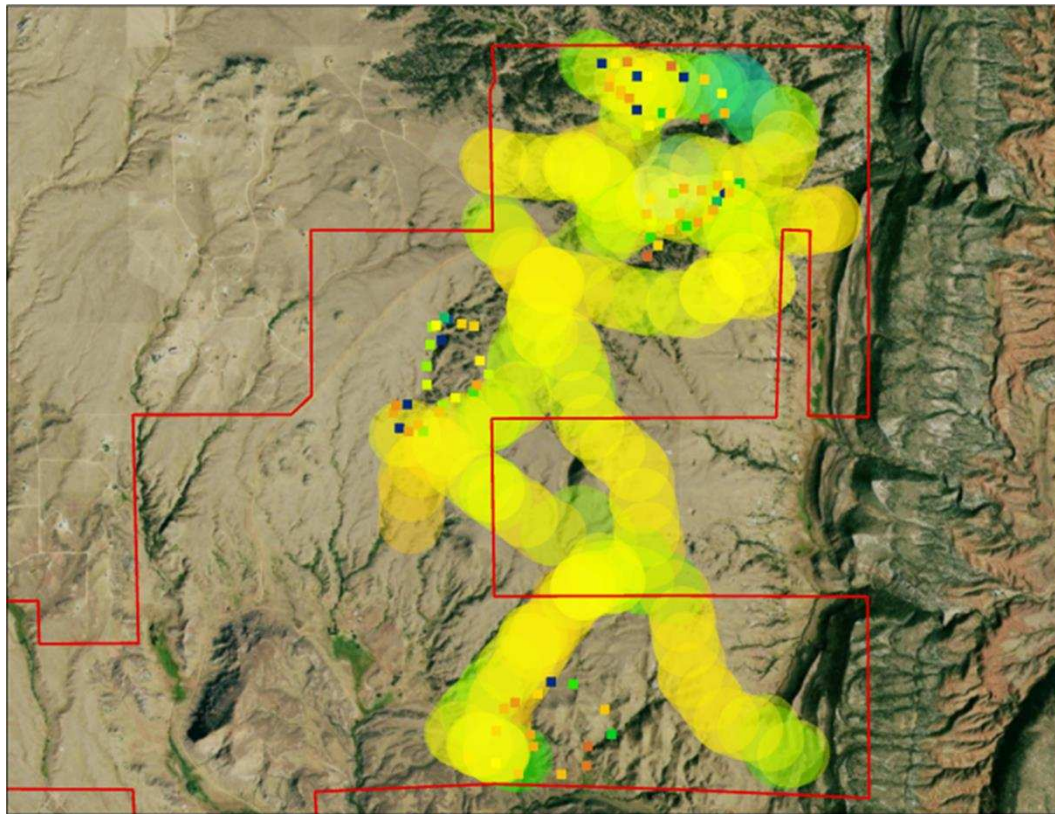


Figure C-3: Observed CRNR and HydraProbe soil moisture 06/10/2022.

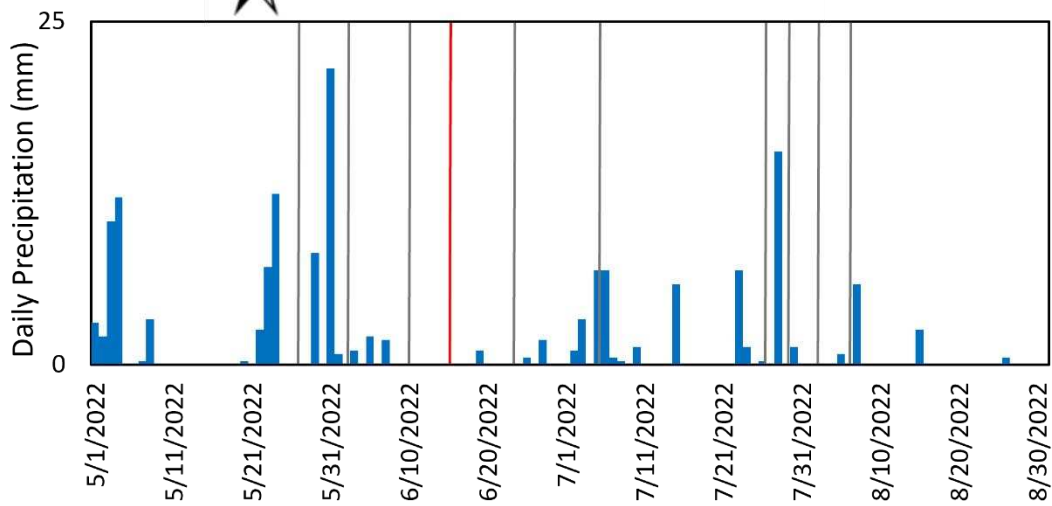
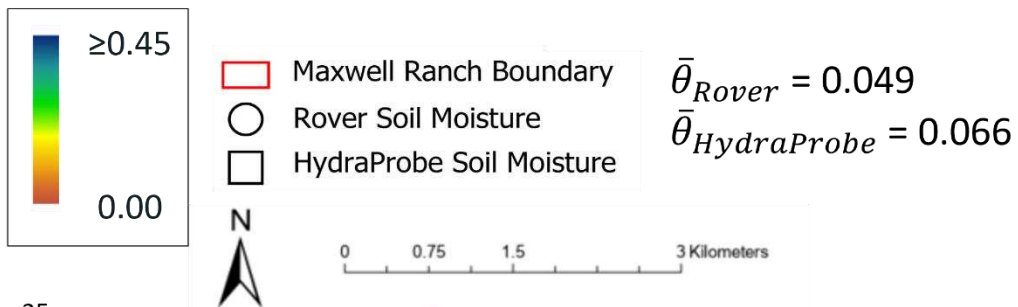
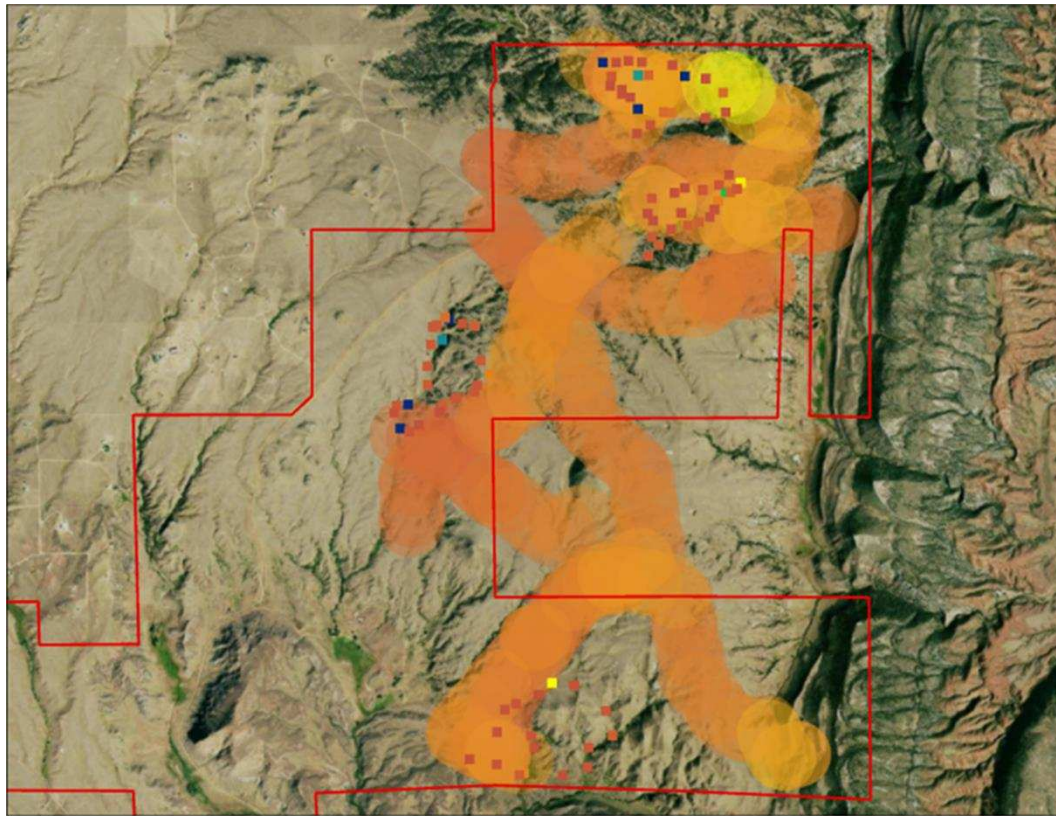


Figure C-4: Observed CRNR and HydraProbe soil moisture 06/15/2022.

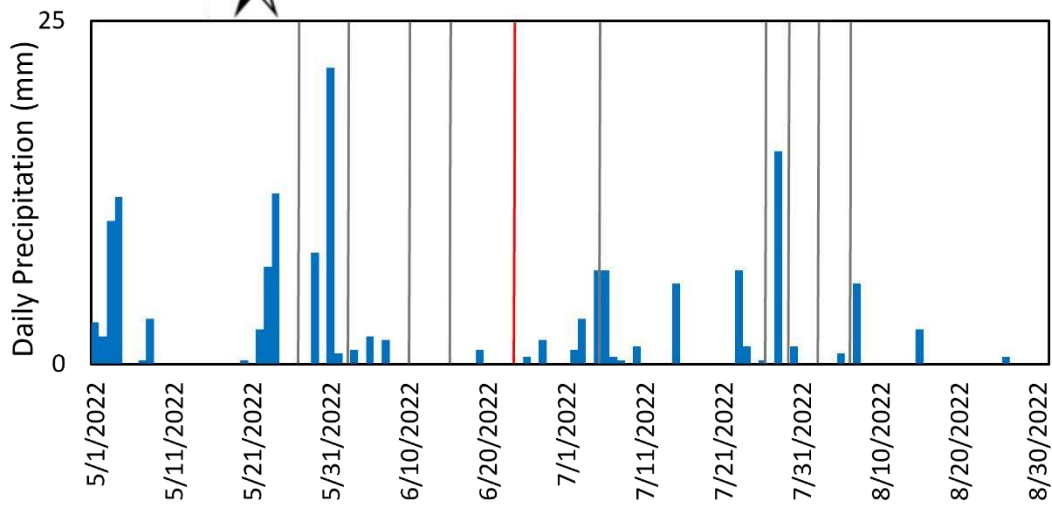
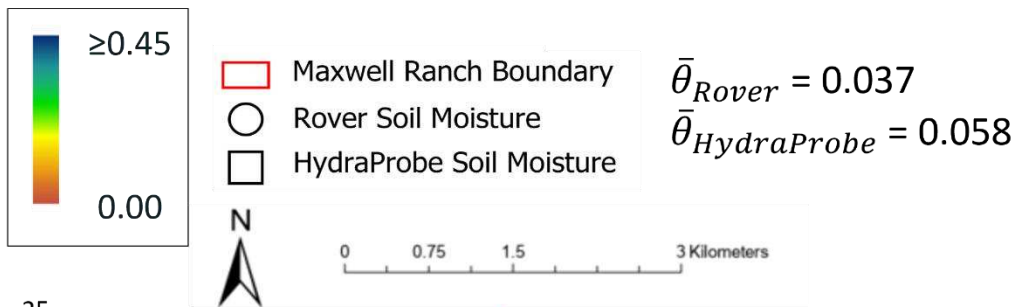
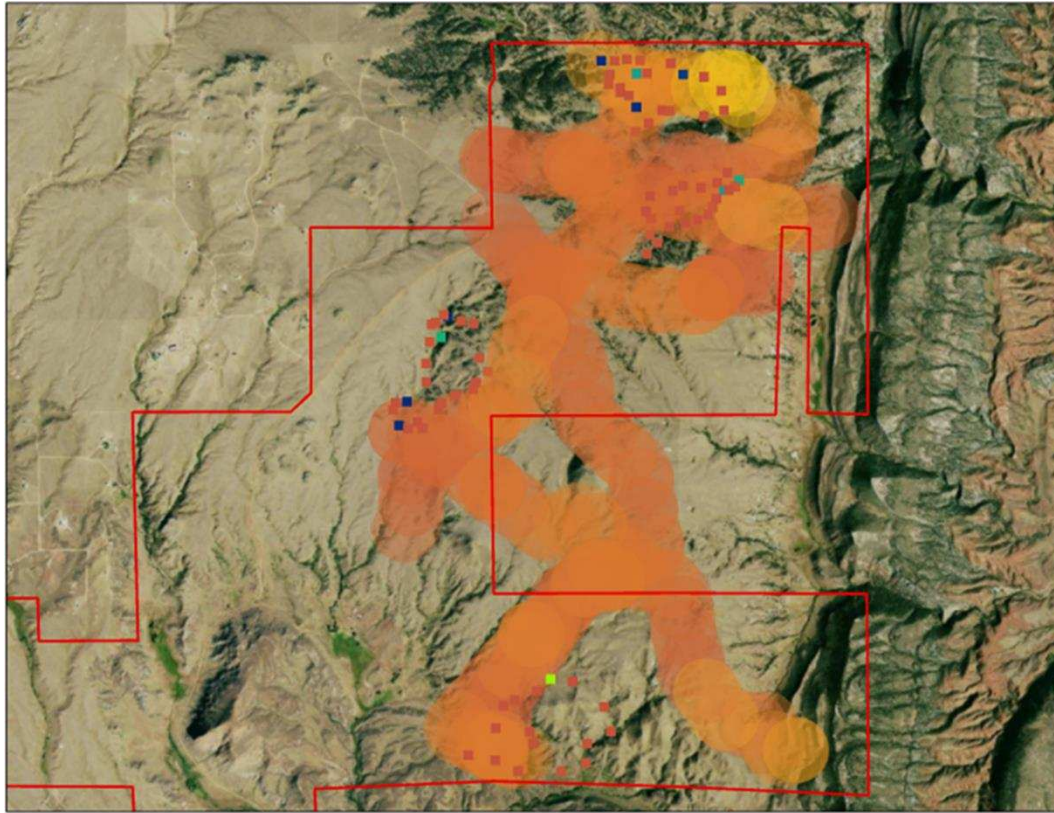


Figure C-5: Observed CRNR and HydraProbe soil moisture 06/23/2022.

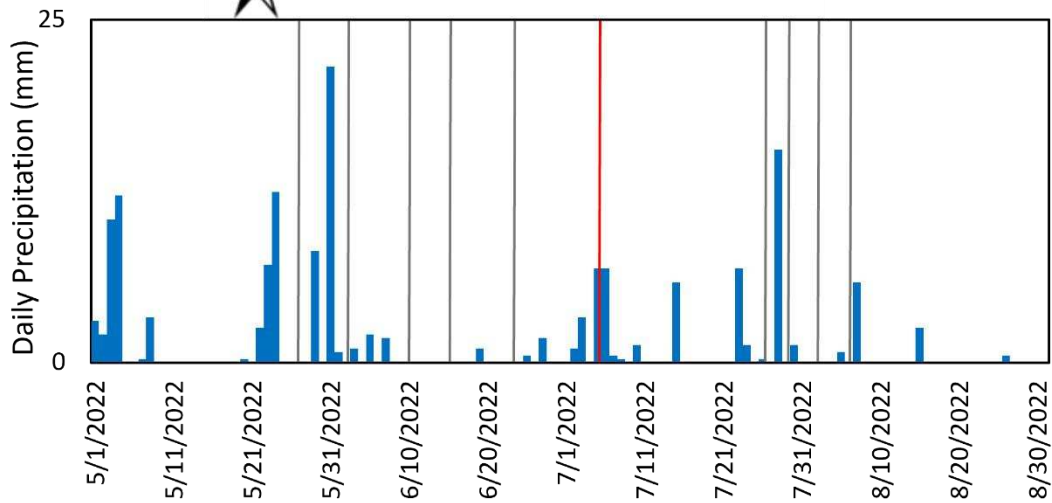
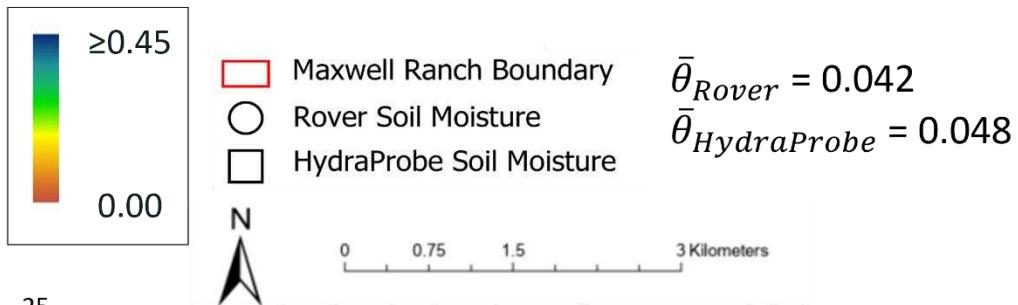
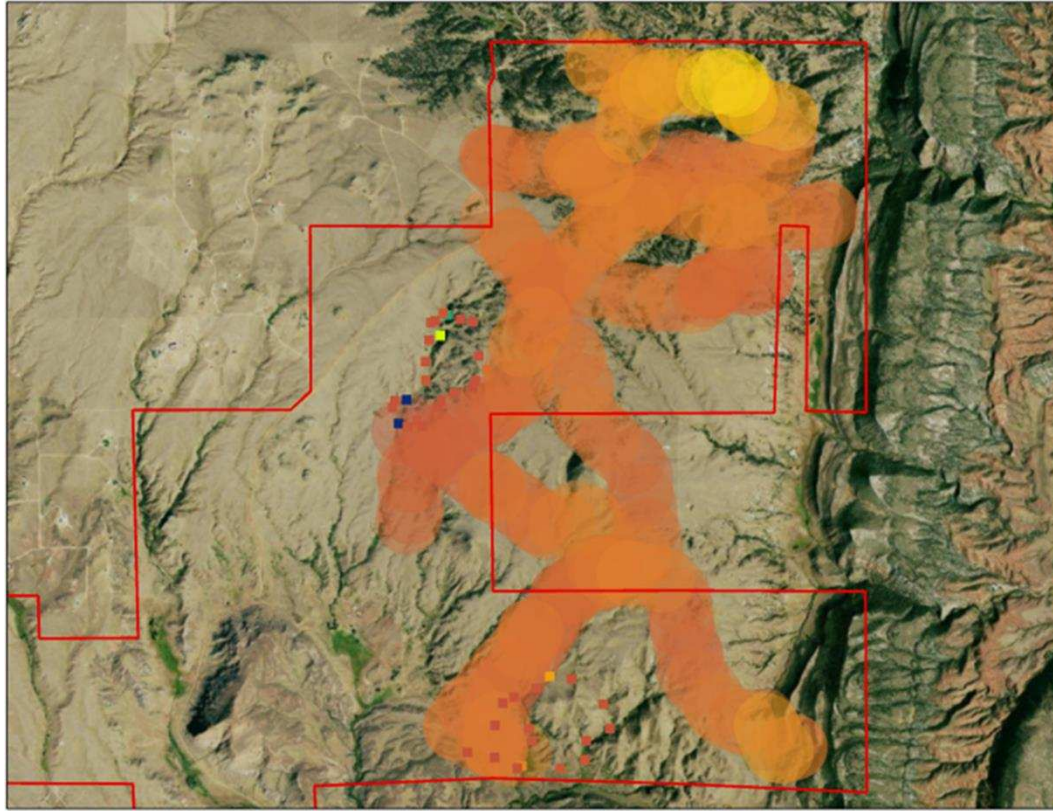


Figure C-6: Observed CRNR and HydraProbe soil moisture 07/05/2022.

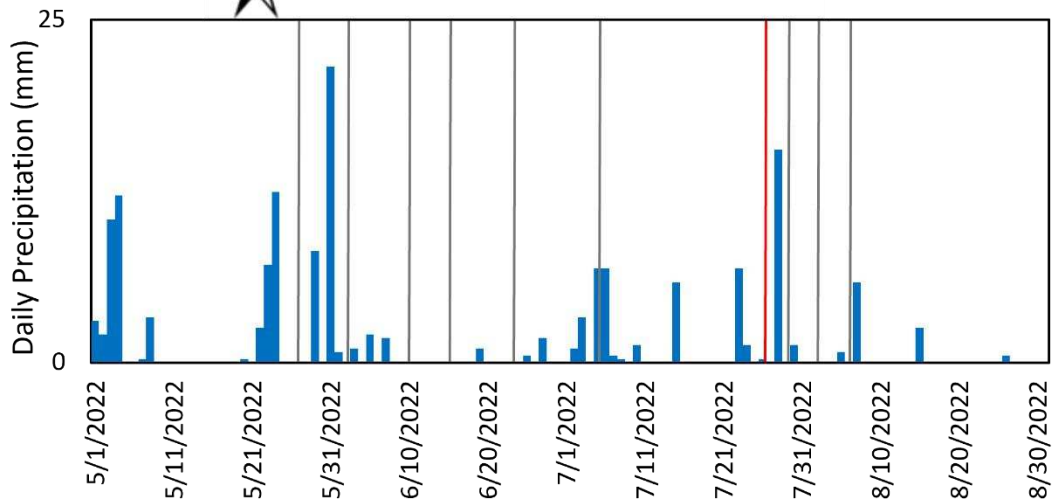
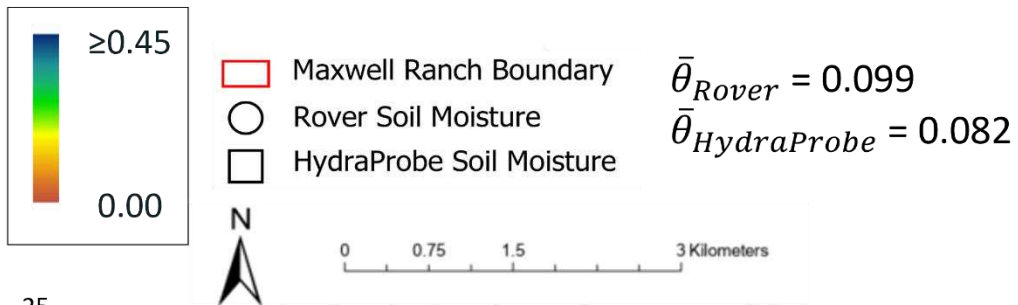
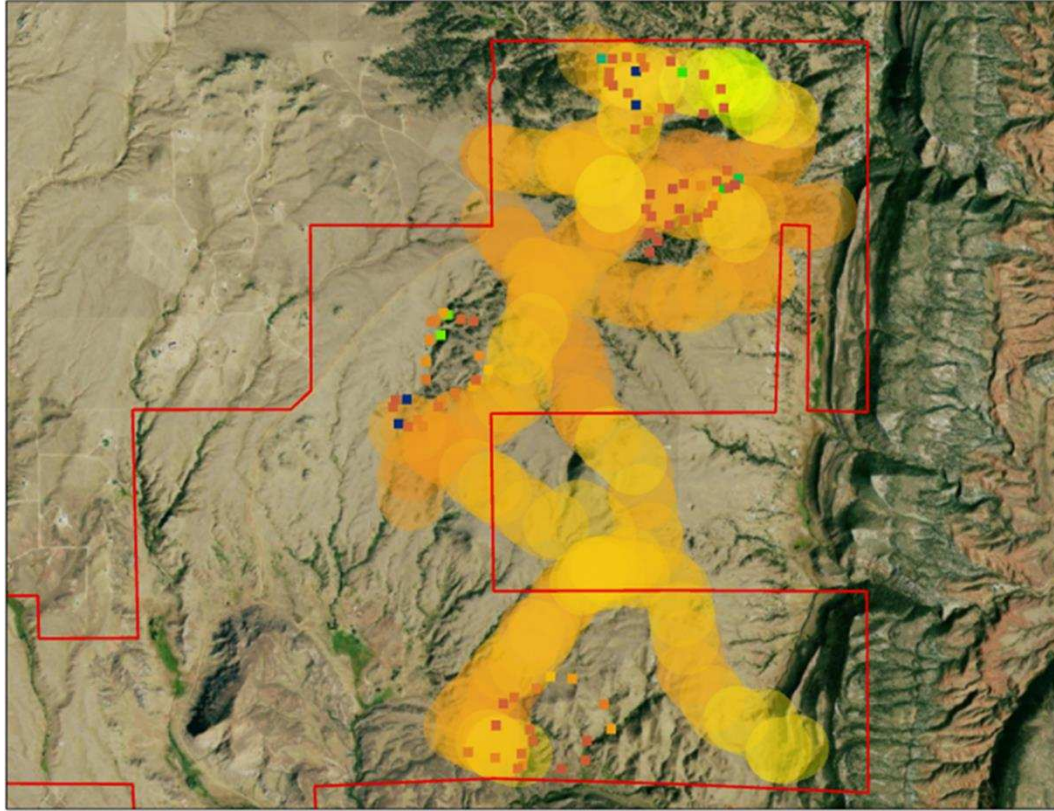


Figure C-7: Observed CRNR and HydraProbe soil moisture 07/26/2022.

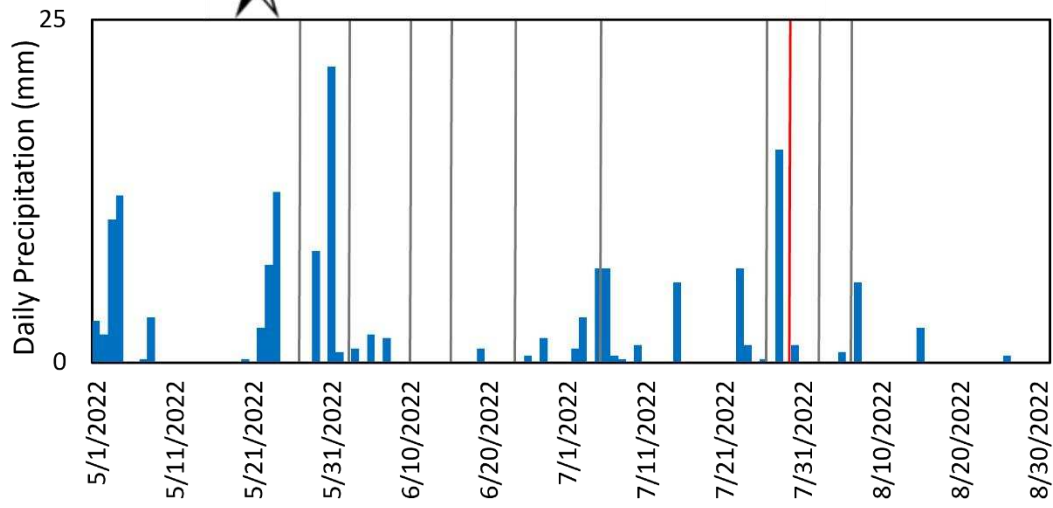
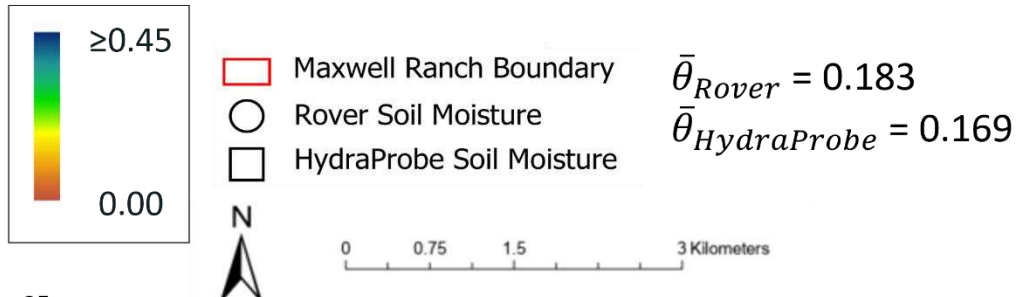
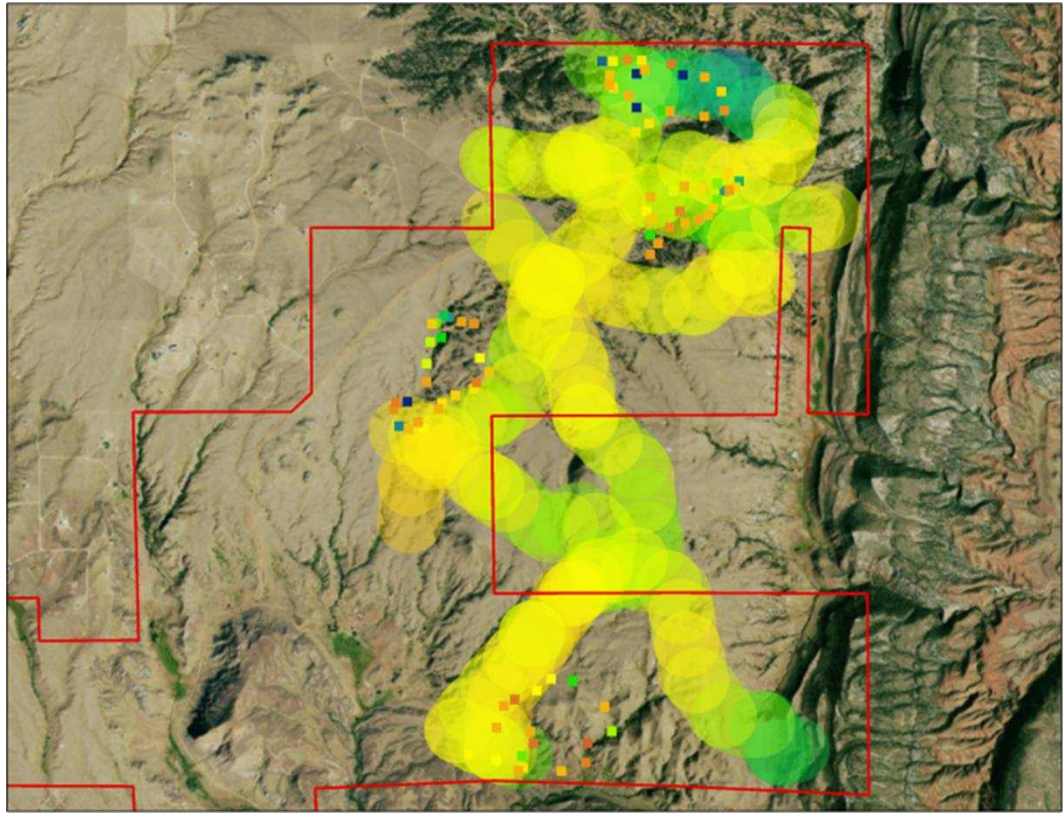


Figure C-8: Observed CRNR and HydraProbe soil moisture 07/29/2022.

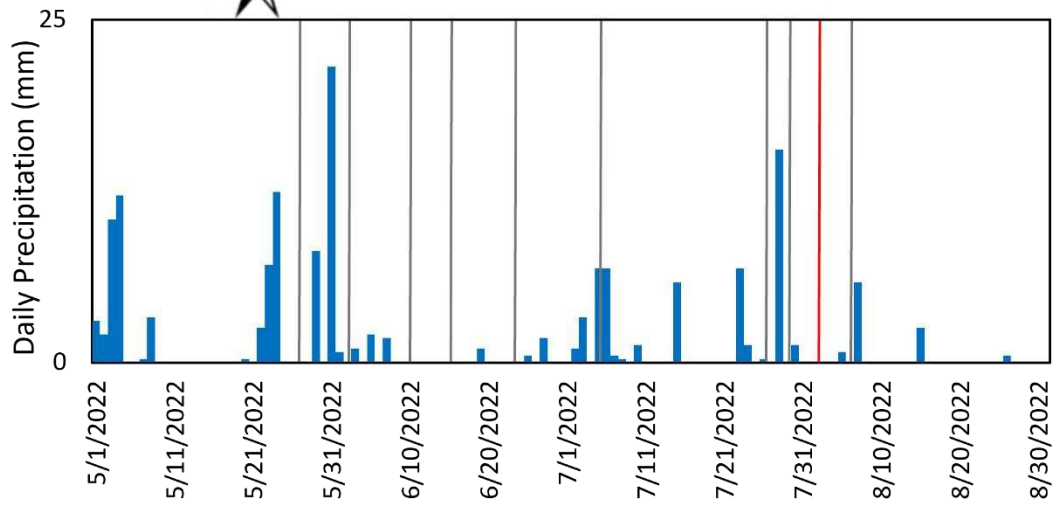
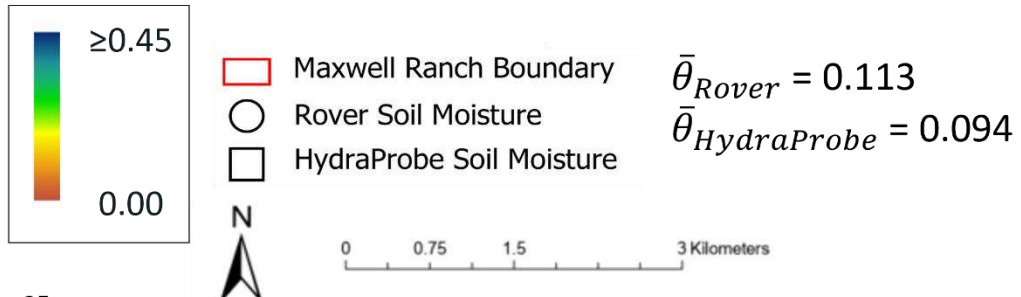
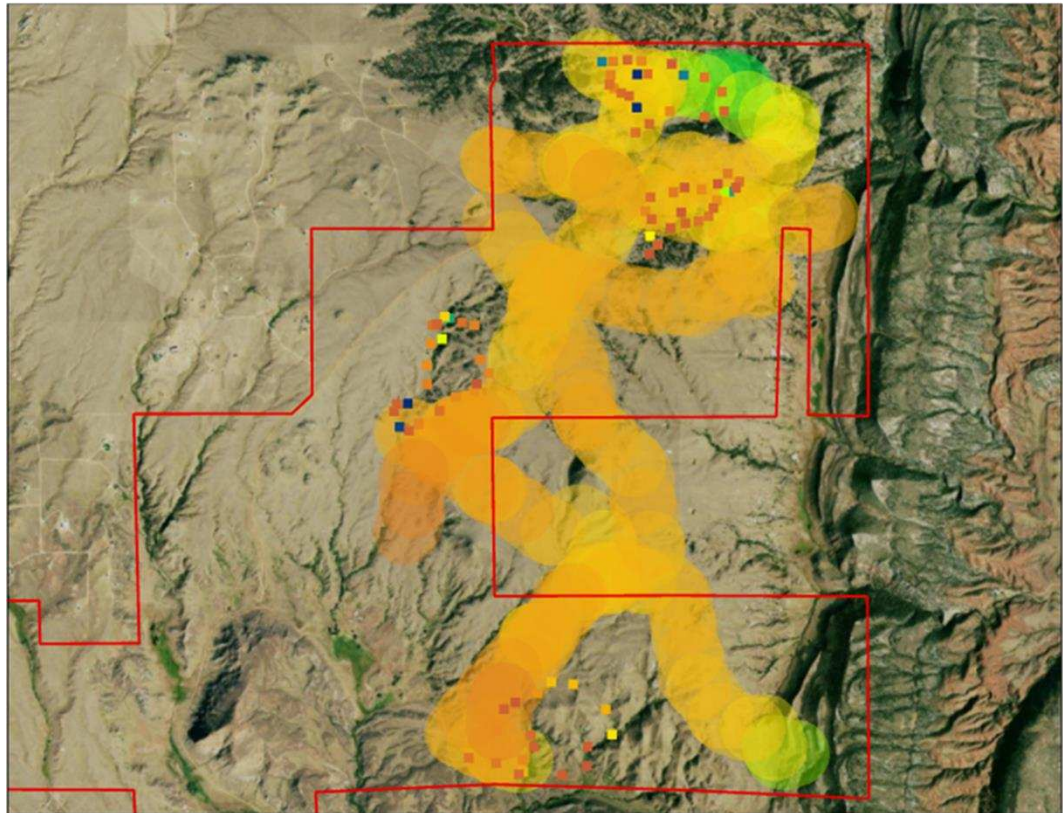
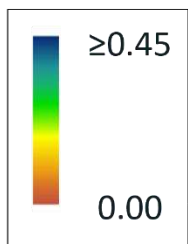
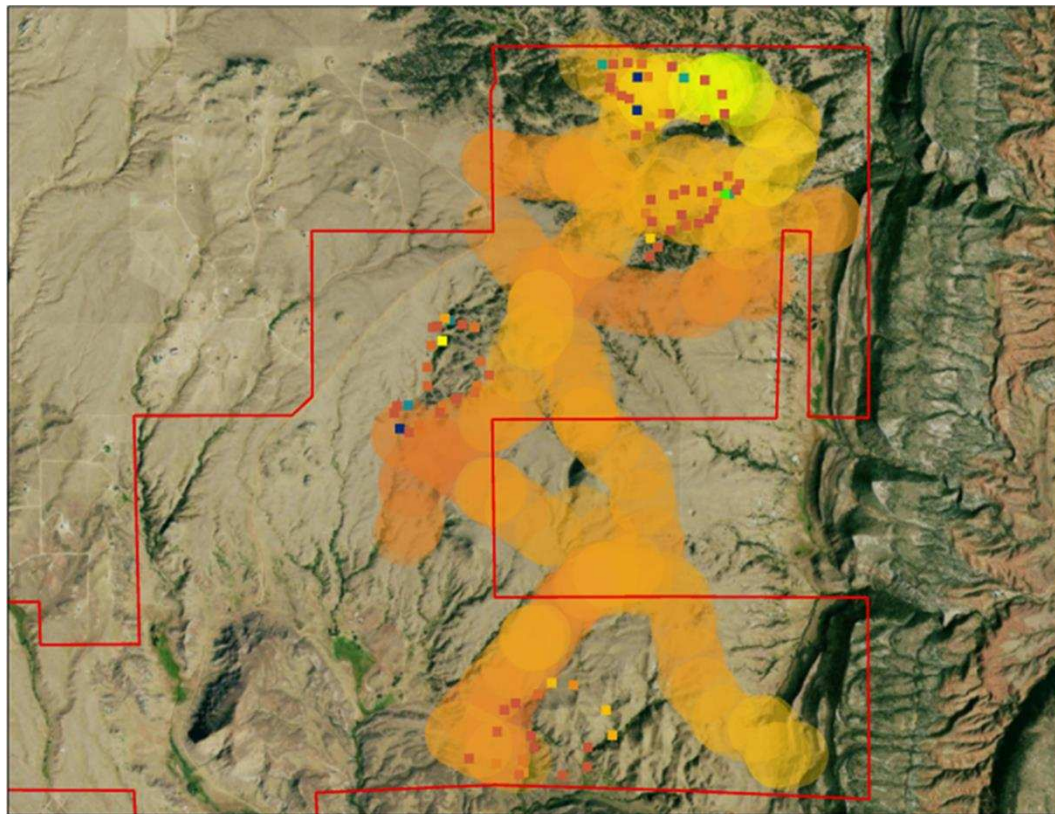


Figure C-9: Observed CRNR and HydraProbe soil moisture 08/02/2022.



- Maxwell Ranch Boundary
- Rover Soil Moisture
- HydraProbe Soil Moisture

$\bar{\theta}_{Rover} = 0.075$   
 $\bar{\theta}_{HydraProbe} = 0.072$

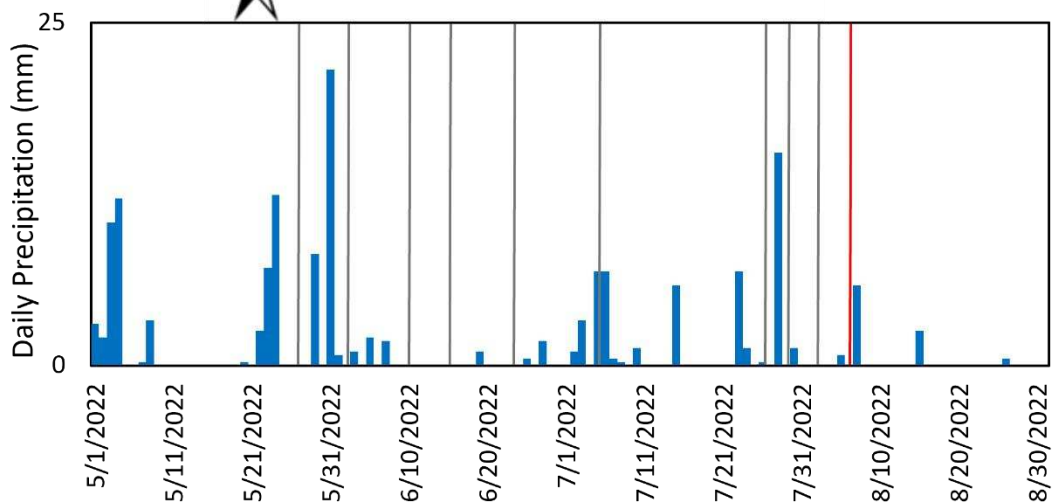


Figure C-10: Observed CRNR and HydraProbe soil moisture 08/05/2022.

Table C-1: Rover data 05/27/2022.

Date Time(UTC)	Lat	Long	P (mb)	N <sub>raw</sub>	N	$\theta_G$ (avg)	$\theta_V$
2022/05/27 09:33:42			778.475	376	374.4831	-0.585	-0.995
2022/05/27 09:34:48	40.9515983	-105.250075	778.47	1580	1573.565	0.037	0.063
2022/05/27 09:35:48	40.9515983	-105.250075	778.48	1410	1404.366	0.071	0.121
2022/05/27 09:36:48	40.9514033	-105.24843	778.7	1430	1426.701	0.066	0.111
2022/05/27 09:37:48	40.9510967	-105.2453117	779.715	1442	1449.961	0.060	0.103
2022/05/27 09:38:48	40.9512333	-105.24225	780.505	1461	1478.029	0.054	0.092
2022/05/27 09:39:48	40.9510183	-105.2415233	780.895	1381	1401.299	0.072	0.122
2022/05/27 09:40:48	40.9510183	-105.2415233	780.895	1410	1430.725	0.065	0.110
2022/05/27 09:41:48	40.9510183	-105.241525	780.88	1363	1382.874	0.076	0.130
2022/05/27 09:42:48	40.95102	-105.2415267	780.885	1434	1454.966	0.059	0.101
2022/05/27 09:43:48	40.95102	-105.2415283	780.89	1363	1382.981	0.076	0.130
2022/05/27 09:44:48	40.95102	-105.24153	780.935	1364	1384.475	0.076	0.129
2022/05/27 09:45:48	40.95102	-105.2415317	780.955	1347	1367.43	0.080	0.137
2022/05/27 09:46:48	40.95102	-105.2415317	780.89	1405	1425.596	0.066	0.112
2022/05/27 09:47:48	40.9510217	-105.2415333	780.895	1423	1443.916	0.062	0.105
2022/05/27 09:48:48	40.9510217	-105.241535	780.825	1385	1404.6	0.071	0.120
2022/05/27 09:49:48	40.9510217	-105.241535	780.785	1399	1418.361	0.068	0.115
2022/05/27 09:50:48	40.9510233	-105.2415367	780.84	1364	1383.463	0.076	0.130
2022/05/27 09:51:48	40.9510233	-105.2415367	780.775	1371	1389.867	0.075	0.127
2022/05/27 09:52:48	40.9510233	-105.2415367	780.835	1390	1409.779	0.070	0.118
2022/05/27 09:53:48	40.9510233	-105.2415367	780.82	1389	1408.602	0.070	0.119
2022/05/27 09:54:48	40.9510233	-105.2415367	780.815	1371	1390.295	0.074	0.127
2022/05/27 09:55:48	40.9510233	-105.241535	780.815	1393	1412.605	0.069	0.117
2022/05/27 09:56:48	40.9510217	-105.241535	780.815	1393	1412.605	0.069	0.117
2022/05/27 09:57:48	40.9510217	-105.241535	780.755	1372	1390.666	0.074	0.126
2022/05/27 09:58:48	40.9510217	-105.241535	780.76	1367	1385.652	0.076	0.129
2022/05/27 09:59:48	40.9510217	-105.241535	780.8	1404	1423.595	0.066	0.113
2022/05/27 10:00:48	40.9510217	-105.2415367	780.8	1373	1392.162	0.074	0.126
2022/05/27 10:01:48	40.95102	-105.2415383	780.82	1389	1408.602	0.070	0.119
2022/05/27 10:02:48	40.95102	-105.2415383	780.805	1402	1421.622	0.067	0.113
2022/05/27 10:03:48	40.9510183	-105.2415383	780.81	1379	1398.354	0.072	0.123
2022/05/27 10:04:48	40.9510183	-105.2415383	780.78	1393	1412.224	0.069	0.117
2022/05/27 10:05:48	40.9512333	-105.2417333	780.685	1366	1383.839	0.076	0.129
2022/05/27 10:06:48	40.9520617	-105.2395383	782.515	1329	1365.461	0.081	0.138
2022/05/27 10:07:48	40.9528667	-105.2366717	784.605	1382	1442.951	0.062	0.105
2022/05/27 10:08:48	40.95519	-105.2359467	785.725	1332	1402.791	0.071	0.121
2022/05/27 10:09:48	40.9566233	-105.2351217	785.86	1233	1299.88	0.101	0.171
2022/05/27 10:10:48	40.9576833	-105.23372	785.92	1291	1361.655	0.082	0.139
2022/05/27 10:11:48	40.9580783	-105.2361633	785.79	1300	1369.776	0.080	0.136
2022/05/27 10:12:48	40.9586217	-105.2381167	785.71	1329	1399.47	0.072	0.123
2022/05/27 10:13:48	40.9590233	-105.2392267	785.805	1316	1386.795	0.075	0.128
2022/05/27 10:14:48	40.958615	-105.23812	785.795	1312	1382.473	0.076	0.130

2022/05/27 10:15:48	40.958615	-105.23812	785.8	1265	1333	0.090	0.153
2022/05/27 10:16:48	40.9583367	-105.2373433	785.73	1258	1324.91	0.093	0.158
2022/05/27 10:17:48	40.9579233	-105.2343183	786.195	1245	1315.921	0.096	0.162
2022/05/27 10:18:48	40.95678	-105.2351233	785.905	1304	1375.208	0.078	0.133
2022/05/27 10:19:48	40.9575917	-105.2332183	786.975	1242	1320.659	0.094	0.160
2022/05/27 10:20:48	40.9577517	-105.2306733	787.295	1190	1268.487	0.112	0.190
2022/05/27 10:21:48	40.9574533	-105.2282583	787.725	1207	1290.875	0.104	0.176
2022/05/27 10:22:48	40.95757	-105.227755	787.685	1235	1320.414	0.094	0.160
2022/05/27 10:23:48	40.9575883	-105.2296633	787.285	1249	1331.276	0.091	0.154
2022/05/27 10:24:48	40.9576867	-105.2320283	786.985	1233	1311.189	0.097	0.165
2022/05/27 10:25:48	40.9570617	-105.233905	786.315	1291	1365.803	0.081	0.137
2022/05/27 10:26:48	40.9561517	-105.2357	785.84	1233	1299.68	0.101	0.171
2022/05/27 10:27:48	40.9545433	-105.2360917	785.48	1236	1299.236	0.101	0.172
2022/05/27 10:28:48	40.95273	-105.2371233	784.15	1241	1291.201	0.104	0.176
2022/05/27 10:29:48	40.9520383	-105.2400433	782.21	1365	1399.159	0.072	0.123
2022/05/27 10:30:48	40.9509817	-105.241545	780.885	1339	1358.577	0.083	0.141
2022/05/27 10:31:48	40.9502867	-105.2389517	781.67	1355	1383.146	0.076	0.130
2022/05/27 10:32:48	40.9501783	-105.238955	781.64	1381	1409.36	0.070	0.118
2022/05/27 10:33:48	40.9501067	-105.238975	781.64	1323	1350.169	0.085	0.145
2022/05/27 10:34:48	40.9488833	-105.2382067	782.82	1376	1417.075	0.068	0.115
2022/05/27 10:35:48	40.9473683	-105.2378983	781.7	1290	1317.1	0.095	0.162
2022/05/27 10:36:48	40.9468083	-105.237005	781.45	1384	1410.357	0.069	0.118
2022/05/27 10:37:48	40.9483467	-105.2342217	782.22	1378	1412.593	0.069	0.117
2022/05/27 10:38:48	40.9487783	-105.233625	782.43	1358	1394.344	0.073	0.125
2022/05/27 10:39:48	40.9490083	-105.2331533	782.605	1380	1418.843	0.067	0.115
2022/05/27 10:40:48	40.9505333	-105.2312017	782.895	1466	1510.634	0.048	0.082
2022/05/27 10:41:48	40.95115	-105.2292383	783.1	1363	1406.716	0.070	0.120
2022/05/27 10:42:48	40.9505217	-105.22659	784.815	1411	1475.614	0.055	0.093
2022/05/27 10:43:48	40.9504383	-105.2242233	786.655	1422	1508.337	0.048	0.082
2022/05/27 10:44:48	40.9512517	-105.2213367	787.505	1282	1368.766	0.080	0.136
2022/05/27 10:45:48	40.9529317	-105.2198983	786.945	1362	1447.924	0.061	0.103
2022/05/27 10:46:48	40.9548733	-105.2196183	789.32	1268	1372.872	0.079	0.134
2022/05/27 10:47:48	40.9555083	-105.22269	788.99	1224	1321.87	0.094	0.159
2022/05/27 10:48:48	40.9569233	-105.2242683	788.54	1168	1257.029	0.116	0.197
2022/05/27 10:49:48	40.9559367	-105.2235483	788.665	1120	1206.531	0.137	0.232
2022/05/27 10:50:48	40.9551533	-105.2204217	789.4	1158	1254.547	0.117	0.199
2022/05/27 10:51:48	40.9536367	-105.2197533	787.355	1282	1367.186	0.081	0.137
2022/05/27 10:52:48	40.9524933	-105.219955	787.2	1433	1526.397	0.045	0.077
2022/05/27 10:53:48	40.9524933	-105.219955	787.19	1423	1515.629	0.047	0.080
2022/05/27 10:54:48	40.9519633	-105.2203633	787.67	1331	1422.889	0.066	0.113
2022/05/27 10:55:48	40.9505133	-105.2225383	787.08	1282	1364.294	0.081	0.138
2022/05/27 10:56:48	40.9501467	-105.2253733	785.79	1353	1425.621	0.066	0.112
2022/05/27 10:57:48	40.9506967	-105.227485	783.805	1401	1453.806	0.059	0.101
2022/05/27 10:58:48	40.9513033	-105.230125	782.495	1422	1460.788	0.058	0.099
2022/05/27 10:59:48	40.9498417	-105.2319183	782.43	1411	1448.762	0.061	0.103

2022/05/27 11:00:48	40.9487517	-105.233685	782.215	1394	1428.94	0.065	0.111
2022/05/27 11:01:48	40.9486833	-105.233765	782.155	1383	1417.009	0.068	0.115
2022/05/27 11:02:48	40.9483333	-105.2334567	782.36	1406	1442.851	0.062	0.105
2022/05/27 11:03:48	40.94774	-105.23031	783.925	1372	1425.029	0.066	0.112
2022/05/27 11:04:48	40.947535	-105.2275433	784.78	1273	1330.936	0.091	0.154
2022/05/27 11:05:48	40.946945	-105.2251483	783.405	1270	1313.815	0.096	0.163
2022/05/27 11:06:48	40.9473417	-105.22257	784.31	1325	1380.298	0.077	0.131
2022/05/27 11:07:48	40.9468817	-105.2196217	784.315	1324	1379.309	0.077	0.131
2022/05/27 11:08:48	40.946925	-105.217145	785.76	1391	1465.322	0.057	0.097
2022/05/27 11:09:48	40.9469433	-105.217305	785.585	1275	1341.315	0.088	0.149
2022/05/27 11:10:48	40.94687	-105.2195633	784.27	1310	1364.252	0.081	0.138
2022/05/27 11:11:48	40.94733	-105.222525	784.19	1288	1340.515	0.088	0.150
2022/05/27 11:12:48	40.946785	-105.2249833	783.18	1262	1303.279	0.100	0.169
2022/05/27 11:13:48	40.9451667	-105.2245083	783.095	1336	1378.797	0.077	0.132
2022/05/27 11:14:48	40.943375	-105.2240833	784.51	1374	1433.549	0.064	0.109
2022/05/27 11:15:48	40.9419517	-105.2223067	784.935	1362	1425.687	0.066	0.112
2022/05/27 11:16:48	40.9418433	-105.2254417	782.63	1287	1323.48	0.093	0.158
2022/05/27 11:17:48	40.9413967	-105.22743	781.895	1397	1428.491	0.065	0.111
2022/05/27 11:18:48	40.9413983	-105.22743	781.93	1364	1395.123	0.073	0.124
2022/05/27 11:19:48	40.9413983	-105.22743	781.94	1389	1420.803	0.067	0.114
2022/05/27 11:20:48	40.9413983	-105.22743	781.865	1380	1410.782	0.069	0.118
2022/05/27 11:21:48	40.9414	-105.22743	781.83	1420	1451.283	0.060	0.102
2022/05/27 11:22:48	40.9414017	-105.22743	781.855	1359	1389.206	0.075	0.127
2022/05/27 11:23:48	40.9414033	-105.2274283	781.925	1414	1446.208	0.061	0.104
2022/05/27 11:24:48	40.9414033	-105.2274283	781.87	1357	1387.322	0.075	0.128
2022/05/27 11:25:48	40.9414033	-105.22743	781.845	1342	1371.723	0.079	0.135
2022/05/27 11:26:48	40.9414033	-105.22743	781.87	1371	1401.635	0.072	0.122
2022/05/27 11:27:48	40.9414033	-105.22743	781.865	1362	1392.38	0.074	0.126
2022/05/27 11:28:48	40.9414033	-105.22743	781.935	1397	1428.931	0.065	0.111
2022/05/27 11:29:48	40.941405	-105.22743	781.86	1379	1409.705	0.070	0.118
2022/05/27 11:30:48	40.941405	-105.22743	781.865	1446	1478.254	0.054	0.092
2022/05/27 11:31:48	40.941405	-105.22743	781.845	1364	1394.21	0.073	0.125
2022/05/27 11:32:48	40.941405	-105.22743	781.84	1394	1424.82	0.066	0.112
2022/05/27 11:33:48	40.9414067	-105.22743	781.85	1408	1439.24	0.063	0.107
2022/05/27 11:34:48	40.9414067	-105.2274317	781.835	1377	1407.39	0.070	0.119
2022/05/27 11:35:48	40.9414067	-105.2274317	781.845	1379	1409.542	0.070	0.118
2022/05/27 11:36:48	40.9414067	-105.2274333	781.84	1387	1417.665	0.068	0.115
2022/05/27 11:37:48	40.9414067	-105.2274333	781.84	1424	1455.483	0.059	0.101
2022/05/27 11:38:48	40.9414067	-105.2274333	781.86	1377	1407.661	0.070	0.119
2022/05/27 11:39:48	40.9414067	-105.227435	781.775	1387	1416.956	0.068	0.115
2022/05/27 11:40:48	40.9414067	-105.227435	781.78	1387	1417.01	0.068	0.115
2022/05/27 11:41:48	40.9414067	-105.2274367	781.76	1389	1418.835	0.067	0.115
2022/05/27 11:42:48	40.9414083	-105.2274367	781.835	1369	1399.213	0.072	0.123
2022/05/27 11:43:48	40.9414083	-105.2274383	781.77	1350	1379.103	0.077	0.131
2022/05/27 11:44:48	40.9414083	-105.2274383	781.635	1371	1399.101	0.072	0.123

2022/05/27 11:45:48	40.9410083	-105.22786	781.655	1317	1344.201	0.087	0.148
2022/05/27 11:46:48	40.9402967	-105.23003	781.29	1318	1341.446	0.088	0.149
2022/05/27 11:47:48	40.9403717	-105.233233	780.355	1386	1400.537	0.072	0.122
2022/05/27 11:48:48	40.9408933	-105.236895	779.605	1370	1376.397	0.078	0.133
2022/05/27 11:49:48	40.9416	-105.2405017	779.28	1355	1357.925	0.083	0.141
2022/05/27 11:50:48	40.9421967	-105.2441917	778.775	1388	1385.597	0.076	0.129
2022/05/27 11:51:48	40.9437783	-105.2474	778.67	1421	1417.394	0.068	0.115
2022/05/27 11:52:48	40.9461933	-105.2499733	778.905	1474	1472.922	0.055	0.094
2022/05/27 11:53:48	40.9456483	-105.2492233	778.595	1414	1409.597	0.070	0.118
2022/05/27 11:54:48	40.9431333	-105.24677	778.735	1456	1453.032	0.060	0.101
2022/05/27 11:55:48	40.94134	-105.24492	778.675	1431	1427.423	0.065	0.111
2022/05/27 11:56:48	40.9385067	-105.2456233	778.545	1426	1421.013	0.067	0.114
2022/05/27 11:57:48	40.9363517	-105.2474867	780.26	1416	1429.805	0.065	0.110
2022/05/27 11:58:48	40.933715	-105.2476217	780.975	1341	1361.549	0.082	0.139
2022/05/27 11:59:48	40.9324217	-105.2484633	781.1	1357	1379.121	0.077	0.131
2022/05/27 12:00:48	40.93127	-105.2505	781.96	1314	1344.293	0.087	0.148
2022/05/27 12:01:48	40.9312383	-105.250615	781.955	1293	1322.758	0.093	0.159
2022/05/27 12:02:48	40.9308333	-105.2525133	781.665	1400	1429.025	0.065	0.111
2022/05/27 12:03:48	40.9298083	-105.254995	782.72	1361	1400.548	0.072	0.122
2022/05/27 12:04:48	40.92911	-105.256905	784.31	1428	1487.597	0.052	0.089
2022/05/27 12:05:48	40.9299033	-105.2597067	786.255	1417	1498.411	0.050	0.086
2022/05/27 12:06:48	40.930145	-105.260065	786.63	1300	1378.664	0.077	0.132
2022/05/27 12:07:48	40.930145	-105.260065	786.59	1392	1475.777	0.055	0.093
2022/05/27 12:08:48	40.930145	-105.2600633	786.59	1394	1477.897	0.054	0.093
2022/05/27 12:09:48	40.9301467	-105.2600617	786.555	1374	1456.301	0.059	0.100
2022/05/27 12:10:48	40.930145	-105.26006	786.565	1368	1450.053	0.060	0.103
2022/05/27 12:11:48	40.930145	-105.2600583	786.5	1332	1411.188	0.069	0.118
2022/05/27 12:12:48	40.930145	-105.2600567	786.49	1305	1382.476	0.076	0.130
2022/05/27 12:13:48	40.930145	-105.260055	786.56	1379	1461.657	0.058	0.098
2022/05/27 12:14:48	40.930145	-105.2600533	786.47	1385	1466.999	0.057	0.096
2022/05/27 12:15:48	40.9299817	-105.2600017	786.285	1340	1417.315	0.068	0.115
2022/05/27 12:16:48	40.929915	-105.2598767	786.19	1346	1422.62	0.067	0.113
2022/05/27 12:17:48	40.9296283	-105.25797	784.42	1361	1419.002	0.067	0.115
2022/05/27 12:18:48	40.92844	-105.2566167	784.095	1455	1513.216	0.048	0.081
2022/05/27 12:19:48	40.9267967	-105.2586933	786.05	1421	1500.271	0.050	0.085
2022/05/27 12:20:48	40.92425	-105.2589067	787.295	1392	1483.81	0.053	0.091
2022/05/27 12:21:48	40.9220833	-105.2596167	788.065	1359	1457.248	0.059	0.100
2022/05/27 12:22:48	40.922015	-105.259715	788.21	1385	1486.787	0.053	0.089
2022/05/27 12:23:48	40.9213433	-105.2604183	788.77	1256	1354.133	0.084	0.143
2022/05/27 12:24:48	40.919125	-105.262425	790.24	1261	1374.999	0.078	0.133
2022/05/27 12:25:48	40.91896	-105.2626217	790.435	1265	1381.433	0.077	0.130
2022/05/27 12:26:48	40.9210367	-105.2606983	789.005	1278	1380.347	0.077	0.131
2022/05/27 12:27:48	40.92202	-105.2596833	788.19	1356	1455.431	0.059	0.101
2022/05/27 12:28:48	40.9220967	-105.2595767	788.05	1351	1448.502	0.061	0.103
2022/05/27 12:29:48	40.9239767	-105.25889	787.255	1306	1391.709	0.074	0.126

2022/05/27 12:30:48	40.9264833	-105.2590233	786.305	1321	1397.434	0.073	0.123
2022/05/27 12:31:48	40.9279783	-105.256995	784.36	1230	1281.827	0.107	0.182
2022/05/27 12:32:48	40.9280533	-105.2569267	784.32	1564	1629.398	0.028	0.048
2022/05/27 12:33:48	40.9280533	-105.2569283	784.245	1384	1441.039	0.062	0.106
2022/05/27 12:34:48	40.9280517	-105.25693	784.235	1442	1501.314	0.050	0.085
2022/05/27 12:35:48	40.9280517	-105.25693	784.21	1427	1485.411	0.053	0.090
2022/05/27 12:36:48	40.92805	-105.2569317	784.155	1453	1511.835	0.048	0.081
2022/05/27 12:37:48	40.92805	-105.2569317	784.155	1422	1479.579	0.054	0.092
2022/05/27 12:38:48	40.9280483	-105.2569333	784.155	1555	1617.965	0.030	0.051
2022/05/27 12:39:48	40.9280467	-105.2569333	784.185	1426	1484.084	0.053	0.090
2022/05/27 12:40:48	40.9280467	-105.256935	784.075	1411	1467.23	0.057	0.096
2022/05/27 12:41:48	40.928045	-105.256935	784.13	1390	1446.005	0.061	0.104
2022/05/27 12:42:48	40.9280433	-105.2569333	784.145	1407	1463.859	0.057	0.097
2022/05/27 12:43:48	40.92804	-105.2569333	784.155	1403	1459.81	0.058	0.099
2022/05/27 12:44:48	40.92804	-105.2569333	784.125	1447	1505.244	0.049	0.083
2022/05/27 12:45:48	40.9280367	-105.256935	784.13	1187	1234.826	0.125	0.212
2022/05/27 12:46:48	40.9280367	-105.256935	784.04	1637	1701.778	0.018	0.031
2022/05/27 12:47:48	40.9280367	-105.256935	784.04	1457	1514.655	0.047	0.080
2022/05/27 12:48:48	40.9280367	-105.256935	784.06	1431	1487.855	0.052	0.089
2022/05/27 12:49:48	40.928035	-105.256935	784.125	1426	1483.399	0.053	0.091
2022/05/27 12:50:48	40.928035	-105.256935	784.12	1537	1598.805	0.033	0.056
2022/05/27 12:51:48	40.928035	-105.256935	784.12	1626	1691.384	0.020	0.034
2022/05/27 12:52:48	40.928035	-105.256935	784.125	1465	1523.968	0.046	0.077
2022/05/27 12:53:48	40.9280333	-105.256935	784.125	1425	1482.358	0.054	0.091
2022/05/27 12:54:48	40.9280333	-105.256935	784.115	1418	1474.963	0.055	0.094
2022/05/27 12:55:48	40.928035	-105.2569367	784.065	1407	1462.958	0.058	0.098
2022/05/27 12:56:48	40.9280367	-105.2569367	784.065	1416	1472.316	0.056	0.094
2022/05/27 12:57:48	40.9280383	-105.2569367	784.06	1388	1443.147	0.062	0.105
2022/05/27 12:58:48	40.9280383	-105.2569367	784.035	1362	1415.841	0.068	0.116
2022/05/27 12:59:48	40.92804	-105.2569367	783.91	1464	1520.409	0.046	0.079
2022/05/27 13:00:48	40.9280417	-105.2569367	783.97	1411	1466.044	0.057	0.097
2022/05/27 13:01:48	40.9280433	-105.256935	783.915	1417	1471.655	0.056	0.095
2022/05/27 13:02:48	40.9280433	-105.256935	783.985	1442	1498.426	0.050	0.086
2022/05/27 13:03:48	40.9280433	-105.256935	783.94	1396	1450.124	0.060	0.103
2022/05/27 13:04:48	40.928045	-105.2569333	783.855	1426	1480.318	0.054	0.092
2022/05/27 13:05:48	40.92846	-105.25658	783.445	1426	1475.652	0.055	0.093
2022/05/27 13:06:48	40.9282617	-105.2558183	783.73	1447	1500.673	0.050	0.085
2022/05/27 13:07:48	40.92705	-105.2531967	783.015	1599	1649.206	0.025	0.043
2022/05/27 13:08:48	40.9255983	-105.250895	784.29	1409	1467.578	0.057	0.096
2022/05/27 13:09:48	40.925605	-105.2505017	784.075	1348	1401.719	0.072	0.122
2022/05/27 13:10:48	40.9255833	-105.25035	783.76	1397	1449.153	0.061	0.103
2022/05/27 13:11:48	40.92441	-105.2485633	782.655	1391	1430.704	0.065	0.110
2022/05/27 13:12:48	40.9230233	-105.2459883	784.285	1324	1378.991	0.077	0.131
2022/05/27 13:13:48	40.92242	-105.2434883	785.76	1438	1514.833	0.047	0.080
2022/05/27 13:14:48	40.9232	-105.2408033	784.535	1363	1422.346	0.067	0.113

2022/05/27 13:15:48	40.92098	-105.238785	784.19	1236	1286.395	0.105	0.179
2022/05/27 13:16:48	40.918605	-105.2381167	783.855	1330	1380.661	0.077	0.131
2022/05/27 13:17:48	40.9178083	-105.2364867	784.145	1345	1399.354	0.072	0.123
2022/05/27 13:18:48	40.9185283	-105.23685	783.59	1341	1389.242	0.075	0.127
2022/05/27 13:19:48	40.9185	-105.2370417	783.61	1522	1576.997	0.036	0.062
2022/05/27 13:20:48	40.9181583	-105.2331733	783.4	1326	1371.695	0.079	0.135
2022/05/27 13:21:48	40.9165183	-105.23076	782.455	1367	1403.855	0.071	0.121
2022/05/27 13:22:48	40.915275	-105.2304767	782.125	1338	1370.586	0.080	0.135
2022/05/27 13:23:48	40.91513	-105.230405	782.24	1299	1331.815	0.091	0.154
2022/05/27 13:24:48	40.9144483	-105.230405	783.045	1345	1387.551	0.075	0.128
2022/05/27 13:25:48	40.9164067	-105.23071	782.615	1391	1430.263	0.065	0.110
2022/05/27 13:26:48	40.9185567	-105.23225	783.165	1334	1377.475	0.078	0.132
2022/05/27 13:27:48	40.9212783	-105.2336833	782.9	1554	1601.374	0.032	0.055
2022/05/27 13:28:48	40.9213167	-105.23369	782.87	1361	1402.167	0.071	0.121
2022/05/27 13:29:48	40.921585	-105.2338167	782.76	1405	1446.272	0.061	0.104
2022/05/27 13:30:48	40.9240233	-105.2344083	782.37	1406	1442.962	0.062	0.105
2022/05/27 13:31:48	40.9263817	-105.2347767	781.765	1461	1492.439	0.052	0.088
2022/05/27 13:32:48	40.9285967	-105.2373233	781.02	1315	1335.613	0.089	0.152
2022/05/27 13:33:48	40.9307	-105.240265	780.715	1319	1336.534	0.089	0.152
2022/05/27 13:34:48	40.9331717	-105.2409767	780.355	1333	1346.981	0.086	0.146
2022/05/27 13:35:48	40.9360183	-105.2421317	779.1	1404	1405.081	0.071	0.120
2022/05/27 13:36:48	40.9379183	-105.244835	777.84	1365	1352.862	0.084	0.144
2022/05/27 13:37:48	40.9409567	-105.2451083	777.92	1405	1393.364	0.074	0.125
2022/05/27 13:38:48	40.943205	-105.243055	778.465	1411	1405.199	0.071	0.120
2022/05/27 13:39:48	40.9451367	-105.239885	778.425	1469	1462.51	0.058	0.098
2022/05/27 13:40:48	40.946425	-105.2376233	779.75	1467	1475.496	0.055	0.093
2022/05/27 13:41:48	40.9480667	-105.2344183	780.575	1485	1503.119	0.049	0.084
2022/05/27 13:42:48	40.9485233	-105.23391	780.8	1529	1550.339	0.041	0.069
2022/05/27 13:43:48	40.9485233	-105.2339117	780.755	1373	1391.68	0.074	0.126
2022/05/27 13:44:48	40.9485217	-105.2339133	780.73	1408	1426.881	0.066	0.111
2022/05/27 13:45:48	40.94852	-105.2339167	780.725	1394	1412.639	0.069	0.117
2022/05/27 13:46:48	40.94852	-105.2339183	780.725	1370	1388.318	0.075	0.127
2022/05/27 13:47:48	40.94852	-105.23392	780.715	1358	1376.052	0.078	0.133
2022/05/27 13:48:48	40.9485183	-105.2339233	780.75	1399	1417.979	0.068	0.115
2022/05/27 13:49:48	40.9485183	-105.233925	780.805	1369	1388.16	0.075	0.127
2022/05/27 13:50:48	40.9485183	-105.2339267	780.73	1380	1398.506	0.072	0.123
2022/05/27 13:51:48	40.9485167	-105.2339267	780.71	1386	1404.37	0.071	0.121
2022/05/27 13:52:48	40.9485167	-105.2339267	780.715	1353	1370.986	0.079	0.135
2022/05/27 13:53:48	40.948515	-105.2339267	780.66	1338	1355.212	0.084	0.142
2022/05/27 13:54:48	40.9485467	-105.2338867	780.645	1398	1415.82	0.068	0.116
2022/05/27 13:55:48	40.9474283	-105.23556	780.04	1356	1366.902	0.081	0.137
2022/05/27 13:56:48	40.94697	-105.2382617	779.975	1374	1384.354	0.076	0.129
2022/05/27 13:57:48	40.9488783	-105.2382117	781.105	1393	1415.762	0.068	0.116
2022/05/27 13:58:48	40.95014	-105.238985	780.03	1394	1405.1	0.071	0.120
2022/05/27 13:59:48	40.9501767	-105.238975	780.09	1588	1601.384	0.032	0.055

2022/05/27 14:00:48	40.9501767	-105.238975	780	1416	1426.945	0.066	0.111
2022/05/27 14:01:48	40.9503033	-105.2390033	779.93	1344	1353.659	0.084	0.143
2022/05/27 14:02:48	40.9504	-105.2395867	779.855	1399	1408.241	0.070	0.119
2022/05/27 14:03:48	40.951255	-105.2425217	778.375	1413	1406.216	0.070	0.120
2022/05/27 14:04:48	40.9512733	-105.2463117	777.685	1478	1463.11	0.058	0.098
2022/05/27 14:05:48	40.95161	-105.2502783	776.75	1391	1367.108	0.081	0.137
2022/05/27 14:06:48	40.9516233	-105.2503583	776.74	1556	1529.157	0.045	0.076

Table C-2: Rover data 06/02/2022.

Date Time(MST)	Lat	Long	P (mb)	N <sub>raw</sub>	N	$\theta_G$ (avg)	$\theta_V$
2022/06/02 08:49:53			780.52	357	361.2029	-0.606	-1.030
2022/06/02 08:50:59	40.9516	-105.25	780.59	1386	1403.073	0.071	0.121
2022/06/02 08:51:59	40.9516	-105.25	780.59	1297	1312.977	0.096	0.164
2022/06/02 08:52:59	40.9516	-105.25	780.595	1285	1300.879	0.100	0.171
2022/06/02 08:53:59	40.9513	-105.247	781.115	1320	1341.673	0.088	0.149
2022/06/02 08:54:59	40.95112	-105.244	781.685	1241	1266.924	0.112	0.191
2022/06/02 08:55:59	40.95099	-105.242	783.115	1248	1288.177	0.105	0.178
2022/06/02 08:56:59	40.95099	-105.242	783.175	1245	1285.674	0.105	0.179
2022/06/02 08:57:59	40.95099	-105.242	783.17	1157	1194.753	0.142	0.242
2022/06/02 08:58:59	40.95099	-105.242	783.16	1251	1291.721	0.103	0.176
2022/06/02 08:59:59	40.95099	-105.242	783.175	1251	1291.87	0.103	0.176
2022/06/02 09:00:59	40.95099	-105.242	783.185	1298	1340.509	0.088	0.150
2022/06/02 09:01:59	40.951	-105.242	783.185	1213	1252.725	0.117	0.200
2022/06/02 09:02:59	40.951	-105.242	783.125	1240	1280.018	0.107	0.183
2022/06/02 09:03:59	40.951	-105.242	783.165	1210	1249.434	0.119	0.202
2022/06/02 09:04:59	40.951	-105.242	783.17	1259	1300.081	0.101	0.171
2022/06/02 09:05:59	40.951	-105.242	783.16	1185	1223.572	0.129	0.220
2022/06/02 09:06:59	40.951	-105.242	783.16	1243	1283.46	0.106	0.181
2022/06/02 09:07:59	40.951	-105.242	783.14	1303	1345.206	0.087	0.147
2022/06/02 09:08:59	40.95099	-105.242	783.095	1200	1238.441	0.123	0.209
2022/06/02 09:09:59	40.95099	-105.242	783.14	1222	1261.582	0.114	0.194
2022/06/02 09:10:59	40.95099	-105.242	783.085	1222	1261.048	0.114	0.194
2022/06/02 09:11:59	40.95099	-105.242	783.075	1222	1260.951	0.114	0.194
2022/06/02 09:12:59	40.95099	-105.242	783.065	1202	1240.218	0.122	0.208
2022/06/02 09:13:59	40.95099	-105.242	783.08	1269	1309.5	0.098	0.166
2022/06/02 09:14:59	40.95099	-105.242	783.09	1173	1210.529	0.135	0.229
2022/06/02 09:15:59	40.95099	-105.242	783.085	1209	1247.633	0.119	0.203
2022/06/02 09:16:59	40.95099	-105.242	783.065	1243	1282.522	0.107	0.181
2022/06/02 09:17:59	40.95099	-105.242	783.06	1254	1293.822	0.103	0.175
2022/06/02 09:18:59	40.95099	-105.242	783.075	1254	1293.971	0.103	0.175
2022/06/02 09:19:59	40.95099	-105.242	783.06	1249	1288.663	0.104	0.178
2022/06/02 09:20:59	40.95099	-105.242	783.08	1249	1288.861	0.104	0.177
2022/06/02 09:21:59	40.95099	-105.242	783.065	1293	1334.112	0.090	0.153
2022/06/02 09:22:59	40.95099	-105.242	783.06	1248	1287.631	0.105	0.178
2022/06/02 09:23:59	40.95099	-105.242	783.055	1217	1255.598	0.116	0.198
2022/06/02 09:24:59	40.95099	-105.242	783.065	1279	1319.666	0.094	0.160
2022/06/02 09:25:59	40.95099	-105.242	783.06	1167	1204.059	0.138	0.234
2022/06/02 09:26:59	40.95099	-105.242	783.055	1240	1279.328	0.108	0.183
2022/06/02 09:27:59	40.95099	-105.242	783.055	1230	1269.011	0.111	0.189
2022/06/02 09:28:59	40.95099	-105.242	783.05	1259	1298.881	0.101	0.172
2022/06/02 09:29:59	40.95099	-105.242	783.05	1172	1209.125	0.136	0.230
2022/06/02 09:30:59	40.95099	-105.242	783.055	1196	1233.932	0.125	0.212

2022/06/02 09:31:59	40.951	-105.242	783	1243	1281.88	0.107	0.182
2022/06/02 09:32:59	40.951	-105.242	782.995	1192	1229.238	0.127	0.216
2022/06/02 09:33:59	40.951	-105.242	783.055	1217	1255.598	0.116	0.198
2022/06/02 09:34:59	40.951	-105.242	783.01	1247	1286.104	0.105	0.179
2022/06/02 09:35:59	40.95147	-105.242	783.31	1242	1283.91	0.106	0.180
2022/06/02 09:36:59	40.95216	-105.239	785.22	1271	1333.355	0.090	0.153
2022/06/02 09:37:59	40.95329	-105.236	787.385	1309	1396.303	0.073	0.124
2022/06/02 09:38:59	40.95546	-105.236	788.215	1126	1208.799	0.136	0.231
2022/06/02 09:39:59	40.95684	-105.235	788.125	1182	1268.037	0.112	0.190
2022/06/02 09:40:59	40.95788	-105.234	788.66	1198	1290.507	0.104	0.177
2022/06/02 09:41:59	40.95809	-105.236	788.225	1208	1296.928	0.102	0.173
2022/06/02 09:42:59	40.95877	-105.239	788.26	1231	1321.978	0.094	0.159
2022/06/02 09:43:59	40.95943	-105.24	788.39	1136	1221.178	0.130	0.221
2022/06/02 09:44:59	40.95918	-105.239	788.315	1149	1234.44	0.125	0.212
2022/06/02 09:45:59	40.95838	-105.237	788.07	1116	1196.726	0.141	0.240
2022/06/02 09:46:59	40.95795	-105.235	788.375	1209	1299.502	0.101	0.171
2022/06/02 09:47:59	40.95692	-105.234	788.245	1186	1273.505	0.110	0.187
2022/06/02 09:48:59	40.95693	-105.234	788.655	1141	1229.059	0.127	0.216
2022/06/02 09:49:59	40.95761	-105.232	789.185	1158	1252.472	0.118	0.200
2022/06/02 09:50:59	40.95762	-105.23	789.61	1109	1203.406	0.138	0.235
2022/06/02 09:51:59	40.95755	-105.228	790.065	1094	1191.295	0.144	0.244
2022/06/02 09:52:59	40.95764	-105.227	790.405	1092	1192.235	0.143	0.244
2022/06/02 09:53:59	40.95745	-105.229	789.945	1029	1119.48	0.183	0.311
2022/06/02 09:54:59	40.95775	-105.231	789.62	1138	1234.97	0.125	0.212
2022/06/02 09:55:59	40.95748	-105.233	789.415	1116	1209.185	0.136	0.230
2022/06/02 09:56:59	40.95673	-105.235	788.615	1116	1201.759	0.139	0.236
2022/06/02 09:57:59	40.95572	-105.236	788.265	1057	1135.162	0.174	0.295
2022/06/02 09:58:59	40.95402	-105.236	787.58	1171	1250.976	0.118	0.201
2022/06/02 09:59:59	40.95268	-105.238	786.185	1219	1288.341	0.105	0.178
2022/06/02 10:00:59	40.952	-105.24	784.305	1283	1336.494	0.089	0.152
2022/06/02 10:01:59	40.95107	-105.242	782.825	1222	1258.526	0.115	0.196
2022/06/02 10:02:59	40.95033	-105.239	783.74	1205	1249.793	0.119	0.202
2022/06/02 10:03:59	40.95023	-105.239	783.725	1149	1191.573	0.144	0.244
2022/06/02 10:04:59	40.95017	-105.239	783.69	1169	1211.988	0.134	0.228
2022/06/02 10:05:59	40.94946	-105.238	784.115	1248	1298.134	0.101	0.172
2022/06/02 10:06:59	40.94852	-105.238	785	1191	1247.315	0.120	0.203
2022/06/02 10:07:59	40.94702	-105.238	783.525	1157	1198.023	0.141	0.239
2022/06/02 10:08:59	40.94697	-105.237	783.61	1219	1263.048	0.114	0.193
2022/06/02 10:09:59	40.94811	-105.234	784.165	1225	1274.701	0.109	0.186
2022/06/02 10:10:59	40.94867	-105.234	784.47	1214	1266.225	0.112	0.191
2022/06/02 10:11:59	40.94874	-105.234	784.53	1192	1243.853	0.121	0.206
2022/06/02 10:12:59	40.94969	-105.232	784.785	1213	1268.254	0.112	0.190
2022/06/02 10:13:59	40.95098	-105.231	785.38	1010	1060.856	0.225	0.383
2022/06/02 10:14:59	40.95105	-105.229	785.56	1182	1243.239	0.121	0.206
2022/06/02 10:15:59	40.95043	-105.226	787.67	1231	1315.986	0.095	0.162

2022/06/02 10:16:59	40.95059	-105.224	789.095	1137	1228.906	0.127	0.216
2022/06/02 10:17:59	40.95147	-105.221	790.15	1219	1328.281	0.092	0.156
2022/06/02 10:18:59	40.95312	-105.22	789.635	1201	1303.488	0.099	0.169
2022/06/02 10:19:59	40.95503	-105.22	791.835	1132	1249.59	0.119	0.202
2022/06/02 10:20:59	40.95553	-105.223	791.525	1083	1192.65	0.143	0.243
2022/06/02 10:21:59	40.95699	-105.224	791.145	1013	1112.303	0.188	0.319
2022/06/02 10:22:59	40.95765	-105.225	791	987	1082.545	0.208	0.354
2022/06/02 10:23:59	40.9568	-105.224	791.17	979	1075.177	0.214	0.364
2022/06/02 10:24:59	40.95535	-105.222	791.605	1025	1129.473	0.177	0.301
2022/06/02 10:25:59	40.95488	-105.22	791.755	1052	1160.565	0.159	0.271
2022/06/02 10:26:59	40.95373	-105.22	790.115	1144	1246.222	0.120	0.204
2022/06/02 10:27:59	40.95339	-105.22	789.78	1194	1297.339	0.102	0.173
2022/06/02 10:28:59	40.95182	-105.22	790.32	1199	1308.2	0.098	0.167
2022/06/02 10:29:59	40.95062	-105.222	789.82	1142	1241.22	0.122	0.207
2022/06/02 10:30:59	40.9503	-105.225	788.755	1168	1259.112	0.115	0.196
2022/06/02 10:31:59	40.9506	-105.227	786.58	1197	1268.943	0.111	0.189
2022/06/02 10:32:59	40.95114	-105.229	785.14	1286	1348.26	0.086	0.146
2022/06/02 10:33:59	40.95055	-105.231	784.995	1234	1292.299	0.103	0.175
2022/06/02 10:34:59	40.94915	-105.233	784.755	1250	1306.638	0.098	0.167
2022/06/02 10:35:59	40.94873	-105.234	784.455	1229	1281.722	0.107	0.182
2022/06/02 10:36:59	40.94855	-105.234	784.335	1206	1256.574	0.116	0.197
2022/06/02 10:37:59	40.94803	-105.231	785.195	1241	1301.632	0.100	0.170
2022/06/02 10:38:59	40.948	-105.229	787.245	1193	1271.195	0.111	0.188
2022/06/02 10:39:59	40.94716	-105.227	786.775	1153	1224.135	0.129	0.219
2022/06/02 10:40:59	40.94695	-105.225	785.67	1192	1254.819	0.117	0.198
2022/06/02 10:41:59	40.94741	-105.223	786.455	1104	1169.228	0.155	0.263
2022/06/02 10:42:59	40.94697	-105.22	786.465	1175	1244.518	0.121	0.205
2022/06/02 10:43:59	40.94685	-105.218	787.895	1221	1307.559	0.098	0.167
2022/06/02 10:44:59	40.94709	-105.216	790.415	1237	1350.648	0.085	0.145
2022/06/02 10:45:59	40.94704	-105.215	791.55	1181	1300.822	0.100	0.171
2022/06/02 10:46:59	40.9471	-105.215	791.545	1211	1333.815	0.090	0.153
2022/06/02 10:47:59	40.9471	-105.216	789.655	1200	1302.604	0.100	0.170
2022/06/02 10:48:59	40.94676	-105.218	787.245	1208	1287.178	0.105	0.178
2022/06/02 10:49:59	40.94706	-105.22	786.475	1212	1283.806	0.106	0.180
2022/06/02 10:50:59	40.94704	-105.221	786.445	1229	1301.513	0.100	0.170
2022/06/02 10:51:59	40.94704	-105.221	786.46	1163	1231.761	0.126	0.214
2022/06/02 10:52:59	40.94704	-105.221	786.46	1140	1207.401	0.136	0.232
2022/06/02 10:53:59	40.94704	-105.221	786.45	1177	1246.493	0.120	0.204
2022/06/02 10:54:59	40.94704	-105.221	786.46	1181	1250.825	0.118	0.201
2022/06/02 10:55:59	40.94704	-105.221	786.47	1198	1268.928	0.111	0.189
2022/06/02 10:56:59	40.94704	-105.221	786.465	1163	1231.808	0.126	0.214
2022/06/02 10:57:59	40.94704	-105.221	786.42	1159	1227.147	0.128	0.217
2022/06/02 10:58:59	40.94704	-105.221	786.415	1158	1226.041	0.128	0.218
2022/06/02 10:59:59	40.94704	-105.221	786.465	1178	1247.696	0.119	0.203
2022/06/02 11:00:59	40.94723	-105.222	786.685	1169	1240.263	0.122	0.208

2022/06/02 11:01:59	40.9471	-105.224	785.87	1179	1243.047	0.121	0.206
2022/06/02 11:02:59	40.94533	-105.224	785.15	1200	1258.193	0.115	0.196
2022/06/02 11:03:59	40.94342	-105.224	786.845	1218	1293.843	0.103	0.175
2022/06/02 11:04:59	40.94202	-105.222	787.545	1204	1285.883	0.105	0.179
2022/06/02 11:05:59	40.94179	-105.225	785.435	1252	1315.599	0.096	0.163
2022/06/02 11:06:59	40.94139	-105.227	784.57	1229	1282.857	0.106	0.181
2022/06/02 11:07:59	40.94139	-105.227	784.515	1220	1272.924	0.110	0.187
2022/06/02 11:08:59	40.94139	-105.227	784.515	1118	1166.499	0.156	0.265
2022/06/02 11:09:59	40.94139	-105.227	784.505	1226	1279.085	0.108	0.183
2022/06/02 11:10:59	40.94141	-105.227	784.495	1155	1204.918	0.137	0.234
2022/06/02 11:11:59	40.94141	-105.227	784.575	1218	1271.424	0.111	0.188
2022/06/02 11:12:59	40.94141	-105.227	784.49	1162	1212.174	0.134	0.228
2022/06/02 11:13:59	40.94141	-105.227	784.475	1216	1268.359	0.112	0.190
2022/06/02 11:14:59	40.94141	-105.227	784.49	1209	1261.204	0.114	0.194
2022/06/02 11:15:59	40.94141	-105.227	784.49	1217	1269.549	0.111	0.189
2022/06/02 11:16:59	40.94141	-105.227	784.405	1230	1282.271	0.107	0.181
2022/06/02 11:17:59	40.9414	-105.227	784.505	1242	1295.778	0.102	0.173
2022/06/02 11:18:59	40.9414	-105.227	784.435	1131	1179.336	0.150	0.254
2022/06/02 11:19:59	40.9414	-105.227	784.435	1181	1231.473	0.126	0.214
2022/06/02 11:20:59	40.9414	-105.227	784.43	1221	1273.134	0.110	0.187
2022/06/02 11:21:59	40.9414	-105.227	784.43	1247	1300.244	0.101	0.171
2022/06/02 11:22:59	40.9414	-105.227	784.41	1259	1312.554	0.097	0.164
2022/06/02 11:23:59	40.9414	-105.227	784.42	1198	1249.055	0.119	0.202
2022/06/02 11:24:59	40.9414	-105.227	784.375	1237	1289.271	0.104	0.177
2022/06/02 11:25:59	40.9414	-105.227	784.34	1247	1299.343	0.101	0.171
2022/06/02 11:26:59	40.9414	-105.227	784.32	1270	1323.105	0.093	0.159
2022/06/02 11:27:59	40.9414	-105.227	784.4	1262	1315.58	0.096	0.163
2022/06/02 11:28:59	40.9414	-105.227	784.425	1172	1221.994	0.130	0.221
2022/06/02 11:29:59	40.9414	-105.227	784.415	1213	1264.646	0.113	0.192
2022/06/02 11:30:59	40.9414	-105.227	784.355	1188	1238.009	0.123	0.210
2022/06/02 11:31:59	40.9414	-105.227	784.395	1188	1238.391	0.123	0.209
2022/06/02 11:32:59	40.9414	-105.227	784.325	1200	1250.226	0.118	0.201
2022/06/02 11:33:59	40.9414	-105.227	784.325	1202	1252.309	0.118	0.200
2022/06/02 11:34:59	40.9414	-105.227	784.32	1213	1263.721	0.113	0.193
2022/06/02 11:35:59	40.9414	-105.227	784.26	1278	1330.824	0.091	0.155
2022/06/02 11:36:59	40.9414	-105.227	784.31	1204	1254.248	0.117	0.199
2022/06/02 11:37:59	40.9414	-105.227	784.245	1177	1225.508	0.128	0.218
2022/06/02 11:38:59	40.9414	-105.227	784.26	1230	1280.84	0.107	0.182
2022/06/02 11:39:59	40.9414	-105.227	784.26	1224	1274.592	0.109	0.186
2022/06/02 11:40:59	40.9414	-105.227	784.26	1222	1272.509	0.110	0.187
2022/06/02 11:41:59	40.9414	-105.227	784.255	1236	1287.039	0.105	0.179
2022/06/02 11:42:59	40.9414	-105.227	784.255	1190	1239.139	0.123	0.209
2022/06/02 11:43:59	40.94134	-105.227	784.23	1228	1278.462	0.108	0.184
2022/06/02 11:44:59	40.94037	-105.231	783.65	1239	1284.166	0.106	0.180
2022/06/02 11:45:59	40.9405	-105.235	782.63	1210	1244.298	0.121	0.205

2022/06/02 11:46:59	40.94098	-105.237	782.105	1233	1262.834	0.114	0.193
2022/06/02 11:47:59	40.94166	-105.241	781.74	1298	1325.676	0.092	0.157
2022/06/02 11:48:59	40.94226	-105.245	781.245	1301	1323.685	0.093	0.158
2022/06/02 11:49:59	40.94385	-105.247	781.075	1305	1326.018	0.092	0.157
2022/06/02 11:50:59	40.94603	-105.25	781.335	1220	1242.133	0.122	0.207
2022/06/02 11:51:59	40.94563	-105.249	780.89	1353	1372.834	0.079	0.134
2022/06/02 11:52:59	40.94336	-105.247	780.995	1311	1331.294	0.091	0.154
2022/06/02 11:53:59	40.94212	-105.244	781.11	1270	1290.802	0.104	0.176
2022/06/02 11:54:59	40.93994	-105.246	780.775	1309	1327.014	0.092	0.157
2022/06/02 11:55:59	40.93785	-105.246	781.4	1232	1254.979	0.117	0.198
2022/06/02 11:56:59	40.93566	-105.248	783.01	1214	1252.069	0.118	0.200
2022/06/02 11:57:59	40.93319	-105.248	783.43	1188	1229.223	0.127	0.216
2022/06/02 11:58:59	40.93169	-105.25	784.025	1243	1292.037	0.103	0.176
2022/06/02 11:59:59	40.93124	-105.251	784.285	1193	1242.55	0.121	0.206
2022/06/02 12:00:59	40.93111	-105.251	784.465	1125	1173.351	0.153	0.259
2022/06/02 12:01:59	40.93058	-105.254	784.325	1256	1308.57	0.098	0.166
2022/06/02 12:02:59	40.92923	-105.255	785.705	1207	1270.952	0.111	0.188
2022/06/02 12:03:59	40.92923	-105.257	787.155	1285	1368.277	0.080	0.136
2022/06/02 12:04:59	40.92997	-105.259	788.545	1271	1367.933	0.080	0.137
2022/06/02 12:05:59	40.93021	-105.26	789.05	1180	1274.94	0.109	0.186
2022/06/02 12:06:59	40.93021	-105.26	789.015	1157	1249.753	0.119	0.202
2022/06/02 12:07:59	40.93021	-105.26	789.02	1116	1205.513	0.137	0.233
2022/06/02 12:08:59	40.93021	-105.26	789.075	1147	1239.524	0.123	0.209
2022/06/02 12:09:59	40.93021	-105.26	789.095	1127	1218.098	0.132	0.224
2022/06/02 12:10:59	40.93021	-105.26	789.1	1092	1180.314	0.149	0.253
2022/06/02 12:11:59	40.93021	-105.26	789.09	1185	1280.737	0.107	0.182
2022/06/02 12:12:59	40.93021	-105.26	789.115	1166	1260.445	0.115	0.195
2022/06/02 12:13:59	40.93021	-105.26	789.095	1159	1252.685	0.118	0.200
2022/06/02 12:14:59	40.93021	-105.26	789.1	1176	1271.108	0.111	0.188
2022/06/02 12:15:59	40.93021	-105.26	789.105	1130	1221.435	0.130	0.221
2022/06/02 12:16:59	40.93021	-105.26	789.04	1163	1256.476	0.116	0.197
2022/06/02 12:17:59	40.93021	-105.26	789.05	1120	1210.113	0.135	0.230
2022/06/02 12:18:59	40.93021	-105.26	789.035	1152	1244.544	0.121	0.205
2022/06/02 12:19:59	40.93021	-105.26	789.015	1157	1249.753	0.119	0.202
2022/06/02 12:20:59	40.93021	-105.26	789.035	1086	1173.242	0.153	0.260
2022/06/02 12:21:59	40.93021	-105.26	789.04	1137	1228.386	0.127	0.216
2022/06/02 12:22:59	40.93021	-105.26	789.135	1103	1192.525	0.143	0.243
2022/06/02 12:23:59	40.93021	-105.26	789.115	1194	1290.713	0.104	0.176
2022/06/02 12:24:59	40.93021	-105.26	789.125	1102	1191.352	0.144	0.244
2022/06/02 12:25:59	40.93021	-105.26	789.115	1097	1185.856	0.146	0.249
2022/06/02 12:26:59	40.93021	-105.26	789.1	1173	1267.865	0.112	0.190
2022/06/02 12:27:59	40.93021	-105.26	789.07	1163	1256.766	0.116	0.197
2022/06/02 12:28:59	40.93021	-105.26	789.06	1131	1222.092	0.130	0.221
2022/06/02 12:29:59	40.93027	-105.26	789.09	1105	1194.274	0.142	0.242
2022/06/02 12:30:59	40.9297	-105.258	787.25	1207	1286.162	0.105	0.179

2022/06/02 12:31:59	40.92867	-105.256	786.3	1221	1291.598	0.103	0.176
2022/06/02 12:32:59	40.92754	-105.258	787.615	1248	1333.594	0.090	0.153
2022/06/02 12:33:59	40.92754	-105.258	787.595	1209	1291.721	0.103	0.176
2022/06/02 12:34:59	40.92753	-105.258	787.585	1246	1331.15	0.091	0.154
2022/06/02 12:35:59	40.9256	-105.259	789.245	1242	1343.945	0.087	0.148
2022/06/02 12:36:59	40.92309	-105.259	790.26	1272	1387.207	0.075	0.128
2022/06/02 12:37:59	40.92243	-105.259	790.65	1183	1294.026	0.103	0.174
2022/06/02 12:38:59	40.92457	-105.259	789.62	1283	1392.325	0.074	0.126
2022/06/02 12:39:59	40.92672	-105.259	788.735	1229	1324.666	0.093	0.158
2022/06/02 12:40:59	40.92793	-105.257	786.955	1198	1273.676	0.110	0.187
2022/06/02 12:41:59	40.92803	-105.257	786.935	1211	1287.299	0.105	0.178
2022/06/02 12:42:59	40.92803	-105.257	786.955	1236	1314.076	0.096	0.163
2022/06/02 12:43:59	40.92803	-105.257	786.955	1202	1277.928	0.108	0.184
2022/06/02 12:44:59	40.92802	-105.257	786.94	1286	1367.077	0.081	0.137
2022/06/02 12:45:59	40.92802	-105.257	786.945	1255	1334.174	0.090	0.153
2022/06/02 12:46:59	40.92802	-105.257	786.97	1230	1307.848	0.098	0.167
2022/06/02 12:47:59	40.92802	-105.257	786.99	1214	1291.034	0.104	0.176
2022/06/02 12:48:59	40.92802	-105.257	786.945	1248	1326.732	0.092	0.157
2022/06/02 12:49:59	40.92802	-105.257	786.945	1291	1372.445	0.079	0.134
2022/06/02 12:50:59	40.92802	-105.257	786.945	1299	1380.949	0.077	0.131
2022/06/02 12:51:59	40.92802	-105.257	786.94	1237	1314.987	0.096	0.163
2022/06/02 12:52:59	40.92802	-105.257	786.94	1243	1321.366	0.094	0.159
2022/06/02 12:53:59	40.92802	-105.257	786.93	1210	1286.186	0.105	0.179
2022/06/02 12:54:59	40.92802	-105.257	786.935	1277	1357.457	0.083	0.141
2022/06/02 12:55:59	40.92801	-105.257	786.92	1239	1316.911	0.095	0.162
2022/06/02 12:56:59	40.92801	-105.257	786.935	1235	1312.811	0.096	0.164
2022/06/02 12:57:59	40.92801	-105.257	786.945	1217	1293.776	0.103	0.175
2022/06/02 12:58:59	40.92801	-105.257	786.95	1278	1358.677	0.083	0.141
2022/06/02 12:59:59	40.92801	-105.257	786.935	1247	1325.567	0.093	0.157
2022/06/02 13:00:59	40.92801	-105.257	786.925	1288	1369.045	0.080	0.136
2022/06/02 13:01:59	40.92801	-105.257	786.9	1213	1289.077	0.104	0.177
2022/06/02 13:02:59	40.92801	-105.257	786.89	1241	1318.732	0.095	0.161
2022/06/02 13:03:59	40.92801	-105.257	786.895	1258	1336.848	0.089	0.151
2022/06/02 13:04:59	40.92801	-105.257	786.925	1150	1222.361	0.130	0.221
2022/06/02 13:05:59	40.92801	-105.257	786.885	1253	1331.432	0.091	0.154
2022/06/02 13:06:59	40.92801	-105.257	786.875	1264	1343.017	0.087	0.148
2022/06/02 13:07:59	40.92862	-105.256	786.215	1217	1286.524	0.105	0.179
2022/06/02 13:08:59	40.92749	-105.254	786.06	1330	1404.303	0.071	0.121
2022/06/02 13:09:59	40.9261	-105.252	787.02	1181	1256.23	0.116	0.197
2022/06/02 13:10:59	40.92558	-105.251	787.075	1205	1282.302	0.107	0.181
2022/06/02 13:11:59	40.92557	-105.25	786.98	1177	1251.59	0.118	0.200
2022/06/02 13:12:59	40.92498	-105.25	785.755	1168	1230.359	0.126	0.215
2022/06/02 13:13:59	40.92356	-105.247	786.93	1219	1295.753	0.102	0.173
2022/06/02 13:14:59	40.92212	-105.244	788.87	1250	1348.702	0.086	0.146
2022/06/02 13:15:59	40.92281	-105.241	787.78	1179	1261.464	0.114	0.194

2022/06/02 13:16:59	40.92199	-105.239	787.615	1142	1220.324	0.131	0.222
2022/06/02 13:17:59	40.91955	-105.239	786.915	1157	1229.707	0.127	0.215
2022/06/02 13:18:59	40.91822	-105.238	786.96	1200	1275.851	0.109	0.185
2022/06/02 13:19:59	40.91833	-105.235	786.355	1171	1239.232	0.123	0.209
2022/06/02 13:20:59	40.91746	-105.232	785.58	1125	1183.468	0.148	0.251
2022/06/02 13:21:59	40.91532	-105.231	785.125	1267	1328.186	0.092	0.156
2022/06/02 13:22:59	40.91328	-105.23	786.54	1232	1305.645	0.099	0.168
2022/06/02 13:23:59	40.91086	-105.23	787.355	1232	1313.864	0.096	0.163
2022/06/02 13:24:59	40.90905	-105.228	787.56	1253	1338.37	0.089	0.151
2022/06/02 13:25:59	40.9073	-105.226	788.465	1227	1319.764	0.094	0.160
2022/06/02 13:26:59	40.90667	-105.223	790.05	1205	1312.016	0.097	0.164
2022/06/02 13:27:59	40.90586	-105.221	790.79	1158	1268.046	0.112	0.190
2022/06/02 13:28:59	40.90452	-105.219	789.76	1100	1195.019	0.142	0.241
2022/06/02 13:29:59	40.90433	-105.217	788.43	1126	1210.801	0.135	0.229
2022/06/02 13:30:59	40.90441	-105.216	787.88	1074	1150.005	0.165	0.281
2022/06/02 13:31:59	40.90441	-105.216	787.88	1086	1162.854	0.158	0.269
2022/06/02 13:32:59	40.90441	-105.216	787.895	1091	1168.343	0.155	0.264
2022/06/02 13:33:59	40.90438	-105.217	788.65	1185	1276.405	0.109	0.185
2022/06/02 13:34:59	40.90448	-105.219	790.235	1092	1190.675	0.144	0.245
2022/06/02 13:35:59	40.9062	-105.221	790.765	1132	1239.337	0.123	0.209
2022/06/02 13:36:59	40.90671	-105.224	789.78	1147	1246.271	0.120	0.204
2022/06/02 13:37:59	40.90778	-105.227	788.345	1180	1268.038	0.112	0.190
2022/06/02 13:38:59	40.9094	-105.228	787.39	1121	1195.81	0.142	0.241
2022/06/02 13:39:59	40.9094	-105.228	787.425	1241	1324.176	0.093	0.158
2022/06/02 13:40:59	40.9094	-105.228	787.44	1205	1285.911	0.105	0.179
2022/06/02 13:41:59	40.9094	-105.228	787.44	1325	1413.969	0.069	0.117
2022/06/02 13:42:59	40.9094	-105.228	787.385	1326	1414.437	0.068	0.116
2022/06/02 13:43:59	40.9094	-105.228	787.355	1286	1371.452	0.079	0.135
2022/06/02 13:44:59	40.9094	-105.228	787.3	1277	1361.277	0.082	0.140
2022/06/02 13:45:59	40.9094	-105.228	787.29	1226	1306.811	0.098	0.167
2022/06/02 13:46:59	40.9094	-105.228	787.225	1309	1394.584	0.073	0.125
2022/06/02 13:47:59	40.9094	-105.228	787.305	1241	1322.953	0.093	0.159
2022/06/02 13:48:59	40.9094	-105.228	787.285	1223	1303.563	0.099	0.169
2022/06/02 13:49:59	40.90939	-105.228	787.19	1260	1342.018	0.088	0.149
2022/06/02 13:50:59	40.90939	-105.228	787.27	1246	1327.925	0.092	0.156
2022/06/02 13:51:59	40.90939	-105.228	787.29	1246	1328.129	0.092	0.156
2022/06/02 13:52:59	40.90939	-105.228	787.29	1246	1328.129	0.092	0.156
2022/06/02 13:53:59	40.90939	-105.228	787.23	1298	1382.918	0.076	0.130
2022/06/02 13:54:59	40.90939	-105.228	787.285	1245	1327.012	0.092	0.157
2022/06/02 13:55:59	40.90939	-105.228	787.275	1283	1367.41	0.080	0.137
2022/06/02 13:56:59	40.90939	-105.228	787.215	1222	1301.795	0.100	0.170
2022/06/02 13:57:59	40.90939	-105.228	787.285	1266	1349.396	0.085	0.145
2022/06/02 13:58:59	40.90939	-105.228	787.22	1243	1324.218	0.093	0.158
2022/06/02 13:59:59	40.90939	-105.228	787.295	1280	1364.423	0.081	0.138
2022/06/02 14:00:59	40.90939	-105.228	787.265	1310	1396.079	0.073	0.124

2022/06/02 14:01:59	40.90939	-105.228	787.205	1222	1301.695	0.100	0.170
2022/06/02 14:02:59	40.90939	-105.228	787.185	1232	1312.145	0.097	0.164
2022/06/02 14:03:59	40.90939	-105.228	787.205	1211	1289.978	0.104	0.177
2022/06/02 14:04:59	40.90939	-105.228	787.19	1327	1413.38	0.069	0.117
2022/06/02 14:05:59	40.90939	-105.228	787.205	1308	1393.304	0.074	0.125
2022/06/02 14:06:59	40.90939	-105.228	787.21	1322	1408.271	0.070	0.119
2022/06/02 14:07:59	40.90939	-105.228	787.195	1267	1349.526	0.085	0.145
2022/06/02 14:08:59	40.90939	-105.228	787.2	1211	1289.928	0.104	0.177
2022/06/02 14:09:59	40.90939	-105.228	787.19	1248	1329.237	0.091	0.155
2022/06/02 14:10:59	40.90939	-105.228	787.18	1151	1225.829	0.128	0.218
2022/06/02 14:11:59	40.90939	-105.228	787.185	1252	1333.446	0.090	0.153
2022/06/02 14:12:59	40.90939	-105.228	787.17	1253	1334.357	0.090	0.153
2022/06/02 14:13:59	40.90939	-105.228	787.165	1282	1365.188	0.081	0.138
2022/06/02 14:14:59	40.90939	-105.228	787.105	1235	1314.53	0.096	0.163
2022/06/02 14:15:59	40.90939	-105.228	787.215	1270	1352.93	0.084	0.144
2022/06/02 14:16:59	40.90939	-105.228	787.265	1322	1408.868	0.070	0.119
2022/06/02 14:17:59	40.90939	-105.228	787.29	1225	1305.745	0.099	0.168
2022/06/02 14:18:59	40.90939	-105.228	787.255	1292	1376.79	0.078	0.132
2022/06/02 14:19:59	40.90939	-105.228	787.27	1220	1300.215	0.101	0.171
2022/06/02 14:20:59	40.90939	-105.228	787.19	1241	1321.782	0.094	0.159
2022/06/02 14:21:59	40.91077	-105.23	787.14	1259	1340.437	0.088	0.150
2022/06/02 14:22:59	40.91314	-105.23	786.39	1203	1273.439	0.110	0.187
2022/06/02 14:23:59	40.91507	-105.23	785.05	1222	1280.274	0.107	0.183
2022/06/02 14:24:59	40.91714	-105.231	785.49	1258	1322.463	0.093	0.159
2022/06/02 14:25:59	40.91818	-105.233	786.16	1209	1277.526	0.108	0.184
2022/06/02 14:26:59	40.91853	-105.237	786.35	1166	1233.893	0.125	0.212
2022/06/02 14:27:59	40.91807	-105.24	787.235	1187	1264.705	0.113	0.192
2022/06/02 14:28:59	40.91709	-105.242	787.3	1174	1251.48	0.118	0.201
2022/06/02 14:29:59	40.91704	-105.242	787.365	1315	1402.487	0.071	0.121
2022/06/02 14:30:59	40.91598	-105.243	788.145	1288	1381.966	0.077	0.130
2022/06/02 14:31:59	40.91423	-105.245	789.91	1240	1348.669	0.086	0.146
2022/06/02 14:32:59	40.91291	-105.246	790.4	1223	1335.208	0.090	0.152
2022/06/02 14:33:59	40.91092	-105.248	791.88	1216	1342.781	0.087	0.149
2022/06/02 14:34:59	40.90902	-105.249	793.225	1214	1354.528	0.084	0.143
2022/06/02 14:35:59	40.90681	-105.25	794.36	1292	1454.211	0.059	0.101
2022/06/02 14:36:59	40.90503	-105.25	796.47	1206	1379.648	0.077	0.131
2022/06/02 14:37:59	40.90427	-105.248	797.48	1025	1181.741	0.148	0.252
2022/06/02 14:38:59	40.90454	-105.249	796.8	1061	1216.858	0.132	0.225
2022/06/02 14:39:59	40.90471	-105.25	796.675	1100	1260.373	0.115	0.195
2022/06/02 14:40:59	40.90476	-105.25	796.73	1142	1309.051	0.098	0.166
2022/06/02 14:41:59	40.90529	-105.252	795.9	1120	1275.654	0.109	0.185
2022/06/02 14:42:59	40.90534	-105.252	795.8	1076	1224.595	0.129	0.219
2022/06/02 14:43:59	40.90534	-105.252	795.795	1124	1279.175	0.108	0.183
2022/06/02 14:44:59	40.90534	-105.252	795.805	1175	1337.319	0.089	0.151
2022/06/02 14:45:59	40.90534	-105.252	795.795	1058	1204.063	0.138	0.234

2022/06/02 14:46:59	40.90534	-105.252	795.77	1169	1330.131	0.091	0.155
2022/06/02 14:47:59	40.90534	-105.252	795.785	1125	1280.214	0.107	0.183
2022/06/02 14:48:59	40.90534	-105.252	795.71	1161	1320.418	0.094	0.160
2022/06/02 14:49:59	40.90534	-105.252	795.735	1094	1244.458	0.121	0.205
2022/06/02 14:50:59	40.90534	-105.252	795.69	1128	1282.69	0.107	0.181
2022/06/02 14:51:59	40.90534	-105.252	795.645	1162	1320.894	0.094	0.160
2022/06/02 14:52:59	40.90534	-105.252	795.69	1158	1316.804	0.095	0.162
2022/06/02 14:53:59	40.90534	-105.252	795.74	1147	1304.797	0.099	0.168
2022/06/02 14:54:59	40.90534	-105.252	795.685	1130	1284.914	0.106	0.180
2022/06/02 14:55:59	40.90534	-105.252	795.675	1140	1296.186	0.102	0.173
2022/06/02 14:56:59	40.90534	-105.252	795.76	1146	1303.861	0.099	0.169
2022/06/02 14:57:59	40.90534	-105.252	795.74	1136	1292.284	0.103	0.175
2022/06/02 14:58:59	40.90534	-105.252	795.73	1087	1236.448	0.124	0.211
2022/06/02 14:59:59	40.90534	-105.252	795.685	1089	1238.294	0.123	0.209
2022/06/02 15:00:59	40.90534	-105.252	795.69	1163	1322.489	0.093	0.159
2022/06/02 15:01:59	40.90534	-105.252	795.76	1159	1318.651	0.095	0.161
2022/06/02 15:02:59	40.90534	-105.252	795.755	1187	1350.456	0.085	0.145
2022/06/02 15:03:59	40.90534	-105.252	795.72	1165	1325.07	0.093	0.158
2022/06/02 15:04:59	40.90534	-105.252	795.7	1087	1236.162	0.124	0.211
2022/06/02 15:05:59	40.90534	-105.252	795.7	1116	1269.142	0.111	0.189
2022/06/02 15:06:59	40.90534	-105.252	795.75	1180	1342.441	0.087	0.149
2022/06/02 15:07:59	40.90615	-105.254	795.87	1174	1336.849	0.089	0.151
2022/06/02 15:08:59	40.9071	-105.255	797.19	1166	1341.304	0.088	0.149
2022/06/02 15:09:59	40.90769	-105.256	797.48	1091	1257.833	0.116	0.196
2022/06/02 15:10:59	40.90629	-105.254	795.835	1143	1301.199	0.100	0.170
2022/06/02 15:11:59	40.90788	-105.252	794.615	1111	1252.944	0.117	0.200
2022/06/02 15:12:59	40.90961	-105.251	793.285	1090	1216.736	0.132	0.225
2022/06/02 15:13:59	40.91133	-105.249	791.97	1117	1234.314	0.125	0.212
2022/06/02 15:14:59	40.91321	-105.247	790.72	1182	1293.63	0.103	0.175
2022/06/02 15:15:59	40.91386	-105.246	790.545	1245	1360.745	0.082	0.140
2022/06/02 15:16:59	40.91394	-105.246	790.19	1144	1246.942	0.120	0.204
2022/06/02 15:17:59	40.91459	-105.244	789.155	1274	1377.617	0.078	0.132
2022/06/02 15:18:59	40.91649	-105.243	787.61	1193	1274.773	0.109	0.186
2022/06/02 15:19:59	40.91704	-105.242	787.16	1263	1344.903	0.087	0.147
2022/06/02 15:20:59	40.91708	-105.242	787.175	1300	1384.462	0.076	0.129
2022/06/02 15:21:59	40.91785	-105.241	786.985	1216	1293.111	0.103	0.175
2022/06/02 15:22:59	40.91897	-105.238	786.105	1218	1286.491	0.105	0.179
2022/06/02 15:23:59	40.92007	-105.235	785.53	1117	1174.6	0.152	0.258
2022/06/02 15:24:59	40.92205	-105.234	785.38	1266	1329.747	0.091	0.155
2022/06/02 15:25:59	40.92471	-105.235	784.92	1236	1293.646	0.103	0.175
2022/06/02 15:26:59	40.92725	-105.235	784.335	1270	1323.257	0.093	0.158
2022/06/02 15:27:59	40.92892	-105.238	783.57	1259	1304.092	0.099	0.169
2022/06/02 15:28:59	40.93055	-105.24	783.515	1252	1296.292	0.102	0.173
2022/06/02 15:29:59	40.93238	-105.241	783.14	1254	1294.619	0.102	0.174
2022/06/02 15:30:59	40.93459	-105.242	782.02	1191	1219.02	0.131	0.223

2022/06/02 15:31:59	40.93678	-105.242	781.195	1257	1278.426	0.108	0.184
2022/06/02 15:32:59	40.93793	-105.245	780.295	1266	1278.687	0.108	0.183
2022/06/02 15:33:59	40.94038	-105.245	780.3	1195	1207.022	0.136	0.232
2022/06/02 15:34:59	40.94236	-105.244	780.445	1326	1340.836	0.088	0.149
2022/06/02 15:35:59	40.9441	-105.241	781.06	1310	1330.945	0.091	0.154
2022/06/02 15:36:59	40.94554	-105.239	781.135	1287	1308.333	0.098	0.166
2022/06/02 15:37:59	40.94764	-105.238	783.15	1244	1284.394	0.106	0.180
2022/06/02 15:38:59	40.9493	-105.238	783.185	1189	1227.939	0.127	0.217
2022/06/02 15:39:59	40.95019	-105.239	782.61	1237	1271.867	0.110	0.188
2022/06/02 15:40:59	40.9503	-105.239	782.63	1236	1271.035	0.111	0.188
2022/06/02 15:41:59	40.9504	-105.24	782.615	1186	1219.477	0.131	0.223
2022/06/02 15:42:59	40.95121	-105.242	781.495	1170	1192.695	0.143	0.243
2022/06/02 15:43:59	40.95109	-105.245	780.44	1313	1327.64	0.092	0.156
2022/06/02 15:44:59	40.95133	-105.248	779.675	1347	1354.019	0.084	0.143
2022/06/02 15:45:59	40.95161	-105.25	779.25	1335	1337.572	0.089	0.151
2022/06/02 15:46:59	40.95161	-105.25	779.305	1362	1365.202	0.081	0.138
2022/06/02 15:47:59	40.95161	-105.25	779.315	1286	1289.123	0.104	0.177
2022/06/02 15:48:59	40.95161	-105.25	779.275	1361	1363.885	0.081	0.138
2022/06/02 15:49:59	40.95161	-105.25	779.265	1291	1293.637	0.103	0.175
2022/06/02 15:50:59	40.95161	-105.25	779.265	1362	1364.782	0.081	0.138
2022/06/02 15:51:59	40.95161	-105.25	779.255	1331	1333.616	0.090	0.153
2022/06/02 15:52:59	40.95161	-105.25	779.26	1327	1329.659	0.091	0.155
2022/06/02 15:53:59	40.95161	-105.25	779.26	1358	1360.721	0.082	0.140
2022/06/02 15:54:59	40.95161	-105.25	779.26	1277	1279.559	0.108	0.183
2022/06/02 15:55:59	40.95161	-105.25	779.26	1332	1334.669	0.090	0.153
2022/06/02 15:56:59	40.95161	-105.25	779.265	1280	1282.615	0.107	0.181
2022/06/02 15:57:59	40.95161	-105.25	779.26	1269	1271.543	0.110	0.188
2022/06/02 15:58:59	40.95161	-105.25	779.27	1320	1322.747	0.093	0.159
2022/06/02 15:59:59	40.95161	-105.25	779.215	1397	1399.315	0.072	0.123
2022/06/02 16:00:59	40.95161	-105.25	779.28	1297	1299.799	0.101	0.171
2022/06/02 16:01:59	40.95161	-105.25	779.27	1294	1296.693	0.102	0.173
2022/06/02 16:02:59	40.95161	-105.25	779.25	1344	1346.59	0.086	0.147
2022/06/02 16:03:59	40.95161	-105.25	779.19	694	695.0161	2.855	4.854

Table C-3: Rover data 06/10/2022.

Date Time(UTC)	Lat	Long	P (mb)	N <sub>sum</sub>	N	$\theta_G$ (avg)	$\theta_V$
2022/06/10 08:08:34			780.895	429	435.3056	-0.777	-1.322
2022/06/10 08:09:41	40.9516	-105.25	780.865	1655	1678.938	0.021	0.036
2022/06/10 08:10:41	40.9516	-105.25	780.965	1445	1467.03	0.057	0.096
2022/06/10 08:11:41	40.9516	-105.25	780.96	1527	1550.22	0.041	0.069
2022/06/10 08:12:41	40.9516	-105.25	780.965	1470	1492.411	0.052	0.088
2022/06/10 08:13:41	40.9516	-105.25	780.915	1469	1490.822	0.052	0.088
2022/06/10 08:14:41	40.9516	-105.25	780.965	1464	1486.319	0.053	0.090
2022/06/10 08:15:41	40.9516	-105.25	780.99	1505	1528.239	0.045	0.076
2022/06/10 08:16:41	40.9516	-105.25	781.035	1489	1512.516	0.048	0.081
2022/06/10 08:17:41	40.95154	-105.25	781.205	1570	1596.884	0.033	0.056
2022/06/10 08:18:41	40.95126	-105.246	782.085	1509	1545.275	0.042	0.071
2022/06/10 08:19:41	40.95123	-105.243	782.52	1499	1540.185	0.043	0.072
2022/06/10 08:20:41	40.9519	-105.241	784.675	1433	1497.007	0.051	0.086
2022/06/10 08:21:41	40.95269	-105.237	786.795	1440	1529.078	0.045	0.076
2022/06/10 08:22:41	40.95475	-105.236	788.43	1374	1477.479	0.055	0.093
2022/06/10 08:23:41	40.95651	-105.235	788.64	1225	1319.389	0.094	0.161
2022/06/10 08:24:41	40.95745	-105.234	788.595	1349	1452.44	0.060	0.102
2022/06/10 08:25:41	40.95804	-105.236	788.505	1346	1448.206	0.061	0.103
2022/06/10 08:26:41	40.95856	-105.238	788.415	1386	1490.211	0.052	0.088
2022/06/10 08:27:41	40.95858	-105.238	788.42	1304	1402.099	0.071	0.121
2022/06/10 08:28:41	40.95858	-105.238	788.39	1346	1446.924	0.061	0.104
2022/06/10 08:29:41	40.95858	-105.238	788.375	1352	1453.206	0.060	0.101
2022/06/10 08:30:41	40.95866	-105.238	788.405	1319	1418.064	0.068	0.115
2022/06/10 08:31:41	40.95953	-105.24	788.445	1311	1409.897	0.070	0.118
2022/06/10 08:32:41	40.95955	-105.24	788.375	1390	1494.051	0.051	0.087
2022/06/10 08:33:41	40.95955	-105.24	788.44	1415	1521.684	0.046	0.078
2022/06/10 08:34:41	40.959	-105.239	788.44	1366	1468.99	0.056	0.096
2022/06/10 08:35:41	40.95808	-105.237	788.45	1339	1440.065	0.063	0.106
2022/06/10 08:36:41	40.95765	-105.234	788.53	1362	1465.703	0.057	0.097
2022/06/10 08:37:41	40.95664	-105.235	788.88	1341	1446.999	0.061	0.104
2022/06/10 08:38:41	40.95748	-105.233	789.665	1256	1363.497	0.082	0.139
2022/06/10 08:39:41	40.95764	-105.23	789.945	1250	1359.912	0.083	0.140
2022/06/10 08:40:41	40.9576	-105.227	790.645	1281	1401.17	0.072	0.122
2022/06/10 08:41:41	40.95765	-105.227	790.705	1278	1398.534	0.072	0.123
2022/06/10 08:42:41	40.95765	-105.227	790.745	1237	1354.085	0.084	0.143
2022/06/10 08:43:41	40.95744	-105.228	790.4	1252	1366.868	0.081	0.137
2022/06/10 08:44:41	40.95774	-105.231	789.87	1196	1300.413	0.101	0.171
2022/06/10 08:45:41	40.95755	-105.233	789.725	1242	1348.922	0.086	0.146
2022/06/10 08:46:41	40.95656	-105.235	788.585	1314	1414.648	0.068	0.116
2022/06/10 08:47:41	40.95473	-105.236	788.345	1267	1361.529	0.082	0.139
2022/06/10 08:48:41	40.9527	-105.237	786.81	1303	1383.763	0.076	0.129
2022/06/10 08:49:41	40.95202	-105.24	784.94	1488	1557.639	0.040	0.067

2022/06/10 08:50:41	40.95097	-105.242	783.44	1455	1505.604	0.049	0.083
2022/06/10 08:51:41	40.95097	-105.242	783.5	1432	1482.488	0.054	0.091
2022/06/10 08:52:41	40.95097	-105.242	783.51	1477	1529.193	0.045	0.076
2022/06/10 08:53:41	40.95097	-105.242	783.5	1499	1551.851	0.041	0.069
2022/06/10 08:54:41	40.95097	-105.242	783.485	1489	1541.32	0.042	0.072
2022/06/10 08:55:41	40.95097	-105.242	783.495	1509	1562.143	0.039	0.066
2022/06/10 08:56:41	40.95098	-105.242	783.495	1420	1470.009	0.056	0.095
2022/06/10 08:57:41	40.95098	-105.242	783.505	1495	1547.769	0.041	0.070
2022/06/10 08:58:41	40.95098	-105.242	783.485	1434	1484.388	0.053	0.090
2022/06/10 08:59:41	40.95098	-105.242	783.49	1396	1445.108	0.061	0.104
2022/06/10 09:00:41	40.95098	-105.242	783.495	1431	1481.396	0.054	0.091
2022/06/10 09:01:41	40.95098	-105.242	783.53	1478	1530.464	0.044	0.075
2022/06/10 09:02:41	40.95098	-105.242	783.53	1388	1437.269	0.063	0.107
2022/06/10 09:03:41	40.95098	-105.242	783.525	1445	1496.235	0.051	0.086
2022/06/10 09:04:41	40.95098	-105.242	783.505	1453	1504.287	0.049	0.084
2022/06/10 09:05:41	40.95098	-105.242	783.58	1499	1552.807	0.040	0.069
2022/06/10 09:06:41	40.95098	-105.242	783.53	1474	1526.322	0.045	0.077
2022/06/10 09:07:41	40.95099	-105.242	783.59	1468	1520.811	0.046	0.078
2022/06/10 09:08:41	40.95075	-105.241	783.86	1511	1568.616	0.038	0.064
2022/06/10 09:09:41	40.95027	-105.239	784.47	1352	1410.161	0.069	0.118
2022/06/10 09:10:41	40.95017	-105.239	784.39	1401	1460.369	0.058	0.099
2022/06/10 09:11:41	40.94935	-105.238	784.975	1471	1540.258	0.043	0.072
2022/06/10 09:12:41	40.94832	-105.239	785.12	1416	1484.325	0.053	0.090
2022/06/10 09:13:41	40.94789	-105.238	785.16	1345	1410.333	0.069	0.118
2022/06/10 09:14:41	40.94644	-105.237	783.825	1429	1483.089	0.053	0.091
2022/06/10 09:15:41	40.94762	-105.235	784.475	1464	1527.038	0.045	0.076
2022/06/10 09:16:41	40.94775	-105.235	784.49	1363	1421.853	0.067	0.113
2022/06/10 09:17:41	40.94775	-105.235	784.52	1446	1508.786	0.048	0.082
2022/06/10 09:18:41	40.94775	-105.235	784.52	1376	1435.746	0.063	0.108
2022/06/10 09:19:41	40.94774	-105.235	784.56	1365	1424.707	0.066	0.112
2022/06/10 09:20:41	40.94774	-105.235	784.575	1448	1511.512	0.048	0.081
2022/06/10 09:21:41	40.94774	-105.235	784.54	1421	1482.929	0.053	0.091
2022/06/10 09:22:41	40.94774	-105.235	784.575	1418	1480.197	0.054	0.092
2022/06/10 09:23:41	40.94774	-105.235	784.575	1362	1421.74	0.067	0.113
2022/06/10 09:24:41	40.94804	-105.234	784.77	1463	1529.465	0.045	0.076
2022/06/10 09:25:41	40.94868	-105.234	785.09	1413	1480.838	0.054	0.092
2022/06/10 09:26:41	40.94876	-105.234	785.155	1387	1454.317	0.059	0.101
2022/06/10 09:27:41	40.94965	-105.232	785.49	1445	1519.046	0.046	0.079
2022/06/10 09:28:41	40.95109	-105.231	785.83	1402	1477.706	0.054	0.093
2022/06/10 09:29:41	40.95083	-105.228	786.56	1460	1547.512	0.041	0.070
2022/06/10 09:30:41	40.95013	-105.225	789.01	1525	1647.191	0.026	0.044
2022/06/10 09:31:41	40.95053	-105.222	790.445	1424	1555.188	0.040	0.068
2022/06/10 09:32:41	40.95224	-105.22	790.54	1338	1462.334	0.058	0.098
2022/06/10 09:33:41	40.95428	-105.22	791.18	1391	1527.77	0.045	0.076
2022/06/10 09:34:41	40.95519	-105.221	792.005	1332	1472.292	0.056	0.094

2022/06/10 09:35:41	40.95657	-105.224	791.535	1242	1367.853	0.080	0.137
2022/06/10 09:36:41	40.95771	-105.225	791.16	1158	1271.664	0.110	0.188
2022/06/10 09:37:41	40.95783	-105.227	791.06	1116	1224.598	0.129	0.219
2022/06/10 09:38:41	40.9577	-105.226	791.265	1136	1248.514	0.119	0.203
2022/06/10 09:39:41	40.95699	-105.224	791.405	1068	1175.045	0.152	0.258
2022/06/10 09:40:41	40.9555	-105.223	791.95	1179	1302.625	0.100	0.170
2022/06/10 09:41:41	40.95492	-105.22	792.235	1261	1396.284	0.073	0.124
2022/06/10 09:42:41	40.953	-105.22	789.72	1293	1404.258	0.071	0.121
2022/06/10 09:43:41	40.95146	-105.221	790.46	1386	1513.862	0.047	0.081
2022/06/10 09:44:41	40.95053	-105.223	789.605	1309	1420.377	0.067	0.114
2022/06/10 09:45:41	40.95021	-105.226	788.415	1371	1474.083	0.055	0.094
2022/06/10 09:46:41	40.95088	-105.228	786.26	1486	1571.436	0.037	0.063
2022/06/10 09:47:41	40.95124	-105.23	785.675	1479	1557.004	0.040	0.067
2022/06/10 09:48:41	40.94976	-105.232	785.17	1410	1478.604	0.054	0.092
2022/06/10 09:49:41	40.94873	-105.234	784.935	1442	1509.428	0.048	0.082
2022/06/10 09:50:41	40.94867	-105.234	784.835	1372	1435.049	0.064	0.108
2022/06/10 09:51:41	40.94812	-105.232	785.515	1331	1399.473	0.072	0.123
2022/06/10 09:52:41	40.94797	-105.229	787.625	1354	1446.976	0.061	0.104
2022/06/10 09:53:41	40.94709	-105.227	786.995	1304	1386.799	0.075	0.128
2022/06/10 09:54:41	40.94717	-105.224	786.49	1385	1467.225	0.057	0.096
2022/06/10 09:55:41	40.94701	-105.221	787	1249	1328.358	0.092	0.156
2022/06/10 09:56:41	40.94682	-105.218	787.505	1384	1477.67	0.054	0.093
2022/06/10 09:57:41	40.94706	-105.216	789.835	1428	1552.248	0.041	0.069
2022/06/10 09:58:41	40.94703	-105.215	791.775	1401	1545.819	0.042	0.071
2022/06/10 09:59:41	40.94703	-105.215	791.82	1300	1434.876	0.064	0.108
2022/06/10 10:00:41	40.94703	-105.215	791.765	1291	1424.339	0.066	0.112
2022/06/10 10:01:41	40.94703	-105.215	791.77	1339	1477.353	0.055	0.093
2022/06/10 10:02:41	40.94703	-105.215	791.875	1341	1480.756	0.054	0.092
2022/06/10 10:03:41	40.94723	-105.216	791.11	1313	1441.323	0.062	0.106
2022/06/10 10:04:41	40.94687	-105.217	788.625	1335	1437.699	0.063	0.107
2022/06/10 10:05:41	40.94685	-105.219	787.15	1382	1471.507	0.056	0.095
2022/06/10 10:06:41	40.94726	-105.222	786.8	1274	1352.861	0.084	0.144
2022/06/10 10:07:41	40.94663	-105.225	785.765	1288	1356.871	0.083	0.142
2022/06/10 10:08:41	40.94457	-105.224	786.345	1432	1515.323	0.047	0.080
2022/06/10 10:09:41	40.94249	-105.222	787.43	1476	1574.987	0.037	0.062
2022/06/10 10:10:41	40.94171	-105.223	786.69	1425	1511.927	0.048	0.081
2022/06/10 10:11:41	40.94186	-105.227	785.025	1401	1467.527	0.057	0.096
2022/06/10 10:12:41	40.9414	-105.227	784.865	1383	1446.889	0.061	0.104
2022/06/10 10:13:41	40.9414	-105.227	784.855	1412	1477.115	0.055	0.093
2022/06/10 10:14:41	40.9414	-105.227	784.82	1381	1444.296	0.062	0.105
2022/06/10 10:15:41	40.9414	-105.227	784.845	1449	1515.704	0.047	0.080
2022/06/10 10:16:41	40.9414	-105.227	784.825	1385	1448.535	0.061	0.103
2022/06/10 10:17:41	40.9414	-105.227	784.82	1413	1477.762	0.054	0.093
2022/06/10 10:18:41	40.9414	-105.227	784.835	1364	1426.681	0.066	0.111
2022/06/10 10:19:41	40.9414	-105.227	784.815	1415	1479.797	0.054	0.092

2022/06/10 10:20:41	40.9414	-105.227	784.82	1475	1542.604	0.042	0.072
2022/06/10 10:21:41	40.94141	-105.227	784.77	1422	1486.603	0.053	0.090
2022/06/10 10:22:41	40.94141	-105.227	784.765	1380	1442.639	0.062	0.105
2022/06/10 10:23:41	40.94141	-105.227	784.83	1408	1472.647	0.056	0.094
2022/06/10 10:24:41	40.94141	-105.227	784.79	1421	1485.786	0.053	0.090
2022/06/10 10:25:41	40.94141	-105.227	784.9	1411	1476.58	0.055	0.093
2022/06/10 10:26:41	40.94141	-105.227	784.875	1327	1388.409	0.075	0.127
2022/06/10 10:27:41	40.94141	-105.227	784.88	1452	1519.252	0.046	0.079
2022/06/10 10:28:41	40.94141	-105.227	784.865	1423	1488.737	0.052	0.089
2022/06/10 10:29:41	40.94141	-105.227	784.935	1405	1470.698	0.056	0.095
2022/06/10 10:30:41	40.94141	-105.227	784.925	1391	1455.931	0.059	0.100
2022/06/10 10:31:41	40.94141	-105.227	785.01	1405	1471.547	0.056	0.095
2022/06/10 10:32:41	40.94084	-105.228	784.81	1458	1524.708	0.045	0.077
2022/06/10 10:33:41	40.94038	-105.231	783.835	1391	1443.762	0.062	0.105
2022/06/10 10:34:41	40.94063	-105.235	782.95	1432	1476.223	0.055	0.093
2022/06/10 10:35:41	40.94146	-105.239	782.45	1448	1486.982	0.053	0.089
2022/06/10 10:36:41	40.94198	-105.243	781.745	1389	1418.671	0.067	0.115
2022/06/10 10:37:41	40.94291	-105.246	781.545	1544	1574.555	0.037	0.063
2022/06/10 10:38:41	40.94544	-105.249	781.44	1482	1510.107	0.048	0.082
2022/06/10 10:39:41	40.94665	-105.25	781.75	1569	1602.578	0.032	0.055
2022/06/10 10:40:41	40.94425	-105.248	781.825	1519	1552.404	0.040	0.069
2022/06/10 10:41:41	40.94239	-105.245	781.86	1448	1480.242	0.054	0.092
2022/06/10 10:42:41	40.94051	-105.245	781.81	1434	1465.366	0.057	0.097
2022/06/10 10:43:41	40.93815	-105.246	781.78	1454	1485.46	0.053	0.090
2022/06/10 10:44:41	40.93616	-105.248	783.29	1337	1381.903	0.077	0.130
2022/06/10 10:45:41	40.93384	-105.248	784.095	1433	1490.336	0.052	0.088
2022/06/10 10:46:41	40.93197	-105.25	784.67	1432	1495.905	0.051	0.086
2022/06/10 10:47:41	40.93124	-105.25	784.98	1439	1506.809	0.049	0.083
2022/06/10 10:48:41	40.93122	-105.251	785.04	1383	1448.84	0.061	0.103
2022/06/10 10:49:41	40.93118	-105.251	785.105	1404	1471.576	0.056	0.095
2022/06/10 10:50:41	40.93077	-105.253	784.705	1406	1469.14	0.056	0.096
2022/06/10 10:51:41	40.92955	-105.255	786	1462	1542.964	0.042	0.072
2022/06/10 10:52:41	40.92919	-105.257	787.44	1473	1571.906	0.037	0.063
2022/06/10 10:53:41	40.9299	-105.26	789.13	1395	1508.168	0.048	0.082
2022/06/10 10:54:41	40.93021	-105.26	789.695	1390	1509.314	0.048	0.082
2022/06/10 10:55:41	40.93021	-105.26	789.625	1331	1444.471	0.062	0.105
2022/06/10 10:56:41	40.93021	-105.26	789.59	1403	1522.199	0.046	0.078
2022/06/10 10:57:41	40.93021	-105.26	789.69	1262	1370.274	0.080	0.135
2022/06/10 10:58:41	40.93021	-105.26	789.67	1334	1448.228	0.061	0.103
2022/06/10 10:59:41	40.93021	-105.26	789.6	1339	1452.873	0.060	0.101
2022/06/10 11:00:41	40.93021	-105.26	789.66	1404	1524.105	0.046	0.077
2022/06/10 11:01:41	40.93031	-105.26	789.6	1270	1378.005	0.078	0.132
2022/06/10 11:02:41	40.93031	-105.26	789.575	1319	1430.897	0.065	0.110
2022/06/10 11:03:41	40.93031	-105.26	789.605	1295	1405.185	0.071	0.120
2022/06/10 11:04:41	40.93031	-105.26	789.68	1300	1411.426	0.069	0.118

2022/06/10 11:05:41	40.93031	-105.26	789.7	1398	1518.059	0.047	0.079
2022/06/10 11:06:41	40.93031	-105.26	789.695	1327	1440.906	0.062	0.106
2022/06/10 11:07:41	40.93031	-105.26	789.69	1256	1363.759	0.081	0.138
2022/06/10 11:08:41	40.93025	-105.26	789.72	1280	1390.139	0.074	0.127
2022/06/10 11:09:41	40.9298	-105.258	788.14	1394	1495.642	0.051	0.087
2022/06/10 11:10:41	40.9287	-105.256	786.865	1452	1542.651	0.042	0.072
2022/06/10 11:11:41	40.92719	-105.258	788.935	1461	1577.152	0.036	0.062
2022/06/10 11:12:41	40.92502	-105.259	789.94	1404	1527.394	0.045	0.076
2022/06/10 11:13:41	40.92272	-105.259	791.145	1426	1565.789	0.038	0.065
2022/06/10 11:14:41	40.92251	-105.259	791.035	1431	1569.949	0.038	0.064
2022/06/10 11:15:41	40.92431	-105.259	790.215	1326	1445.597	0.061	0.104
2022/06/10 11:16:41	40.92668	-105.259	789.39	1428	1546.939	0.041	0.070
2022/06/10 11:17:41	40.92803	-105.257	787.4	1393	1486.077	0.053	0.090
2022/06/10 11:18:41	40.92804	-105.257	787.4	1476	1574.623	0.037	0.062
2022/06/10 11:19:41	40.92804	-105.257	787.395	1438	1534.025	0.044	0.074
2022/06/10 11:20:41	40.92804	-105.257	787.21	1416	1508.405	0.048	0.082
2022/06/10 11:21:41	40.92804	-105.257	787.385	1441	1537.107	0.043	0.073
2022/06/10 11:22:41	40.92804	-105.257	787.38	1460	1557.314	0.040	0.067
2022/06/10 11:23:41	40.92804	-105.257	787.395	1482	1580.963	0.036	0.061
2022/06/10 11:24:41	40.92804	-105.257	787.415	1430	1525.725	0.045	0.077
2022/06/10 11:25:41	40.92804	-105.257	787.425	1435	1531.178	0.044	0.075
2022/06/10 11:26:41	40.92804	-105.257	787.42	1424	1519.382	0.046	0.079
2022/06/10 11:27:41	40.92804	-105.257	787.325	1407	1500.146	0.050	0.085
2022/06/10 11:28:41	40.92804	-105.257	787.405	1502	1602.422	0.032	0.055
2022/06/10 11:29:41	40.92804	-105.257	787.455	1405	1499.514	0.050	0.085
2022/06/10 11:30:41	40.92804	-105.257	787.47	1434	1530.641	0.044	0.075
2022/06/10 11:31:41	40.92804	-105.257	787.46	1468	1566.812	0.038	0.065
2022/06/10 11:32:41	40.92804	-105.257	787.48	1451	1548.906	0.041	0.070
2022/06/10 11:33:41	40.92804	-105.257	787.465	1402	1496.427	0.051	0.086
2022/06/10 11:34:41	40.92804	-105.257	787.435	1458	1555.839	0.040	0.068
2022/06/10 11:35:41	40.92856	-105.256	787.045	1383	1471.381	0.056	0.095
2022/06/10 11:36:41	40.92733	-105.254	786.69	1453	1541.635	0.042	0.072
2022/06/10 11:37:41	40.92561	-105.251	787.875	1501	1607.161	0.032	0.054
2022/06/10 11:38:41	40.92558	-105.25	787.675	1362	1456.086	0.059	0.100
2022/06/10 11:39:41	40.92558	-105.25	787.715	1402	1499.31	0.050	0.085
2022/06/10 11:40:41	40.9249	-105.25	786.66	1391	1475.512	0.055	0.093
2022/06/10 11:41:41	40.92329	-105.246	788.03	1426	1528.68	0.045	0.076
2022/06/10 11:42:41	40.92232	-105.245	788.645	1416	1525.165	0.045	0.077
2022/06/10 11:43:41	40.92231	-105.244	789.44	1399	1516.107	0.047	0.080
2022/06/10 11:44:41	40.92316	-105.241	788.225	1366	1466.56	0.057	0.097
2022/06/10 11:45:41	40.9211	-105.239	787.955	1357	1453.871	0.059	0.101
2022/06/10 11:46:41	40.91861	-105.238	787.64	1329	1420.423	0.067	0.114
2022/06/10 11:47:41	40.91831	-105.234	787.135	1356	1443.656	0.062	0.105
2022/06/10 11:48:41	40.91728	-105.231	786.445	1359	1439.183	0.063	0.107
2022/06/10 11:49:41	40.91505	-105.23	786.19	1429	1510.345	0.048	0.082

2022/06/10 11:50:41	40.91285	-105.23	787.335	1517	1617.552	0.030	0.051
2022/06/10 11:51:41	40.91039	-105.229	787.995	1458	1562.563	0.039	0.066
2022/06/10 11:52:41	40.90849	-105.227	788.765	1419	1529.809	0.044	0.076
2022/06/10 11:53:41	40.90704	-105.225	789.8	1380	1499.668	0.050	0.085
2022/06/10 11:54:41	40.90678	-105.222	791.09	1360	1492.687	0.051	0.087
2022/06/10 11:55:41	40.9047	-105.221	791.425	1269	1396.406	0.073	0.124
2022/06/10 11:56:41	40.90469	-105.218	789.625	1265	1372.844	0.079	0.134
2022/06/10 11:57:41	40.90435	-105.216	788.925	1348	1455.056	0.059	0.101
2022/06/10 11:58:41	40.90457	-105.216	787.89	1259	1348.201	0.086	0.146
2022/06/10 11:59:41	40.90435	-105.217	789.18	1257	1359.496	0.083	0.140
2022/06/10 12:00:41	40.9047	-105.218	789.625	1278	1386.952	0.075	0.128
2022/06/10 12:01:41	40.90487	-105.221	791.29	1291	1419.139	0.067	0.114
2022/06/10 12:02:41	40.90673	-105.223	790.735	1258	1376.966	0.078	0.132
2022/06/10 12:03:41	40.90716	-105.226	789.14	1372	1483.416	0.053	0.091
2022/06/10 12:04:41	40.90922	-105.228	787.805	1321	1413.668	0.069	0.117
2022/06/10 12:05:41	40.90943	-105.228	787.935	1445	1547.915	0.041	0.070
2022/06/10 12:06:41	40.90943	-105.228	787.95	1470	1574.877	0.037	0.062
2022/06/10 12:07:41	40.90943	-105.228	787.885	1349	1444.521	0.062	0.105
2022/06/10 12:08:41	40.90943	-105.228	787.955	1455	1558.867	0.039	0.067
2022/06/10 12:09:41	40.90943	-105.228	787.87	1503	1609.24	0.031	0.053
2022/06/10 12:10:41	40.90943	-105.228	787.95	1458	1562.021	0.039	0.066
2022/06/10 12:11:41	40.90943	-105.228	787.72	1430	1529.313	0.045	0.076
2022/06/10 12:12:41	40.90943	-105.228	787.725	1447	1547.553	0.041	0.070
2022/06/10 12:13:41	40.90942	-105.228	787.805	1447	1548.507	0.041	0.070
2022/06/10 12:14:41	40.90942	-105.228	787.745	1477	1579.881	0.036	0.061
2022/06/10 12:15:41	40.90942	-105.228	787.805	1443	1544.226	0.042	0.071
2022/06/10 12:16:41	40.90942	-105.228	787.8	1467	1569.849	0.038	0.064
2022/06/10 12:17:41	40.90942	-105.228	787.72	1397	1494.021	0.051	0.087
2022/06/10 12:18:41	40.90968	-105.228	787.655	1434	1532.823	0.044	0.075
2022/06/10 12:19:41	40.91153	-105.229	787.745	1424	1523.189	0.046	0.078
2022/06/10 12:20:41	40.91402	-105.23	786.53	1416	1500.528	0.050	0.085
2022/06/10 12:21:41	40.91606	-105.231	785.78	1478	1557.21	0.040	0.067
2022/06/10 12:22:41	40.91799	-105.232	786.445	1449	1534.493	0.044	0.074
2022/06/10 12:23:41	40.91836	-105.235	786.865	1370	1455.532	0.059	0.101
2022/06/10 12:24:41	40.91826	-105.238	787.67	1420	1518.034	0.047	0.079
2022/06/10 12:25:41	40.91739	-105.241	788.195	1382	1483.395	0.053	0.091
2022/06/10 12:26:41	40.91708	-105.242	788.12	1499	1608.05	0.031	0.054
2022/06/10 12:27:41	40.91693	-105.243	788.095	1455	1560.549	0.039	0.066
2022/06/10 12:28:41	40.915	-105.244	789.945	1453	1580.762	0.036	0.061
2022/06/10 12:29:41	40.91286	-105.246	791.205	1444	1586.286	0.035	0.059
2022/06/10 12:30:41	40.91103	-105.247	792.54	1427	1583.808	0.035	0.060
2022/06/10 12:31:41	40.90915	-105.249	793.725	1428	1599.446	0.033	0.056
2022/06/10 12:32:41	40.90821	-105.25	793.99	1406	1578.021	0.036	0.062
2022/06/10 12:33:41	40.90821	-105.25	794.08	1397	1569.007	0.038	0.064
2022/06/10 12:34:41	40.90822	-105.25	793.995	1362	1528.697	0.045	0.076

2022/06/10 12:35:41	40.90761	-105.25	794.355	1395	1570.082	0.038	0.064
2022/06/10 12:36:41	40.9055	-105.25	796.335	1404	1604.488	0.032	0.054
2022/06/10 12:37:41	40.9045	-105.249	797.3	1370	1577.31	0.036	0.062
2022/06/10 12:38:41	40.90413	-105.247	798.03	1344	1556.098	0.040	0.068
2022/06/10 12:39:41	40.90413	-105.247	798.01	1203	1392.632	0.074	0.126
2022/06/10 12:40:41	40.90434	-105.248	797.51	1261	1454.165	0.059	0.101
2022/06/10 12:41:41	40.90473	-105.25	797.04	1292	1484.532	0.053	0.090
2022/06/10 12:42:41	40.90478	-105.25	797.015	1268	1456.675	0.059	0.100
2022/06/10 12:43:41	40.90528	-105.251	796.195	1308	1493.169	0.051	0.087
2022/06/10 12:44:41	40.90531	-105.252	796.16	1363	1555.536	0.040	0.068
2022/06/10 12:45:41	40.90534	-105.252	796.2	1332	1520.625	0.046	0.078
2022/06/10 12:46:41	40.90534	-105.252	796.15	1351	1541.722	0.042	0.072
2022/06/10 12:47:41	40.90534	-105.252	796.21	1344	1534.443	0.044	0.074
2022/06/10 12:48:41	40.90534	-105.252	796.155	1336	1524.663	0.045	0.077
2022/06/10 12:49:41	40.90534	-105.252	796.145	1347	1537.098	0.043	0.073
2022/06/10 12:50:41	40.90534	-105.252	796.195	1357	1549.106	0.041	0.070
2022/06/10 12:51:41	40.90534	-105.252	796.18	1333	1521.532	0.046	0.078
2022/06/10 12:52:41	40.90534	-105.252	796.12	1289	1470.63	0.056	0.095
2022/06/10 12:53:41	40.90534	-105.252	796.21	1365	1558.418	0.039	0.067
2022/06/10 12:54:41	40.90534	-105.252	796.2	1368	1561.723	0.039	0.066
2022/06/10 12:55:41	40.90534	-105.252	796.165	1401	1598.965	0.033	0.056
2022/06/10 12:56:41	40.90534	-105.252	796.205	1322	1509.267	0.048	0.082
2022/06/10 12:57:41	40.90534	-105.252	796.15	1349	1539.44	0.043	0.073
2022/06/10 12:58:41	40.90534	-105.252	796.22	1323	1510.583	0.048	0.082
2022/06/10 12:59:41	40.90534	-105.252	796.14	1333	1521.064	0.046	0.078
2022/06/10 13:00:41	40.90534	-105.252	796.135	1427	1628.263	0.028	0.048
2022/06/10 13:01:41	40.90535	-105.252	796.145	1393	1589.59	0.034	0.058
2022/06/10 13:02:41	40.90616	-105.254	796.15	1268	1447.005	0.061	0.104
2022/06/10 13:03:41	40.90729	-105.255	797.68	1252	1445.678	0.061	0.104
2022/06/10 13:04:41	40.90761	-105.256	797.9	1364	1577.674	0.036	0.062
2022/06/10 13:05:41	40.90631	-105.254	796.265	1325	1513.391	0.047	0.081
2022/06/10 13:06:41	40.9077	-105.253	795.105	1278	1446.729	0.061	0.104
2022/06/10 13:07:41	40.90939	-105.251	793.86	1392	1560.745	0.039	0.066
2022/06/10 13:08:41	40.91102	-105.249	792.595	1351	1500.092	0.050	0.085
2022/06/10 13:09:41	40.91263	-105.247	791.37	1324	1456.311	0.059	0.100
2022/06/10 13:10:41	40.91388	-105.246	791.025	1382	1516.074	0.047	0.080
2022/06/10 13:11:41	40.91387	-105.246	790.99	1345	1475.087	0.055	0.094
2022/06/10 13:12:41	40.91389	-105.246	791.04	1273	1396.661	0.073	0.124
2022/06/10 13:13:41	40.91396	-105.246	790.855	1383	1515.187	0.047	0.080
2022/06/10 13:14:41	40.91522	-105.244	789.36	1440	1559.578	0.039	0.067
2022/06/10 13:15:41	40.91692	-105.243	787.75	1410	1508.272	0.048	0.082
2022/06/10 13:16:41	40.91709	-105.242	787.77	1435	1535.251	0.043	0.074
2022/06/10 13:17:41	40.91739	-105.241	787.715	1457	1558.128	0.040	0.067
2022/06/10 13:18:41	40.91823	-105.24	787.335	1446	1541.846	0.042	0.072
2022/06/10 13:19:41	40.91912	-105.237	786.59	1398	1482.138	0.054	0.091

2022/06/10 13:20:41	40.92034	-105.234	785.92	1413	1490.332	0.052	0.088
2022/06/10 13:21:41	40.92245	-105.234	785.65	1481	1558.81	0.039	0.067
2022/06/10 13:22:41	40.92498	-105.235	785.33	1429	1500.376	0.050	0.085
2022/06/10 13:23:41	40.92725	-105.235	784.77	1479	1546.192	0.042	0.071
2022/06/10 13:24:41	40.9288	-105.238	783.96	1314	1365.155	0.081	0.138
2022/06/10 13:25:41	40.93047	-105.24	783.91	1397	1450.827	0.060	0.102
2022/06/10 13:26:41	40.93227	-105.241	783.755	1429	1482.29	0.054	0.091
2022/06/10 13:27:41	40.93437	-105.241	782.81	1368	1408.728	0.070	0.119
2022/06/10 13:28:41	40.93674	-105.242	782.015	1445	1478.939	0.054	0.092
2022/06/10 13:29:41	40.93793	-105.245	780.94	1402	1423.1	0.066	0.113
2022/06/10 13:30:41	40.94017	-105.246	780.88	1424	1444.764	0.061	0.105
2022/06/10 13:31:41	40.94223	-105.244	781.175	1498	1523.299	0.046	0.078
2022/06/10 13:32:41	40.94386	-105.242	781.79	1459	1490.683	0.052	0.088
2022/06/10 13:33:41	40.94528	-105.24	781.455	1451	1478.69	0.054	0.092
2022/06/10 13:34:41	40.94636	-105.238	782.875	1424	1467.129	0.057	0.096
2022/06/10 13:35:41	40.94665	-105.237	782.93	1479	1524.44	0.045	0.077
2022/06/10 13:36:41	40.94796	-105.235	783.635	1462	1515.12	0.047	0.080
2022/06/10 13:37:41	40.94839	-105.234	783.785	1399	1451.507	0.060	0.102
2022/06/10 13:38:41	40.94824	-105.233	784.26	1486	1547.421	0.041	0.070
2022/06/10 13:39:41	40.94824	-105.233	784.26	1496	1557.835	0.040	0.067
2022/06/10 13:40:41	40.94824	-105.233	784.17	1518	1579.649	0.036	0.061
2022/06/10 13:41:41	40.94813	-105.232	784.53	1455	1518.293	0.047	0.079
2022/06/10 13:42:41	40.94783	-105.229	786.46	1361	1441.468	0.062	0.106
2022/06/10 13:43:41	40.94715	-105.227	786.065	1337	1411.748	0.069	0.117
2022/06/10 13:44:41	40.94662	-105.225	784.895	1412	1477.57	0.055	0.093
2022/06/10 13:45:41	40.94662	-105.225	784.895	1407	1472.338	0.056	0.094
2022/06/10 13:46:41	40.94662	-105.225	784.9	1344	1406.466	0.070	0.120
2022/06/10 13:47:41	40.94524	-105.224	784.63	1402	1464.115	0.057	0.097
2022/06/10 13:48:41	40.94304	-105.224	786.47	1448	1533.729	0.044	0.074
2022/06/10 13:49:41	40.94171	-105.223	785.78	1452	1529.817	0.044	0.076
2022/06/10 13:50:41	40.94185	-105.226	784.01	1460	1517.423	0.047	0.079
2022/06/10 13:51:41	40.94022	-105.229	783.335	1415	1463.029	0.058	0.098
2022/06/10 13:52:41	40.94038	-105.233	782.34	1467	1505.218	0.049	0.083
2022/06/10 13:53:41	40.94083	-105.237	781.77	1450	1481.259	0.054	0.091
2022/06/10 13:54:41	40.94155	-105.24	781.465	1482	1510.398	0.048	0.082
2022/06/10 13:55:41	40.94213	-105.244	780.89	1513	1535.18	0.043	0.074
2022/06/10 13:56:41	40.94372	-105.242	781.695	1461	1491.635	0.052	0.088
2022/06/10 13:57:41	40.94511	-105.24	781.42	1423	1449.765	0.060	0.103
2022/06/10 13:58:41	40.94595	-105.239	782.105	1518	1554.73	0.040	0.068
2022/06/10 13:59:41	40.94595	-105.239	782.125	1314	1346.002	0.086	0.147
2022/06/10 14:00:41	40.94595	-105.239	782.095	1346	1378.462	0.077	0.132
2022/06/10 14:01:41	40.94595	-105.239	782.115	1284	1315.17	0.096	0.163
2022/06/10 14:02:41	40.94595	-105.239	782.12	1348	1380.776	0.077	0.131
2022/06/10 14:03:41	40.94595	-105.239	782.025	1384	1416.615	0.068	0.115
2022/06/10 14:04:41	40.94595	-105.239	782.1	1432	1466.593	0.057	0.097

2022/06/10 14:05:41	40.94595	-105.239	782.07	1410	1443.728	0.062	0.105
2022/06/10 14:06:41	40.94595	-105.239	781.93	1340	1370.575	0.080	0.135
2022/06/10 14:07:41	40.94595	-105.239	781.895	1376	1407.018	0.070	0.119
2022/06/10 14:08:41	40.94595	-105.239	781.92	1347	1377.629	0.078	0.132
2022/06/10 14:09:41	40.94595	-105.239	782.005	1311	1341.688	0.088	0.149
2022/06/10 14:10:41	40.94595	-105.239	781.995	1384	1416.288	0.068	0.116
2022/06/10 14:11:41	40.94595	-105.239	782	1404	1436.81	0.063	0.108
2022/06/10 14:12:41	40.94595	-105.239	781.945	1386	1417.789	0.068	0.115
2022/06/10 14:13:41	40.94595	-105.239	782.015	1435	1468.704	0.056	0.096
2022/06/10 14:14:41	40.94595	-105.239	781.995	1369	1400.938	0.072	0.122
2022/06/10 14:15:41	40.94595	-105.239	781.845	1326	1355.369	0.084	0.142
2022/06/10 14:16:41	40.94595	-105.239	781.84	1359	1389.046	0.075	0.127
2022/06/10 14:17:41	40.94595	-105.239	781.855	1459	1491.429	0.052	0.088
2022/06/10 14:18:41	40.94595	-105.239	781.915	1390	1421.552	0.067	0.114
2022/06/10 14:19:41	40.94595	-105.239	781.88	1374	1404.81	0.071	0.120
2022/06/10 14:20:41	40.94595	-105.239	781.995	1335	1366.145	0.081	0.137
2022/06/10 14:21:41	40.94595	-105.239	782.005	1361	1392.859	0.074	0.125
2022/06/10 14:22:41	40.94595	-105.239	782.005	1396	1428.678	0.065	0.111
2022/06/10 14:23:41	40.94595	-105.239	781.995	1428	1461.314	0.058	0.098
2022/06/10 14:24:41	40.94595	-105.239	782.005	1423	1456.31	0.059	0.100
2022/06/10 14:25:41	40.94595	-105.239	782.04	1430	1463.868	0.057	0.097
2022/06/10 14:26:41	40.94595	-105.239	782.035	1338	1369.637	0.080	0.136
2022/06/10 14:27:41	40.94595	-105.239	781.88	1425	1456.954	0.059	0.100
2022/06/10 14:28:41	40.94595	-105.239	781.88	1350	1380.272	0.077	0.131
2022/06/10 14:29:41	40.94595	-105.239	781.87	1428	1459.909	0.058	0.099
2022/06/10 14:30:41	40.94595	-105.239	781.9	1447	1479.675	0.054	0.092
2022/06/10 14:31:41	40.94595	-105.239	781.955	1427	1459.841	0.058	0.099
2022/06/10 14:32:41	40.94595	-105.239	781.94	1427	1459.673	0.058	0.099

Table C-4: Rover data 06/15/2022.

Date Time(MST)	Lat	Long	P (mb)	N <sub>sum</sub>	N	$\theta_G$ (avg)	$\theta_V$
2022/06/15 08:11:59			776.76	368	361.7072	-0.607	-1.032
2022/06/15 08:13:05	40.95161	-105.25	776.825	1854	1823.209	0.005	0.008
2022/06/15 08:14:05	40.95139	-105.248	777.17	1652	1628.885	0.028	0.048
2022/06/15 08:15:05	40.95109	-105.245	777.855	1672	1657.324	0.024	0.041
2022/06/15 08:16:05	40.95104	-105.242	779.345	1626	1630.325	0.028	0.048
2022/06/15 08:17:05	40.951	-105.242	779.445	1522	1527.224	0.045	0.076
2022/06/15 08:18:05	40.951	-105.242	779.455	1636	1641.742	0.027	0.045
2022/06/15 08:19:05	40.951	-105.242	779.46	1652	1657.862	0.024	0.041
2022/06/15 08:20:05	40.951	-105.242	779.39	1566	1570.71	0.037	0.064
2022/06/15 08:21:05	40.951	-105.242	779.37	1693	1697.83	0.019	0.032
2022/06/15 08:22:05	40.951	-105.242	779.415	1651	1656.284	0.024	0.042
2022/06/15 08:23:05	40.951	-105.242	779.385	1644	1648.881	0.026	0.043
2022/06/15 08:24:05	40.951	-105.242	779.415	1633	1638.227	0.027	0.046
2022/06/15 08:25:05	40.951	-105.242	779.395	1608	1612.898	0.031	0.052
2022/06/15 08:26:05	40.951	-105.242	779.35	1700	1704.588	0.018	0.031
2022/06/15 08:27:05	40.951	-105.242	779.4	1526	1530.707	0.044	0.075
2022/06/15 08:28:05	40.951	-105.242	779.345	1626	1630.325	0.028	0.048
2022/06/15 08:29:05	40.951	-105.242	779.34	1690	1694.43	0.019	0.033
2022/06/15 08:30:05	40.951	-105.242	779.34	1677	1681.396	0.021	0.036
2022/06/15 08:31:05	40.951	-105.242	779.35	1624	1628.383	0.028	0.048
2022/06/15 08:32:05	40.951	-105.242	779.345	1625	1629.323	0.028	0.048
2022/06/15 08:33:05	40.951	-105.242	779.355	1626	1630.451	0.028	0.048
2022/06/15 08:34:05	40.951	-105.242	779.345	1656	1660.405	0.024	0.041
2022/06/15 08:35:05	40.951	-105.242	779.42	1671	1676.413	0.022	0.037
2022/06/15 08:36:05	40.951	-105.242	779.385	1637	1641.86	0.026	0.045
2022/06/15 08:37:05	40.951	-105.242	779.44	1600	1605.43	0.032	0.054
2022/06/15 08:38:05	40.951	-105.242	779.45	1639	1644.689	0.026	0.044
2022/06/15 08:39:05	40.951	-105.242	779.515	1667	1673.624	0.022	0.038
2022/06/15 08:40:05	40.951	-105.242	779.465	1608	1613.768	0.031	0.052
2022/06/15 08:41:05	40.951	-105.242	779.525	1652	1658.692	0.024	0.041
2022/06/15 08:42:05	40.951	-105.242	779.52	1584	1590.355	0.034	0.058
2022/06/15 08:43:05	40.951	-105.242	779.535	1594	1600.58	0.033	0.055
2022/06/15 08:44:05	40.951	-105.242	779.545	1588	1594.678	0.034	0.057
2022/06/15 08:45:05	40.951	-105.242	779.565	1597	1603.963	0.032	0.055
2022/06/15 08:46:05	40.951	-105.242	779.57	1622	1629.135	0.028	0.048
2022/06/15 08:47:05	40.951	-105.242	779.64	1689	1697.344	0.019	0.032
2022/06/15 08:48:05	40.951	-105.242	779.64	1679	1687.295	0.020	0.035
2022/06/15 08:49:05	40.951	-105.242	779.65	1597	1605.013	0.032	0.054
2022/06/15 08:50:05	40.951	-105.242	779.65	1653	1661.294	0.024	0.040
2022/06/15 08:51:05	40.951	-105.242	779.65	1600	1608.028	0.031	0.054
2022/06/15 08:52:05	40.951	-105.242	779.685	1625	1633.594	0.028	0.047
2022/06/15 08:53:05	40.951	-105.242	779.615	1673	1680.941	0.021	0.036

2022/06/15 08:54:05	40.951	-105.242	779.555	1626	1632.964	0.028	0.047
2022/06/15 08:55:05	40.95102	-105.242	779.56	1632	1639.052	0.027	0.046
2022/06/15 08:56:05	40.95194	-105.24	780.935	1592	1615.898	0.030	0.051
2022/06/15 08:57:05	40.95272	-105.237	783.185	1657	1711.266	0.017	0.029
2022/06/15 08:58:05	40.95492	-105.236	784.75	1540	1609.715	0.031	0.053
2022/06/15 08:59:05	40.95675	-105.235	784.915	1442	1509.195	0.048	0.082
2022/06/15 09:00:05	40.95791	-105.234	785.225	1423	1492.869	0.051	0.087
2022/06/15 09:01:05	40.95813	-105.237	784.81	1422	1487.06	0.053	0.089
2022/06/15 09:02:05	40.9585	-105.238	784.815	1615	1688.956	0.020	0.034
2022/06/15 09:03:05	40.9585	-105.238	784.775	1560	1630.935	0.028	0.048
2022/06/15 09:04:05	40.9585	-105.238	784.85	1573	1645.476	0.026	0.044
2022/06/15 09:05:05	40.9585	-105.238	784.835	1637	1712.227	0.017	0.029
2022/06/15 09:06:05	40.95816	-105.237	784.84	1525	1595.141	0.033	0.057
2022/06/15 09:07:05	40.95784	-105.234	785.07	1469	1539.289	0.043	0.073
2022/06/15 09:08:05	40.95663	-105.235	785.2	1434	1504.12	0.049	0.084
2022/06/15 09:09:05	40.95749	-105.233	786.195	1472	1555.852	0.040	0.068
2022/06/15 09:10:05	40.95766	-105.23	786.46	1394	1476.419	0.055	0.093
2022/06/15 09:11:05	40.95763	-105.227	787.11	1418	1509.373	0.048	0.082
2022/06/15 09:12:05	40.95773	-105.226	787.44	1219	1300.851	0.100	0.171
2022/06/15 09:13:05	40.95715	-105.224	787.725	1155	1235.262	0.124	0.211
2022/06/15 09:14:05	40.95562	-105.223	788.11	1368	1467.407	0.057	0.096
2022/06/15 09:15:05	40.95507	-105.22	788.415	1334	1434.301	0.064	0.109
2022/06/15 09:16:05	40.95348	-105.22	786.46	1507	1596.1	0.033	0.057
2022/06/15 09:17:05	40.95183	-105.22	786.875	1515	1609.708	0.031	0.053
2022/06/15 09:18:05	40.95063	-105.222	786.33	1408	1489.754	0.052	0.088
2022/06/15 09:19:05	40.95033	-105.225	785.295	1530	1605.988	0.032	0.054
2022/06/15 09:20:05	40.95059	-105.227	783.255	1546	1597.491	0.033	0.056
2022/06/15 09:21:05	40.95111	-105.229	781.885	1597	1632.874	0.028	0.047
2022/06/15 09:22:05	40.95071	-105.231	781.865	1596	1631.6	0.028	0.048
2022/06/15 09:23:05	40.94927	-105.233	781.545	1590	1621.466	0.029	0.050
2022/06/15 09:24:05	40.94875	-105.234	781.285	1642	1671.146	0.022	0.038
2022/06/15 09:25:05	40.9487	-105.234	781.22	1605	1632.672	0.028	0.047
2022/06/15 09:26:05	40.94826	-105.233	781.45	1383	1409.338	0.070	0.118
2022/06/15 09:27:05	40.94771	-105.23	783.405	1781	1842.445	0.003	0.005
2022/06/15 09:28:05	40.94777	-105.228	783.75	1473	1527.872	0.045	0.076
2022/06/15 09:29:05	40.94691	-105.226	782.78	1489	1532.976	0.044	0.075
2022/06/15 09:30:05	40.94752	-105.223	783.125	1436	1482.343	0.054	0.091
2022/06/15 09:31:05	40.94708	-105.22	783.065	1406	1450.704	0.060	0.102
2022/06/15 09:32:05	40.94678	-105.218	784.085	1564	1626.452	0.029	0.049
2022/06/15 09:33:05	40.9471	-105.216	786.905	1549	1646.214	0.026	0.044
2022/06/15 09:34:05	40.94704	-105.215	788.325	1541	1655.717	0.025	0.042
2022/06/15 09:35:05	40.94704	-105.215	788.345	1563	1679.613	0.021	0.036
2022/06/15 09:36:05	40.94719	-105.215	787.97	1566	1677.985	0.022	0.037
2022/06/15 09:37:05	40.94699	-105.217	785.385	1482	1556.683	0.040	0.068
2022/06/15 09:38:05	40.94685	-105.219	783.59	1603	1660.668	0.024	0.041

2022/06/15 09:39:05	40.94711	-105.222	783.245	1484	1533.308	0.044	0.075
2022/06/15 09:40:05	40.94711	-105.224	782.565	1487	1528.384	0.045	0.076
2022/06/15 09:41:05	40.94545	-105.224	781.7	1562	1594.814	0.034	0.057
2022/06/15 09:42:05	40.94378	-105.224	783.4	1583	1637.551	0.027	0.046
2022/06/15 09:43:05	40.94243	-105.222	783.875	1611	1672.622	0.022	0.038
2022/06/15 09:44:05	40.94177	-105.224	782.55	1574	1617.619	0.030	0.051
2022/06/15 09:45:05	40.9416	-105.227	781.135	1696	1724.112	0.016	0.027
2022/06/15 09:46:05	40.9414	-105.227	781.295	1642	1671.275	0.022	0.038
2022/06/15 09:47:05	40.9414	-105.227	781.24	1653	1681.758	0.021	0.036
2022/06/15 09:48:05	40.9414	-105.227	781.25	1555	1582.175	0.036	0.060
2022/06/15 09:49:05	40.9414	-105.227	781.28	1598	1626.302	0.029	0.049
2022/06/15 09:50:05	40.9414	-105.227	781.275	1643	1672.035	0.022	0.038
2022/06/15 09:51:05	40.94141	-105.227	781.245	1586	1613.655	0.031	0.052
2022/06/15 09:52:05	40.94141	-105.227	781.325	1596	1624.83	0.029	0.049
2022/06/15 09:53:05	40.94141	-105.227	781.32	1601	1629.857	0.028	0.048
2022/06/15 09:54:05	40.94141	-105.227	781.25	1641	1669.678	0.023	0.038
2022/06/15 09:55:05	40.94141	-105.227	781.3	1597	1625.535	0.029	0.049
2022/06/15 09:56:05	40.94141	-105.227	781.25	1633	1661.538	0.024	0.040
2022/06/15 09:57:05	40.94141	-105.227	781.31	1651	1680.629	0.021	0.036
2022/06/15 09:58:05	40.94141	-105.227	781.31	1596	1624.642	0.029	0.049
2022/06/15 09:59:05	40.94141	-105.227	781.345	1628	1657.663	0.024	0.041
2022/06/15 10:00:05	40.94141	-105.227	781.355	1608	1637.425	0.027	0.046
2022/06/15 10:01:05	40.94141	-105.227	781.32	1600	1628.839	0.028	0.048
2022/06/15 10:02:05	40.94141	-105.227	781.405	1635	1665.56	0.023	0.039
2022/06/15 10:03:05	40.94141	-105.227	781.38	1578	1607.185	0.032	0.054
2022/06/15 10:04:05	40.94141	-105.227	781.435	1620	1650.661	0.025	0.043
2022/06/15 10:05:05	40.94141	-105.227	781.35	1564	1592.558	0.034	0.058
2022/06/15 10:06:05	40.94141	-105.227	781.385	1665	1695.859	0.019	0.033
2022/06/15 10:07:05	40.94141	-105.227	781.4	1520	1548.351	0.041	0.070
2022/06/15 10:08:05	40.94141	-105.227	781.345	1600	1629.153	0.028	0.048
2022/06/15 10:09:05	40.94141	-105.227	781.425	1649	1680.08	0.021	0.036
2022/06/15 10:10:05	40.94141	-105.227	781.42	1608	1638.244	0.027	0.046
2022/06/15 10:11:05	40.94141	-105.227	781.41	1666	1697.205	0.019	0.032
2022/06/15 10:12:05	40.94141	-105.227	781.425	1741	1773.814	0.010	0.017
2022/06/15 10:13:05	40.94141	-105.227	781.405	1681	1712.42	0.017	0.029
2022/06/15 10:14:05	40.94141	-105.227	781.35	1638	1667.909	0.023	0.039
2022/06/15 10:15:05	40.94141	-105.227	781.335	1601	1630.046	0.028	0.048
2022/06/15 10:16:05	40.94141	-105.227	781.34	1666	1696.29	0.019	0.033
2022/06/15 10:17:05	40.94093	-105.228	781.31	1580	1608.355	0.031	0.053
2022/06/15 10:18:05	40.94041	-105.232	780.105	1591	1604.595	0.032	0.054
2022/06/15 10:19:05	40.94069	-105.236	779.385	1559	1563.629	0.039	0.066
2022/06/15 10:20:05	40.94151	-105.24	778.74	1661	1657.678	0.024	0.041
2022/06/15 10:21:05	40.94206	-105.243	778.365	1661	1652.898	0.025	0.042
2022/06/15 10:22:05	40.9432	-105.247	778.21	1638	1628.066	0.028	0.048
2022/06/15 10:23:05	40.94559	-105.249	777.96	1702	1688.425	0.020	0.034

2022/06/15 10:24:05	40.94672	-105.25	778.11	1672	1660.581	0.024	0.041
2022/06/15 10:25:05	40.94672	-105.25	778.165	1680	1669.233	0.023	0.039
2022/06/15 10:26:05	40.94633	-105.25	778.49	1722	1715.251	0.017	0.029
2022/06/15 10:27:05	40.94399	-105.248	778.285	1666	1656.853	0.024	0.041
2022/06/15 10:28:05	40.9423	-105.245	778.485	1646	1639.486	0.027	0.046
2022/06/15 10:29:05	40.94055	-105.245	778.195	1591	1581.169	0.036	0.061
2022/06/15 10:30:05	40.938	-105.246	778.23	1593	1583.583	0.035	0.060
2022/06/15 10:31:05	40.93572	-105.248	780.25	1544	1558.933	0.039	0.067
2022/06/15 10:32:05	40.93318	-105.248	780.715	1511	1531.086	0.044	0.075
2022/06/15 10:33:05	40.93171	-105.25	781.295	1600	1628.526	0.028	0.048
2022/06/15 10:34:05	40.93124	-105.251	781.5	1580	1610.71	0.031	0.053
2022/06/15 10:35:05	40.93109	-105.251	781.555	1550	1580.796	0.036	0.061
2022/06/15 10:36:05	40.93052	-105.254	781.61	1675	1709.003	0.018	0.030
2022/06/15 10:37:05	40.92888	-105.256	783.29	1684	1740.557	0.014	0.023
2022/06/15 10:38:05	40.92971	-105.258	784.685	1663	1737.414	0.014	0.024
2022/06/15 10:39:05	40.93011	-105.26	786.42	1581	1673.959	0.022	0.038
2022/06/15 10:40:05	40.93011	-105.26	786.41	1630	1725.707	0.015	0.026
2022/06/15 10:41:05	40.93012	-105.26	786.345	1608	1701.564	0.018	0.031
2022/06/15 10:42:05	40.93012	-105.26	786.41	1585	1678.065	0.022	0.037
2022/06/15 10:43:05	40.9301	-105.259	785.33	1562	1640.019	0.027	0.045
2022/06/15 10:44:05	40.92908	-105.257	783.785	1586	1645.525	0.026	0.044
2022/06/15 10:45:05	40.92773	-105.257	784.425	1712	1785.029	0.009	0.015
2022/06/15 10:46:05	40.92612	-105.259	786.445	1556	1647.806	0.026	0.044
2022/06/15 10:47:05	40.92361	-105.259	787.595	1584	1692.378	0.020	0.033
2022/06/15 10:48:05	40.92237	-105.259	788.075	1574	1687.921	0.020	0.034
2022/06/15 10:49:05	40.92449	-105.259	787.105	1580	1681.747	0.021	0.036
2022/06/15 10:50:05	40.92646	-105.259	786.28	1621	1714.462	0.017	0.029
2022/06/15 10:51:05	40.92771	-105.258	784.5	1666	1738.07	0.014	0.024
2022/06/15 10:52:05	40.92804	-105.257	784.365	1618	1686.24	0.020	0.035
2022/06/15 10:53:05	40.92804	-105.257	784.235	1558	1622.085	0.029	0.050
2022/06/15 10:54:05	40.92803	-105.257	784.16	1640	1706.472	0.018	0.030
2022/06/15 10:55:05	40.92803	-105.257	784.235	1573	1637.702	0.027	0.046
2022/06/15 10:56:05	40.92803	-105.257	784.325	1631	1699.265	0.019	0.032
2022/06/15 10:57:05	40.92803	-105.257	784.305	1548	1612.543	0.031	0.052
2022/06/15 10:58:05	40.92803	-105.257	784.255	1600	1666.069	0.023	0.039
2022/06/15 10:59:05	40.92803	-105.257	784.185	1605	1670.375	0.023	0.038
2022/06/15 11:00:05	40.92803	-105.257	784.295	1611	1678.04	0.022	0.037
2022/06/15 11:01:05	40.92803	-105.257	784.305	1561	1626.085	0.029	0.049
2022/06/15 11:02:05	40.92802	-105.257	784.28	1609	1675.763	0.022	0.037
2022/06/15 11:03:05	40.92802	-105.257	784.2	1642	1709.08	0.018	0.030
2022/06/15 11:04:05	40.92802	-105.257	784.28	1698	1768.456	0.011	0.018
2022/06/15 11:05:05	40.92802	-105.257	784.305	1622	1689.628	0.020	0.034
2022/06/15 11:06:05	40.92802	-105.257	784.355	1598	1665.268	0.023	0.040
2022/06/15 11:07:05	40.92802	-105.257	784.365	1633	1701.873	0.018	0.031
2022/06/15 11:08:05	40.92802	-105.257	784.39	1641	1710.539	0.017	0.029

2022/06/15 11:09:05	40.92802	-105.257	784.285	1588	1653.956	0.025	0.042
2022/06/15 11:10:05	40.92802	-105.257	784.435	1612	1680.893	0.021	0.036
2022/06/15 11:11:05	40.92802	-105.257	784.42	1619	1687.997	0.020	0.034
2022/06/15 11:12:05	40.92802	-105.257	784.385	1638	1707.347	0.018	0.030
2022/06/15 11:13:05	40.92802	-105.257	784.315	1682	1752.265	0.012	0.021
2022/06/15 11:14:05	40.92802	-105.257	784.46	1611	1680.174	0.021	0.036
2022/06/15 11:15:05	40.92802	-105.257	784.465	1580	1647.906	0.026	0.044
2022/06/15 11:16:05	40.92802	-105.257	784.53	1653	1724.906	0.016	0.026
2022/06/15 11:17:05	40.92802	-105.257	784.495	1593	1661.848	0.024	0.040
2022/06/15 11:18:05	40.92824	-105.257	784.285	1621	1688.326	0.020	0.034
2022/06/15 11:19:05	40.9278	-105.255	784.05	1667	1733.098	0.015	0.025
2022/06/15 11:20:05	40.92628	-105.252	784.51	1614	1683.951	0.021	0.035
2022/06/15 11:21:05	40.92558	-105.251	784.865	1581	1654.035	0.025	0.042
2022/06/15 11:22:05	40.92557	-105.25	784.825	1572	1644.113	0.026	0.044
2022/06/15 11:23:05	40.92468	-105.249	783.65	1630	1689.42	0.020	0.034
2022/06/15 11:24:05	40.92304	-105.246	785.055	1523	1595.689	0.033	0.057
2022/06/15 11:25:05	40.92251	-105.243	785.91	1555	1639.978	0.027	0.045
2022/06/15 11:26:05	40.92292	-105.24	785.64	1524	1603.945	0.032	0.055
2022/06/15 11:27:05	40.92054	-105.239	785.035	1496	1567.159	0.038	0.065
2022/06/15 11:28:05	40.91836	-105.238	784.62	1474	1539.186	0.043	0.073
2022/06/15 11:29:05	40.91827	-105.234	784.39	1469	1531.251	0.044	0.075
2022/06/15 11:30:05	40.91721	-105.231	783.46	1459	1509.975	0.048	0.082
2022/06/15 11:31:05	40.91489	-105.23	783.495	1574	1629.432	0.028	0.048
2022/06/15 11:32:05	40.91259	-105.23	784.59	1569	1638.009	0.027	0.046
2022/06/15 11:33:05	40.91019	-105.229	785.195	1542	1617.338	0.030	0.051
2022/06/15 11:34:05	40.90808	-105.227	786.215	1498	1583.577	0.035	0.060
2022/06/15 11:35:05	40.90674	-105.224	787.845	1525	1632.481	0.028	0.047
2022/06/15 11:36:05	40.90642	-105.221	788.955	1442	1556.881	0.040	0.068
2022/06/15 11:37:05	40.90444	-105.22	788.585	1332	1434.026	0.064	0.109
2022/06/15 11:38:05	40.90472	-105.218	787.38	1399	1492.248	0.052	0.088
2022/06/15 11:39:05	40.90472	-105.218	787.28	1385	1476.178	0.055	0.093
2022/06/15 11:40:05	40.90472	-105.218	787.25	1391	1482.23	0.054	0.091
2022/06/15 11:41:05	40.90519	-105.221	789	1433	1547.7	0.041	0.070
2022/06/15 11:42:05	40.90671	-105.223	788.205	1466	1573.679	0.037	0.063
2022/06/15 11:43:05	40.90714	-105.226	786.495	1479	1566.866	0.038	0.065
2022/06/15 11:44:05	40.90764	-105.226	786.175	1631	1723.644	0.016	0.027
2022/06/15 11:45:05	40.90944	-105.228	785.155	1493	1565.462	0.038	0.065
2022/06/15 11:46:05	40.90943	-105.228	785.115	1558	1633.114	0.028	0.047
2022/06/15 11:47:05	40.90943	-105.228	785.125	1579	1655.254	0.025	0.042
2022/06/15 11:48:05	40.90943	-105.228	785.125	1573	1648.964	0.025	0.043
2022/06/15 11:49:05	40.90943	-105.228	785.105	1624	1702.165	0.018	0.031
2022/06/15 11:50:05	40.90943	-105.228	785.145	1570	1646.072	0.026	0.044
2022/06/15 11:51:05	40.90943	-105.228	785.095	1596	1672.688	0.022	0.038
2022/06/15 11:52:05	40.90943	-105.228	785.14	1565	1640.767	0.027	0.045
2022/06/15 11:53:05	40.90943	-105.228	785.135	1525	1598.769	0.033	0.056

2022/06/15 11:54:05	40.90943	-105.228	785.185	1557	1632.945	0.028	0.047
2022/06/15 11:55:05	40.90943	-105.228	785.19	1597	1674.961	0.022	0.037
2022/06/15 11:56:05	40.90943	-105.228	785.175	1587	1664.281	0.023	0.040
2022/06/15 11:57:05	40.90943	-105.228	785.125	1654	1733.876	0.015	0.025
2022/06/15 11:58:05	40.90942	-105.228	785.185	1552	1627.702	0.029	0.049
2022/06/15 11:59:05	40.90942	-105.228	785.26	1551	1627.592	0.029	0.049
2022/06/15 12:00:05	40.90942	-105.228	785.225	1632	1712.131	0.017	0.029
2022/06/15 12:01:05	40.90942	-105.228	785.21	1589	1666.827	0.023	0.039
2022/06/15 12:02:05	40.90942	-105.228	785.165	1580	1656.812	0.024	0.041
2022/06/15 12:03:05	40.90942	-105.228	785.215	1600	1678.43	0.021	0.037
2022/06/15 12:04:05	40.90942	-105.228	785.225	1651	1732.064	0.015	0.025
2022/06/15 12:05:05	40.90942	-105.228	785.16	1664	1744.829	0.013	0.022
2022/06/15 12:06:05	40.90942	-105.228	785.165	1470	1541.464	0.042	0.072
2022/06/15 12:07:05	40.90942	-105.228	785.14	1631	1709.962	0.017	0.030
2022/06/15 12:08:05	40.90942	-105.228	785.1	1560	1635.021	0.027	0.047
2022/06/15 12:09:05	40.90942	-105.228	785.11	1557	1632.003	0.028	0.047
2022/06/15 12:10:05	40.90942	-105.228	785.08	1550	1624.29	0.029	0.049
2022/06/15 12:11:05	40.90942	-105.228	785.125	1578	1654.205	0.025	0.042
2022/06/15 12:12:05	40.90942	-105.228	785.09	1624	1701.968	0.018	0.031
2022/06/15 12:13:05	40.90942	-105.228	785.14	1652	1731.979	0.015	0.025
2022/06/15 12:14:05	40.90942	-105.228	785.245	1574	1651.537	0.025	0.043
2022/06/15 12:15:05	40.90942	-105.228	785.24	1687	1770.036	0.010	0.018
2022/06/15 12:16:05	40.90942	-105.228	785.15	1544	1618.875	0.030	0.051
2022/06/15 12:17:05	40.90942	-105.228	785.185	1618	1696.921	0.019	0.032
2022/06/15 12:18:05	40.90942	-105.228	785.16	1542	1616.902	0.030	0.051
2022/06/15 12:19:05	40.90941	-105.228	785.295	1578	1656.372	0.024	0.042
2022/06/15 12:20:05	40.90941	-105.228	785.275	1573	1650.87	0.025	0.043
2022/06/15 12:21:05	40.90964	-105.228	785.18	1631	1710.489	0.017	0.030
2022/06/15 12:22:05	40.91153	-105.229	785.23	1516	1590.497	0.034	0.058
2022/06/15 12:23:05	40.91415	-105.23	783.9	1576	1636.598	0.027	0.046
2022/06/15 12:24:05	40.91627	-105.231	783.45	1566	1620.589	0.030	0.050
2022/06/15 12:25:05	40.9181	-105.233	784.135	1580	1643.724	0.026	0.045
2022/06/15 12:26:05	40.91856	-105.236	784.41	1480	1542.955	0.042	0.072
2022/06/15 12:27:05	40.91817	-105.24	785.23	1506	1580.005	0.036	0.061
2022/06/15 12:28:05	40.91708	-105.242	785.58	1477	1553.762	0.040	0.068
2022/06/15 12:29:05	40.91704	-105.242	785.695	1512	1591.99	0.034	0.058
2022/06/15 12:30:05	40.91549	-105.243	786.945	1575	1674.361	0.022	0.037
2022/06/15 12:31:05	40.91344	-105.245	788.325	1536	1650.345	0.025	0.043
2022/06/15 12:32:05	40.91131	-105.247	790.095	1492	1625.067	0.029	0.049
2022/06/15 12:33:05	40.90928	-105.249	791.51	1509	1661.589	0.024	0.040
2022/06/15 12:34:05	40.90692	-105.25	792.645	1576	1750.596	0.013	0.021
2022/06/15 12:35:05	40.90486	-105.25	795.005	1495	1691.075	0.020	0.034
2022/06/15 12:36:05	40.90415	-105.247	795.98	1335	1521.47	0.046	0.078
2022/06/15 12:37:05	40.90438	-105.249	795.43	1339	1519.58	0.046	0.079
2022/06/15 12:38:05	40.90472	-105.25	794.945	1418	1603.236	0.032	0.055

2022/06/15 12:39:05	40.90477	-105.25	794.93	1364	1542.004	0.042	0.072
2022/06/15 12:40:05	40.90525	-105.251	794.18	1401	1574.712	0.037	0.062
2022/06/15 12:41:05	40.90535	-105.252	794.14	1452	1631.533	0.028	0.048
2022/06/15 12:42:05	40.90535	-105.252	794.035	1442	1618.987	0.030	0.051
2022/06/15 12:43:05	40.90535	-105.252	794	1498	1681.407	0.021	0.036
2022/06/15 12:44:05	40.90535	-105.252	794.04	1452	1630.277	0.028	0.048
2022/06/15 12:45:05	40.90535	-105.252	793.985	1366	1533.068	0.044	0.075
2022/06/15 12:46:05	40.90535	-105.252	794.045	1473	1653.919	0.025	0.042
2022/06/15 12:47:05	40.90534	-105.252	794.065	1485	1667.65	0.023	0.039
2022/06/15 12:48:05	40.90534	-105.252	794.06	1488	1670.954	0.022	0.038
2022/06/15 12:49:05	40.90534	-105.252	794.05	1408	1580.996	0.036	0.061
2022/06/15 12:50:05	40.90534	-105.252	793.965	1465	1643.923	0.026	0.045
2022/06/15 12:51:05	40.90534	-105.252	794.06	1438	1614.807	0.030	0.052
2022/06/15 12:52:05	40.90534	-105.252	794.03	1397	1568.403	0.038	0.064
2022/06/15 12:53:05	40.90534	-105.252	794.06	1428	1603.577	0.032	0.055
2022/06/15 12:54:05	40.90534	-105.252	794.02	1419	1592.98	0.034	0.057
2022/06/15 12:55:05	40.90534	-105.252	794.03	1475	1655.973	0.025	0.042
2022/06/15 12:56:05	40.90534	-105.252	794.115	1410	1584.035	0.035	0.060
2022/06/15 12:57:05	40.90534	-105.252	794.02	1421	1595.225	0.033	0.057
2022/06/15 12:58:05	40.90534	-105.252	794.05	1410	1583.242	0.035	0.060
2022/06/15 12:59:05	40.90534	-105.252	794.05	1426	1601.208	0.033	0.055
2022/06/15 13:00:05	40.90534	-105.252	794.065	1471	1651.928	0.025	0.043
2022/06/15 13:01:05	40.90534	-105.252	794.025	1450	1627.843	0.029	0.048
2022/06/15 13:02:05	40.90534	-105.252	793.94	1433	1607.706	0.032	0.054
2022/06/15 13:03:05	40.90534	-105.252	793.97	1448	1624.91	0.029	0.049
2022/06/15 13:04:05	40.90534	-105.252	794.035	1435	1611.128	0.031	0.053
2022/06/15 13:05:05	40.90534	-105.252	794.04	1457	1635.891	0.027	0.046
2022/06/15 13:06:05	40.90534	-105.252	794.035	1485	1667.265	0.023	0.039
2022/06/15 13:07:05	40.90534	-105.252	794.06	1385	1555.29	0.040	0.068
2022/06/15 13:08:05	40.90534	-105.252	793.96	1401	1572.046	0.037	0.063
2022/06/15 13:09:05	40.90534	-105.252	793.95	1434	1608.952	0.031	0.053
2022/06/15 13:10:05	40.90534	-105.252	793.945	1474	1653.768	0.025	0.042
2022/06/15 13:11:05	40.90534	-105.252	793.955	1461	1639.309	0.027	0.046
2022/06/15 13:12:05	40.90534	-105.252	793.955	1457	1634.821	0.028	0.047
2022/06/15 13:13:05	40.90534	-105.252	793.93	1406	1577.293	0.036	0.062
2022/06/15 13:14:05	40.90543	-105.252	793.885	1484	1664.219	0.023	0.040
2022/06/15 13:15:05	40.90613	-105.254	794.15	1382	1552.997	0.040	0.069
2022/06/15 13:16:05	40.90746	-105.255	795.725	1344	1528.723	0.045	0.076
2022/06/15 13:17:05	40.90722	-105.255	795.56	1470	1669.918	0.023	0.038
2022/06/15 13:18:05	40.90666	-105.254	793.79	1410	1580.076	0.036	0.061
2022/06/15 13:19:05	40.90845	-105.252	792.555	1427	1583.991	0.035	0.060
2022/06/15 13:20:05	40.91033	-105.25	791.07	1404	1540.742	0.043	0.072
2022/06/15 13:21:05	40.91196	-105.248	789.79	1529	1661.46	0.024	0.040
2022/06/15 13:22:05	40.91381	-105.246	788.84	1496	1613.754	0.031	0.052
2022/06/15 13:23:05	40.91389	-105.246	788.84	1482	1598.652	0.033	0.056

2022/06/15 13:24:05	40.91389	-105.246	788.825	1391	1500.315	0.050	0.085
2022/06/15 13:25:05	40.91409	-105.246	788.265	1431	1536.818	0.043	0.073
2022/06/15 13:26:05	40.91566	-105.243	786.495	1489	1577.46	0.036	0.062
2022/06/15 13:27:05	40.91705	-105.242	785.245	1542	1617.961	0.030	0.051
2022/06/15 13:28:05	40.91709	-105.242	785.47	1634	1717.466	0.016	0.028
2022/06/15 13:29:05	40.91773	-105.241	785.345	1631	1712.664	0.017	0.029
2022/06/15 13:30:05	40.91895	-105.238	784.5	1525	1590.971	0.034	0.058
2022/06/15 13:31:05	40.92002	-105.235	783.875	1453	1508.579	0.048	0.082
2022/06/15 13:32:05	40.92196	-105.234	783.375	1581	1635.167	0.027	0.047
2022/06/15 13:33:05	40.92457	-105.235	782.92	1539	1586.161	0.035	0.059
2022/06/15 13:34:05	40.92706	-105.235	782.47	1574	1616.623	0.030	0.051
2022/06/15 13:35:05	40.92875	-105.238	781.755	1615	1649.626	0.025	0.043
2022/06/15 13:36:05	40.93066	-105.24	781.42	1577	1606.661	0.032	0.054
2022/06/15 13:37:05	40.93291	-105.241	781.22	1590	1617.413	0.030	0.051
2022/06/15 13:38:05	40.93514	-105.242	780.13	1613	1627.096	0.029	0.049
2022/06/15 13:39:05	40.93737	-105.243	779.26	1562	1565.13	0.038	0.065
2022/06/15 13:40:05	40.93867	-105.245	778.26	1567	1558.097	0.040	0.067
2022/06/15 13:41:05	40.94131	-105.245	778.66	1588	1583.848	0.035	0.060
2022/06/15 13:42:05	40.94298	-105.243	779.215	1553	1555.573	0.040	0.068
2022/06/15 13:43:05	40.94471	-105.241	779.545	1517	1523.379	0.046	0.078
2022/06/15 13:44:05	40.94596	-105.239	780.095	1535	1547.997	0.041	0.070
2022/06/15 13:45:05	40.94594	-105.239	780.07	1551	1563.831	0.039	0.066
2022/06/15 13:46:05	40.94594	-105.239	780.11	1484	1496.738	0.051	0.086
2022/06/15 13:47:05	40.94594	-105.239	780.09	1475	1487.432	0.053	0.089
2022/06/15 13:48:05	40.94594	-105.239	780.215	1438	1451.516	0.060	0.102
2022/06/15 13:49:05	40.94594	-105.239	780.185	1488	1501.639	0.050	0.085
2022/06/15 13:50:05	40.94594	-105.239	780.155	1438	1450.846	0.060	0.102
2022/06/15 13:51:05	40.94593	-105.239	780.095	1475	1487.489	0.053	0.089
2022/06/15 13:52:05	40.94593	-105.239	780.13	1480	1492.934	0.051	0.087
2022/06/15 13:53:05	40.94593	-105.239	780.105	1543	1556.185	0.040	0.068
2022/06/15 13:54:05	40.94593	-105.239	780.2	1452	1465.479	0.057	0.097
2022/06/15 13:55:05	40.94593	-105.239	780.235	1522	1536.542	0.043	0.074
2022/06/15 13:56:05	40.94594	-105.239	780.195	1427	1440.191	0.062	0.106
2022/06/15 13:57:05	40.94594	-105.239	780.16	1497	1510.431	0.048	0.082
2022/06/15 13:58:05	40.94593	-105.239	780.215	1536	1550.437	0.041	0.069
2022/06/15 13:59:05	40.94593	-105.239	780.145	1398	1410.38	0.069	0.118
2022/06/15 14:00:05	40.94593	-105.239	780.18	1503	1516.718	0.047	0.080
2022/06/15 14:01:05	40.94593	-105.239	780.165	1435	1447.931	0.061	0.103
2022/06/15 14:02:05	40.94593	-105.239	780.125	1481	1493.885	0.051	0.087
2022/06/15 14:03:05	40.94593	-105.239	780.165	1512	1525.624	0.045	0.077
2022/06/15 14:04:05	40.94593	-105.239	780.195	1503	1516.894	0.047	0.080
2022/06/15 14:05:05	40.94593	-105.239	780.125	1521	1534.233	0.044	0.074



Table C-5: Rover data 06/23/2022.

Date Time(UTC)	Lat	Long	P (mb)	N <sub>sum</sub>	N	$\theta_G$ (avg)	$\theta_V$
2022/06/23 08:16:26			781.015	449	456.0208	-0.849	-1.443
2022/06/23 08:17:32	40.9516	-105.25	781.045	1823	1851.933	0.002	0.003
2022/06/23 08:18:32	40.95159	-105.25	781.085	1641	1667.558	0.023	0.039
2022/06/23 08:19:32	40.95159	-105.25	781.095	1551	1576.223	0.036	0.062
2022/06/23 08:20:32	40.95159	-105.25	781.09	1686	1713.352	0.017	0.029
2022/06/23 08:21:32	40.95153	-105.25	781.335	1733	1764.44	0.011	0.019
2022/06/23 08:22:32	40.95127	-105.247	781.685	1729	1765.118	0.011	0.019
2022/06/23 08:23:32	40.95118	-105.244	782.425	1669	1713.601	0.017	0.029
2022/06/23 08:24:32	40.95099	-105.242	783.625	1660	1720.182	0.016	0.027
2022/06/23 08:25:32	40.95099	-105.242	783.625	1679	1739.871	0.014	0.023
2022/06/23 08:26:32	40.95099	-105.242	783.62	1673	1733.587	0.015	0.025
2022/06/23 08:27:32	40.95099	-105.242	783.64	1620	1678.926	0.021	0.036
2022/06/23 08:28:32	40.95099	-105.242	783.625	1609	1667.333	0.023	0.039
2022/06/23 08:29:32	40.95099	-105.242	783.63	1609	1667.397	0.023	0.039
2022/06/23 08:30:32	40.95099	-105.242	783.635	1588	1645.698	0.026	0.044
2022/06/23 08:31:32	40.95099	-105.242	783.59	1620	1678.279	0.021	0.037
2022/06/23 08:32:32	40.95099	-105.242	783.6	1683	1743.68	0.013	0.023
2022/06/23 08:33:32	40.95099	-105.242	783.65	1627	1686.31	0.020	0.035
2022/06/23 08:34:32	40.95099	-105.242	783.635	1629	1688.188	0.020	0.034
2022/06/23 08:35:32	40.95099	-105.242	783.655	1598	1656.317	0.024	0.042
2022/06/23 08:36:32	40.95099	-105.242	783.665	1718	1780.833	0.009	0.016
2022/06/23 08:37:32	40.95099	-105.242	783.645	1699	1760.867	0.011	0.019
2022/06/23 08:38:32	40.951	-105.242	783.665	1635	1694.798	0.019	0.033
2022/06/23 08:39:32	40.951	-105.242	783.65	1563	1619.977	0.030	0.050
2022/06/23 08:40:32	40.951	-105.242	783.71	1610	1669.462	0.023	0.039
2022/06/23 08:41:32	40.951	-105.242	783.72	1653	1714.182	0.017	0.029
2022/06/23 08:42:32	40.951	-105.242	783.725	1667	1728.766	0.015	0.026
2022/06/23 08:43:32	40.951	-105.242	783.7	1688	1750.208	0.013	0.021
2022/06/23 08:44:32	40.951	-105.242	783.705	1701	1763.755	0.011	0.019
2022/06/23 08:45:32	40.951	-105.242	783.69	1645	1705.492	0.018	0.031
2022/06/23 08:46:32	40.951	-105.242	783.695	1641	1701.41	0.018	0.031
2022/06/23 08:47:32	40.951	-105.242	783.645	1670	1730.811	0.015	0.025
2022/06/23 08:48:32	40.951	-105.242	783.645	1595	1653.08	0.025	0.042
2022/06/23 08:49:32	40.951	-105.242	783.65	1671	1731.914	0.015	0.025
2022/06/23 08:50:32	40.951	-105.242	783.635	1688	1749.332	0.013	0.022
2022/06/23 08:51:32	40.951	-105.242	783.605	1597	1654.643	0.025	0.042
2022/06/23 08:52:32	40.951	-105.242	783.61	1644	1703.405	0.018	0.031
2022/06/23 08:53:32	40.951	-105.242	783.665	1658	1718.639	0.016	0.028
2022/06/23 08:54:32	40.951	-105.242	783.665	1672	1733.151	0.015	0.025
2022/06/23 08:55:32	40.951	-105.242	783.625	1683	1744.016	0.013	0.023
2022/06/23 08:56:32	40.951	-105.242	783.62	1642	1701.464	0.018	0.031
2022/06/23 08:57:32	40.951	-105.242	783.525	1585	1641.199	0.027	0.045

2022/06/23 08:58:32	40.951	-105.242	783.55	1705	1765.793	0.011	0.018
2022/06/23 08:59:32	40.951	-105.242	783.525	1685	1744.744	0.013	0.022
2022/06/23 09:00:32	40.95135	-105.242	783.69	1594	1652.616	0.025	0.042
2022/06/23 09:01:32	40.95208	-105.239	785.605	1590	1672.957	0.022	0.038
2022/06/23 09:02:32	40.95312	-105.236	787.705	1559	1667.079	0.023	0.039
2022/06/23 09:03:32	40.95564	-105.236	788.69	1597	1720.715	0.016	0.027
2022/06/23 09:04:32	40.95684	-105.235	788.745	1481	1596.405	0.033	0.057
2022/06/23 09:05:32	40.95796	-105.235	788.79	1470	1585.097	0.035	0.060
2022/06/23 09:06:32	40.95829	-105.237	788.5	1481	1593.396	0.034	0.057
2022/06/23 09:07:32	40.95924	-105.239	788.785	1419	1530.045	0.044	0.076
2022/06/23 09:08:32	40.95923	-105.239	788.825	1481	1597.388	0.033	0.056
2022/06/23 09:09:32	40.95832	-105.237	788.67	1504	1620.261	0.030	0.050
2022/06/23 09:10:32	40.95797	-105.235	788.97	1531	1653.162	0.025	0.042
2022/06/23 09:11:32	40.95797	-105.235	788.98	1479	1597.136	0.033	0.056
2022/06/23 09:12:32	40.95797	-105.235	788.97	1505	1625.088	0.029	0.049
2022/06/23 09:13:32	40.95797	-105.235	788.975	1490	1608.953	0.031	0.053
2022/06/23 09:14:32	40.95797	-105.235	789.035	1436	1551.358	0.041	0.069
2022/06/23 09:15:32	40.95763	-105.234	788.885	1484	1601.364	0.033	0.055
2022/06/23 09:16:32	40.95664	-105.235	789.15	1550	1676	0.022	0.037
2022/06/23 09:17:32	40.95748	-105.233	789.96	1409	1533.07	0.044	0.075
2022/06/23 09:18:32	40.9577	-105.23	790.365	1428	1558.596	0.039	0.067
2022/06/23 09:19:32	40.95742	-105.228	790.72	1421	1555.201	0.040	0.068
2022/06/23 09:20:32	40.95777	-105.227	791.21	1299	1427.053	0.065	0.111
2022/06/23 09:21:32	40.95763	-105.225	791.43	1252	1377.752	0.078	0.132
2022/06/23 09:22:32	40.95675	-105.224	791.605	1275	1404.954	0.071	0.120
2022/06/23 09:23:32	40.95526	-105.222	792.13	1372	1517.965	0.047	0.079
2022/06/23 09:24:32	40.95467	-105.22	791.9	1411	1558.352	0.039	0.067
2022/06/23 09:25:32	40.95291	-105.22	789.915	1503	1634.781	0.028	0.047
2022/06/23 09:26:32	40.95137	-105.221	790.33	1570	1713.121	0.017	0.029
2022/06/23 09:27:32	40.95051	-105.223	789.775	1512	1642.798	0.026	0.045
2022/06/23 09:28:32	40.95015	-105.226	788.69	1559	1679.771	0.021	0.036
2022/06/23 09:29:32	40.95059	-105.227	786.975	1653	1757.688	0.012	0.020
2022/06/23 09:30:32	40.95123	-105.23	785.565	1625	1709.256	0.018	0.030
2022/06/23 09:31:32	40.95019	-105.231	785.455	1706	1792.937	0.008	0.013
2022/06/23 09:32:32	40.94885	-105.233	785.265	1648	1729.449	0.015	0.026
2022/06/23 09:33:32	40.94868	-105.234	785.165	1641	1720.778	0.016	0.027
2022/06/23 09:34:32	40.94835	-105.234	785.24	1654	1735.412	0.014	0.024
2022/06/23 09:35:32	40.94781	-105.231	786.3	1618	1711.552	0.017	0.029
2022/06/23 09:36:32	40.94813	-105.228	788.055	1544	1655.495	0.025	0.042
2022/06/23 09:37:32	40.94695	-105.226	787.12	1521	1619.135	0.030	0.051
2022/06/23 09:38:32	40.94744	-105.224	787.02	1595	1696.603	0.019	0.032
2022/06/23 09:39:32	40.94709	-105.221	787.07	1387	1475.921	0.055	0.093
2022/06/23 09:40:32	40.94681	-105.218	787.715	1531	1637.264	0.027	0.046
2022/06/23 09:41:32	40.94701	-105.217	789.57	1575	1708.549	0.018	0.030
2022/06/23 09:42:32	40.94707	-105.215	791.98	1571	1736.13	0.014	0.024

2022/06/23 09:43:32	40.94702	-105.215	792.05	1465	1619.861	0.030	0.050
2022/06/23 09:44:32	40.94702	-105.215	792.02	1533	1694.657	0.019	0.033
2022/06/23 09:45:32	40.94702	-105.215	792.055	1527	1688.48	0.020	0.034
2022/06/23 09:46:32	40.94703	-105.215	792	1555	1718.713	0.016	0.028
2022/06/23 09:47:32	40.94711	-105.215	791.87	1511	1668.409	0.023	0.039
2022/06/23 09:48:32	40.94724	-105.216	791.42	1508	1659.337	0.024	0.041
2022/06/23 09:49:32	40.9469	-105.217	788.925	1525	1646.113	0.026	0.044
2022/06/23 09:50:32	40.94684	-105.219	787.31	1586	1690.801	0.020	0.034
2022/06/23 09:51:32	40.94711	-105.222	787.035	1534	1631.905	0.028	0.047
2022/06/23 09:52:32	40.94707	-105.225	786.4	1511	1599.597	0.033	0.056
2022/06/23 09:53:32	40.94535	-105.224	785.595	1663	1749.631	0.013	0.022
2022/06/23 09:54:32	40.94331	-105.224	787.31	1684	1795.276	0.008	0.013
2022/06/23 09:55:32	40.94195	-105.222	787.775	1687	1804.925	0.007	0.011
2022/06/23 09:56:32	40.9418	-105.225	785.99	1619	1708.527	0.018	0.030
2022/06/23 09:57:32	40.94139	-105.227	785.12	1616	1693.975	0.019	0.033
2022/06/23 09:58:32	40.94139	-105.227	785.11	1690	1771.409	0.010	0.017
2022/06/23 09:59:32	40.94139	-105.227	785.045	1668	1747.475	0.013	0.022
2022/06/23 10:00:32	40.94139	-105.227	785.05	1673	1752.781	0.012	0.021
2022/06/23 10:01:32	40.94139	-105.227	785.01	1633	1710.346	0.017	0.030
2022/06/23 10:02:32	40.94139	-105.227	784.96	1583	1657.34	0.024	0.041
2022/06/23 10:03:32	40.94139	-105.227	785.03	1626	1703.277	0.018	0.031
2022/06/23 10:04:32	40.94139	-105.227	785.015	1625	1702.033	0.018	0.031
2022/06/23 10:05:32	40.94139	-105.227	785.02	1678	1757.613	0.012	0.020
2022/06/23 10:06:32	40.94139	-105.227	785.04	1624	1701.313	0.019	0.031
2022/06/23 10:07:32	40.94139	-105.227	785.09	1674	1754.369	0.012	0.021
2022/06/23 10:08:32	40.94139	-105.227	785.05	1594	1670.013	0.023	0.038
2022/06/23 10:09:32	40.94139	-105.227	785.04	1593	1668.837	0.023	0.039
2022/06/23 10:10:32	40.94139	-105.227	785.05	1717	1798.879	0.007	0.012
2022/06/23 10:11:32	40.94139	-105.227	785.01	1583	1657.978	0.024	0.041
2022/06/23 10:12:32	40.94139	-105.227	785.025	1636	1713.686	0.017	0.029
2022/06/23 10:13:32	40.94139	-105.227	785.065	1714	1795.943	0.008	0.013
2022/06/23 10:14:32	40.94139	-105.227	785.035	1716	1797.623	0.007	0.012
2022/06/23 10:15:32	40.94139	-105.227	785.095	1562	1637.054	0.027	0.046
2022/06/23 10:16:32	40.94139	-105.227	785.02	1611	1687.434	0.020	0.034
2022/06/23 10:17:32	40.94139	-105.227	785.02	1670	1749.233	0.013	0.022
2022/06/23 10:18:32	40.94139	-105.227	784.975	1684	1763.287	0.011	0.019
2022/06/23 10:19:32	40.94139	-105.227	785.015	1711	1792.11	0.008	0.013
2022/06/23 10:20:32	40.94139	-105.227	784.96	1600	1675.138	0.022	0.037
2022/06/23 10:21:32	40.94139	-105.227	785.01	1647	1725.009	0.016	0.026
2022/06/23 10:22:32	40.94139	-105.227	785.02	1602	1678.007	0.022	0.037
2022/06/23 10:23:32	40.94139	-105.227	785.01	1579	1653.789	0.025	0.042
2022/06/23 10:24:32	40.94139	-105.227	785.025	1610	1686.452	0.020	0.035
2022/06/23 10:25:32	40.94031	-105.229	784.81	1583	1655.427	0.025	0.042
2022/06/23 10:26:32	40.94045	-105.232	783.73	1552	1609.567	0.031	0.053
2022/06/23 10:27:32	40.94076	-105.236	783.005	1604	1654.236	0.025	0.042

2022/06/23 10:28:32	40.94153	-105.24	782.695	1585	1630.743	0.028	0.048
2022/06/23 10:29:32	40.94208	-105.244	781.95	1634	1671.541	0.022	0.038
2022/06/23 10:30:32	40.9432	-105.247	781.765	1666	1701.85	0.018	0.031
2022/06/23 10:31:32	40.94547	-105.249	781.565	1700	1733.91	0.015	0.025
2022/06/23 10:32:32	40.94647	-105.25	782.12	1744	1786.405	0.009	0.015
2022/06/23 10:33:32	40.94416	-105.248	782.035	1673	1712.558	0.017	0.029
2022/06/23 10:34:32	40.94235	-105.245	782.115	1632	1671.618	0.022	0.038
2022/06/23 10:35:32	40.9405	-105.245	782.04	1664	1703.41	0.018	0.031
2022/06/23 10:36:32	40.93818	-105.246	782.085	1684	1724.481	0.016	0.027
2022/06/23 10:37:32	40.93612	-105.248	783.505	1509	1562.263	0.039	0.066
2022/06/23 10:38:32	40.9338	-105.248	784.315	1631	1699.134	0.019	0.032
2022/06/23 10:39:32	40.932	-105.25	784.885	1516	1586.277	0.035	0.059
2022/06/23 10:40:32	40.93124	-105.251	785.235	1577	1654.558	0.025	0.042
2022/06/23 10:41:32	40.93112	-105.251	785.405	1561	1639.916	0.027	0.046
2022/06/23 10:42:32	40.93057	-105.254	785.21	1603	1681.513	0.021	0.036
2022/06/23 10:43:32	40.92897	-105.256	786.77	1641	1742.176	0.014	0.023
2022/06/23 10:44:32	40.92961	-105.258	787.73	1687	1804.3	0.007	0.011
2022/06/23 10:45:32	40.93013	-105.26	789.66	1631	1770.524	0.010	0.017
2022/06/23 10:46:32	40.93024	-105.26	789.715	1486	1613.803	0.031	0.052
2022/06/23 10:47:32	40.93024	-105.26	789.83	1447	1572.841	0.037	0.063
2022/06/23 10:48:32	40.93024	-105.26	789.82	1522	1654.236	0.025	0.042
2022/06/23 10:49:32	40.93024	-105.26	789.82	1527	1659.67	0.024	0.041
2022/06/23 10:50:32	40.93024	-105.26	789.825	1527	1659.734	0.024	0.041
2022/06/23 10:51:32	40.93024	-105.26	789.805	1509	1639.917	0.027	0.046
2022/06/23 10:52:32	40.93024	-105.26	789.87	1499	1629.865	0.028	0.048
2022/06/23 10:53:32	40.93024	-105.26	789.815	1420	1543.314	0.042	0.072
2022/06/23 10:54:32	40.93024	-105.26	789.835	1497	1627.252	0.029	0.049
2022/06/23 10:55:32	40.93024	-105.26	789.755	1474	1601.264	0.033	0.055
2022/06/23 10:56:32	40.93024	-105.26	789.78	1485	1613.524	0.031	0.052
2022/06/23 10:57:32	40.93024	-105.26	789.8	1528	1660.502	0.024	0.041
2022/06/23 10:58:32	40.93024	-105.26	789.79	1437	1561.49	0.039	0.066
2022/06/23 10:59:32	40.93024	-105.26	789.875	1488	1617.967	0.030	0.051
2022/06/23 11:00:32	40.93024	-105.26	789.93	1492	1623.004	0.029	0.050
2022/06/23 11:01:32	40.93025	-105.26	789.92	1408	1531.51	0.044	0.075
2022/06/23 11:02:32	40.93025	-105.26	789.925	1503	1634.906	0.027	0.047
2022/06/23 11:03:32	40.93025	-105.26	789.89	1476	1605.104	0.032	0.054
2022/06/23 11:04:32	40.93025	-105.26	789.915	1473	1602.15	0.032	0.055
2022/06/23 11:05:32	40.93024	-105.26	789.895	1535	1669.329	0.023	0.039
2022/06/23 11:06:32	40.93024	-105.26	789.915	1451	1578.221	0.036	0.061
2022/06/23 11:07:32	40.93024	-105.26	789.905	1452	1579.187	0.036	0.061
2022/06/23 11:08:32	40.93024	-105.26	789.895	1472	1600.816	0.033	0.055
2022/06/23 11:09:32	40.93024	-105.26	789.895	1507	1638.879	0.027	0.046
2022/06/23 11:10:32	40.92996	-105.26	789.71	1529	1660.437	0.024	0.041
2022/06/23 11:11:32	40.92951	-105.258	787.865	1520	1627.379	0.029	0.049
2022/06/23 11:12:32	40.9281	-105.257	787.895	1643	1759.475	0.012	0.020

2022/06/23 11:13:32	40.92666	-105.259	789.79	1669	1813.589	0.006	0.010
2022/06/23 11:14:32	40.92421	-105.259	790.81	1598	1750.13	0.013	0.021
2022/06/23 11:15:32	40.92214	-105.26	791.755	1562	1723.196	0.016	0.027
2022/06/23 11:16:32	40.92359	-105.259	790.895	1607	1761.139	0.011	0.019
2022/06/23 11:17:32	40.92573	-105.259	789.905	1561	1697.735	0.019	0.032
2022/06/23 11:18:32	40.92745	-105.258	788.375	1577	1695.049	0.019	0.033
2022/06/23 11:19:32	40.92803	-105.257	787.905	1683	1802.449	0.007	0.012
2022/06/23 11:20:32	40.92803	-105.257	787.8	1602	1714.314	0.017	0.029
2022/06/23 11:21:32	40.92803	-105.257	787.95	1695	1815.93	0.005	0.009
2022/06/23 11:22:32	40.92803	-105.257	787.96	1652	1769.998	0.010	0.018
2022/06/23 11:23:32	40.92802	-105.257	787.84	1717	1837.942	0.003	0.005
2022/06/23 11:24:32	40.92802	-105.257	787.905	1688	1807.804	0.006	0.011
2022/06/23 11:25:32	40.92802	-105.257	787.885	1706	1826.8	0.004	0.007
2022/06/23 11:26:32	40.92802	-105.257	787.9	1589	1701.712	0.018	0.031
2022/06/23 11:27:32	40.92802	-105.257	787.905	1630	1745.688	0.013	0.022
2022/06/23 11:28:32	40.92802	-105.257	787.885	1617	1731.498	0.015	0.025
2022/06/23 11:29:32	40.92802	-105.257	787.88	1645	1761.413	0.011	0.019
2022/06/23 11:30:32	40.92802	-105.257	787.875	1566	1676.758	0.022	0.037
2022/06/23 11:31:32	40.92801	-105.257	787.875	1639	1754.921	0.012	0.020
2022/06/23 11:32:32	40.92801	-105.257	787.845	1677	1795.194	0.008	0.013
2022/06/23 11:33:32	40.92801	-105.257	788.015	1581	1694.645	0.019	0.033
2022/06/23 11:34:32	40.92801	-105.257	787.985	1607	1722.116	0.016	0.027
2022/06/23 11:35:32	40.92801	-105.257	787.995	1646	1764.045	0.011	0.019
2022/06/23 11:36:32	40.92801	-105.257	787.99	1747	1872.217	0.000	0.000
2022/06/23 11:37:32	40.92801	-105.257	787.995	1666	1785.48	0.009	0.015
2022/06/23 11:38:32	40.92801	-105.257	788	1589	1703.023	0.018	0.031
2022/06/23 11:39:32	40.92801	-105.257	788.015	1683	1803.977	0.007	0.011
2022/06/23 11:40:32	40.92801	-105.257	787.955	1701	1822.428	0.005	0.008
2022/06/23 11:41:32	40.92801	-105.257	787.905	1650	1767.107	0.011	0.018
2022/06/23 11:42:32	40.92801	-105.257	787.895	1702	1822.657	0.005	0.008
2022/06/23 11:43:32	40.92816	-105.256	787.455	1595	1702.295	0.018	0.031
2022/06/23 11:44:32	40.92678	-105.253	787.14	1601	1704.559	0.018	0.031
2022/06/23 11:45:32	40.92558	-105.251	788.01	1555	1666.712	0.023	0.039
2022/06/23 11:46:32	40.92558	-105.25	787.98	1501	1608.461	0.031	0.053
2022/06/23 11:47:32	40.9255	-105.25	787.74	1630	1743.471	0.013	0.023
2022/06/23 11:48:32	40.92412	-105.248	787.18	1609	1713.604	0.017	0.029
2022/06/23 11:49:32	40.92247	-105.245	788.93	1514	1634.303	0.028	0.047
2022/06/23 11:50:32	40.92266	-105.242	788.805	1509	1627.338	0.029	0.049
2022/06/23 11:51:32	40.92254	-105.24	788.515	1486	1598.96	0.033	0.056
2022/06/23 11:52:32	40.92025	-105.239	788.1	1517	1627.109	0.029	0.049
2022/06/23 11:53:32	40.91839	-105.238	787.875	1553	1662.838	0.024	0.040
2022/06/23 11:54:32	40.91833	-105.235	787.48	1564	1669.531	0.023	0.039
2022/06/23 11:55:32	40.91777	-105.232	786.985	1536	1633.404	0.028	0.047
2022/06/23 11:56:32	40.91599	-105.231	786.445	1621	1716.641	0.017	0.028
2022/06/23 11:57:32	40.91397	-105.23	787.4	1606	1713.309	0.017	0.029

2022/06/23 11:58:32	40.91153	-105.229	788.49	1633	1756.796	0.012	0.020
2022/06/23 11:59:32	40.90939	-105.228	788.495	1620	1742.878	0.013	0.023
2022/06/23 12:00:32	40.90727	-105.226	789.56	1387	1504.492	0.049	0.084
2022/06/23 12:01:32	40.90668	-105.223	791.025	1564	1715.731	0.017	0.028
2022/06/23 12:02:32	40.90526	-105.221	791.735	1467	1618.143	0.030	0.051
2022/06/23 12:03:32	40.9047	-105.219	790.115	1436	1564.313	0.038	0.065
2022/06/23 12:04:32	40.90476	-105.218	790.055	1377	1499.349	0.050	0.085
2022/06/23 12:05:32	40.90475	-105.218	790.005	1385	1507.479	0.049	0.083
2022/06/23 12:06:32	40.90473	-105.221	791.615	1404	1547.222	0.041	0.070
2022/06/23 12:07:32	40.9068	-105.222	791.145	1461	1604.22	0.032	0.055
2022/06/23 12:08:32	40.90708	-105.225	789.86	1462	1589.512	0.034	0.058
2022/06/23 12:09:32	40.90862	-105.227	788.815	1517	1636.092	0.027	0.046
2022/06/23 12:10:32	40.90941	-105.228	788.39	1568	1685.57	0.021	0.035
2022/06/23 12:11:32	40.9094	-105.228	788.395	1598	1717.886	0.016	0.028
2022/06/23 12:12:32	40.9094	-105.228	788.395	1632	1754.437	0.012	0.021
2022/06/23 12:13:32	40.9094	-105.228	788.33	1687	1812.655	0.006	0.010
2022/06/23 12:14:32	40.9094	-105.228	788.435	1559	1676.476	0.022	0.037
2022/06/23 12:15:32	40.9094	-105.228	788.41	1548	1664.327	0.023	0.040
2022/06/23 12:16:32	40.9094	-105.228	788.35	1602	1721.589	0.016	0.027
2022/06/23 12:17:32	40.90939	-105.228	788.355	1597	1716.282	0.017	0.028
2022/06/23 12:18:32	40.90939	-105.228	788.325	1570	1686.876	0.020	0.035
2022/06/23 12:19:32	40.90939	-105.228	788.315	1585	1702.861	0.018	0.031
2022/06/23 12:20:32	40.90939	-105.228	788.3	1551	1666.141	0.023	0.039
2022/06/23 12:21:32	40.90939	-105.228	788.245	1638	1758.854	0.012	0.020
2022/06/23 12:22:32	40.90939	-105.228	788.23	1638	1758.651	0.012	0.020
2022/06/23 12:23:32	40.90939	-105.228	788.235	1615	1734.024	0.014	0.025
2022/06/23 12:24:32	40.90939	-105.228	788.175	1615	1733.223	0.015	0.025
2022/06/23 12:25:32	40.90939	-105.228	788.17	1585	1700.961	0.019	0.032
2022/06/23 12:26:32	40.90939	-105.228	788.105	1647	1766.613	0.011	0.018
2022/06/23 12:27:32	40.90939	-105.228	788.11	1648	1767.753	0.011	0.018
2022/06/23 12:28:32	40.90939	-105.228	788.1	1575	1689.319	0.020	0.034
2022/06/23 12:29:32	40.90939	-105.228	788.095	1613	1730.01	0.015	0.025
2022/06/23 12:30:32	40.90939	-105.228	788.025	1650	1768.741	0.010	0.018
2022/06/23 12:31:32	40.90987	-105.229	788.055	1571	1684.445	0.021	0.035
2022/06/23 12:32:32	40.91186	-105.229	787.745	1604	1715.727	0.017	0.028
2022/06/23 12:33:32	40.91425	-105.23	786.855	1632	1733.755	0.015	0.025
2022/06/23 12:34:32	40.91615	-105.231	786.19	1571	1660.428	0.024	0.041
2022/06/23 12:35:32	40.91798	-105.232	786.905	1634	1736.548	0.014	0.024
2022/06/23 12:36:32	40.91836	-105.235	787.1	1547	1646.559	0.026	0.044
2022/06/23 12:37:32	40.91835	-105.238	787.465	1578	1684.281	0.021	0.035
2022/06/23 12:38:32	40.91788	-105.241	788.285	1493	1603.65	0.032	0.055
2022/06/23 12:39:32	40.91709	-105.242	788.44	1584	1703.426	0.018	0.031
2022/06/23 12:40:32	40.91702	-105.242	788.475	1613	1735.08	0.014	0.024
2022/06/23 12:41:32	40.91562	-105.243	789.68	1608	1745.825	0.013	0.022
2022/06/23 12:42:32	40.91358	-105.245	790.915	1525	1671.531	0.022	0.038

2022/06/23 12:43:32	40.91158	-105.247	792.53	1553	1723.521	0.016	0.027
2022/06/23 12:44:32	40.90963	-105.249	793.9	1597	1791.148	0.008	0.014
2022/06/23 12:45:32	40.90741	-105.25	794.815	1558	1759.762	0.011	0.020
2022/06/23 12:46:32	40.90535	-105.25	796.75	1519	1741.466	0.014	0.023
2022/06/23 12:47:32	40.90431	-105.248	798.065	1391	1610.949	0.031	0.053
2022/06/23 12:48:32	40.90411	-105.247	798.3	1384	1605.745	0.032	0.054
2022/06/23 12:49:32	40.90409	-105.248	798.155	1392	1613.225	0.031	0.052
2022/06/23 12:50:32	40.90471	-105.25	797.4	1443	1662.636	0.024	0.040
2022/06/23 12:51:32	40.90477	-105.25	797.38	1416	1631.275	0.028	0.048
2022/06/23 12:52:32	40.90503	-105.251	797.105	1385	1592.187	0.034	0.058
2022/06/23 12:53:32	40.90534	-105.252	796.58	1440	1648.736	0.026	0.043
2022/06/23 12:54:32	40.90535	-105.252	796.565	1468	1680.601	0.021	0.036
2022/06/23 12:55:32	40.90535	-105.252	796.56	1477	1690.839	0.020	0.034
2022/06/23 12:56:32	40.90534	-105.252	796.52	1452	1661.708	0.024	0.040
2022/06/23 12:57:32	40.90534	-105.252	796.52	1391	1591.898	0.034	0.058
2022/06/23 12:58:32	40.90534	-105.252	796.5	1426	1631.701	0.028	0.048
2022/06/23 12:59:32	40.90534	-105.252	796.52	1332	1524.377	0.045	0.077
2022/06/23 13:00:32	40.90534	-105.252	796.495	1429	1635.071	0.027	0.047
2022/06/23 13:01:32	40.90534	-105.252	796.48	1433	1639.459	0.027	0.046
2022/06/23 13:02:32	40.90534	-105.252	796.49	1497	1712.811	0.017	0.029
2022/06/23 13:03:32	40.90534	-105.252	796.48	1417	1621.154	0.030	0.050
2022/06/23 13:04:32	40.90534	-105.252	796.48	1482	1695.518	0.019	0.033
2022/06/23 13:05:32	40.90534	-105.252	796.42	1425	1629.553	0.028	0.048
2022/06/23 13:06:32	40.90534	-105.252	796.47	1417	1621.029	0.030	0.050
2022/06/23 13:07:32	40.90534	-105.252	796.41	1457	1666.018	0.023	0.039
2022/06/23 13:08:32	40.90534	-105.252	796.425	1374	1571.293	0.037	0.063
2022/06/23 13:09:32	40.90534	-105.252	796.4	1490	1703.621	0.018	0.031
2022/06/23 13:10:32	40.90534	-105.252	796.415	1454	1662.652	0.024	0.040
2022/06/23 13:11:32	40.90534	-105.252	796.34	1451	1658.264	0.024	0.041
2022/06/23 13:12:32	40.90534	-105.252	796.345	1465	1674.328	0.022	0.037
2022/06/23 13:13:32	40.90574	-105.253	795.76	1457	1657.701	0.024	0.041
2022/06/23 13:14:32	40.90634	-105.254	796.67	1465	1678.523	0.021	0.036
2022/06/23 13:15:32	40.90782	-105.256	798.11	1446	1675.226	0.022	0.037
2022/06/23 13:16:32	40.90703	-105.255	797.57	1431	1650.969	0.025	0.043
2022/06/23 13:17:32	40.9067	-105.254	796.025	1398	1593.822	0.034	0.057
2022/06/23 13:18:32	40.9083	-105.252	794.965	1488	1682.639	0.021	0.036
2022/06/23 13:19:32	40.90984	-105.25	793.755	1518	1700.644	0.019	0.032
2022/06/23 13:20:32	40.91138	-105.249	792.555	1556	1727.183	0.015	0.026
2022/06/23 13:21:32	40.91307	-105.247	791.455	1438	1582.739	0.035	0.060
2022/06/23 13:22:32	40.91386	-105.246	791.185	1512	1660.731	0.024	0.041
2022/06/23 13:23:32	40.91388	-105.246	791.13	1445	1586.468	0.035	0.059
2022/06/23 13:24:32	40.91424	-105.245	790.325	1495	1631.221	0.028	0.048
2022/06/23 13:25:32	40.91581	-105.243	788.945	1573	1698.187	0.019	0.032
2022/06/23 13:26:32	40.91703	-105.242	787.955	1625	1741.003	0.014	0.023
2022/06/23 13:27:32	40.91708	-105.242	787.97	1646	1763.706	0.011	0.019

2022/06/23 13:28:32	40.91708	-105.242	787.97	1579	1691.915	0.020	0.034
2022/06/23 13:29:32	40.91774	-105.241	787.835	1586	1697.649	0.019	0.032
2022/06/23 13:30:32	40.91889	-105.239	787.07	1527	1624.896	0.029	0.049
2022/06/23 13:31:32	40.91956	-105.236	786.4	1540	1630.297	0.028	0.048
2022/06/23 13:32:32	40.92114	-105.234	786.14	1570	1658.732	0.024	0.041
2022/06/23 13:33:32	40.92373	-105.234	785.63	1598	1681.698	0.021	0.036
2022/06/23 13:34:32	40.92615	-105.235	785.21	1628	1707.737	0.018	0.030
2022/06/23 13:35:32	40.92811	-105.237	784.67	1608	1679.759	0.021	0.036
2022/06/23 13:36:32	40.92965	-105.239	784.385	1584	1651.06	0.025	0.043
2022/06/23 13:37:32	40.93144	-105.241	784.025	1685	1751.475	0.012	0.021
2022/06/23 13:38:32	40.93366	-105.241	783.27	1633	1687.584	0.020	0.034
2022/06/23 13:39:32	40.93588	-105.242	782.375	1672	1716.021	0.017	0.028
2022/06/23 13:40:32	40.93748	-105.244	781.75	1582	1615.856	0.030	0.051
2022/06/23 13:41:32	40.93889	-105.245	780.875	1616	1639.5	0.027	0.046
2022/06/23 13:42:32	40.94153	-105.245	781.355	1614	1643.534	0.026	0.045
2022/06/23 13:43:32	40.94338	-105.243	781.805	1674	1710.549	0.017	0.029
2022/06/23 13:44:32	40.94504	-105.24	781.995	1664	1702.82	0.018	0.031
2022/06/23 13:45:32	40.94649	-105.239	782.98	1587	1636.388	0.027	0.046
2022/06/23 13:46:32	40.94725	-105.236	783.605	1605	1662.932	0.024	0.040
2022/06/23 13:47:32	40.94847	-105.234	784.21	1638	1705.048	0.018	0.031
2022/06/23 13:48:32	40.94849	-105.234	784.215	1665	1733.219	0.015	0.025
2022/06/23 13:49:32	40.94839	-105.234	784.055	1585	1647.91	0.026	0.044
2022/06/23 13:50:32	40.9472	-105.236	783.58	1632	1690.581	0.020	0.034
2022/06/23 13:51:32	40.94604	-105.238	782.575	1620	1665.214	0.023	0.040
2022/06/23 13:52:32	40.94702	-105.238	783.385	1596	1650.808	0.025	0.043
2022/06/23 13:53:32	40.94866	-105.238	784.68	1608	1679.888	0.021	0.036
2022/06/23 13:54:32	40.94989	-105.239	783.455	1640	1697.234	0.019	0.032
2022/06/23 13:55:32	40.95073	-105.241	782.77	1577	1623.45	0.029	0.050
2022/06/23 13:56:32	40.95119	-105.244	781.43	1632	1662.824	0.024	0.040
2022/06/23 13:57:32	40.95125	-105.247	781.085	1764	1792.549	0.008	0.013
2022/06/23 13:58:32	40.95157	-105.25	780.37	1766	1784.728	0.009	0.015
2022/06/23 13:59:32	40.9516	-105.25	780.355	1686	1703.683	0.018	0.031
2022/06/23 14:00:32	40.9516	-105.25	780.31	1733	1750.569	0.013	0.021
2022/06/23 14:01:32	40.9516	-105.25	780.31	1742	1759.66	0.012	0.020
2022/06/23 14:02:32	40.9516	-105.25	780.205	1747	1763.285	0.011	0.019
2022/06/23 14:03:32	40.9516	-105.25	780.26	1705	1721.622	0.016	0.027
2022/06/23 14:04:32	40.9516	-105.25	780.265	1732	1748.953	0.013	0.022
2022/06/23 14:05:32	40.9516	-105.25	780.245	1673	1689.115	0.020	0.034
2022/06/23 14:06:32	40.9516	-105.25	780.175	1685	1700.314	0.019	0.032
2022/06/23 14:07:32	40.9516	-105.25	780.175	1729	1744.714	0.013	0.022
2022/06/23 14:08:32	40.9516	-105.25	780.19	1706	1721.704	0.016	0.027
2022/06/23 14:09:32	40.9516	-105.25	780.195	1717	1732.872	0.015	0.025
2022/06/23 14:10:32	40.9516	-105.25	780.235	1735	1751.578	0.012	0.021
2022/06/23 14:11:32	40.9516	-105.25	780.175	1683	1698.296	0.019	0.032
2022/06/23 14:12:32	40.9516	-105.25	780.175	1629	1643.805	0.026	0.045

2022/06/23 14:13:32	40.9516	-105.25	780.17	1753	1768.864	0.010	0.018
2022/06/23 14:14:32	40.9516	-105.25	780.18	1678	1693.316	0.020	0.033
2022/06/23 14:15:32	40.9516	-105.25	780.185	1702	1717.601	0.016	0.028
2022/06/23 14:16:32	40.9516	-105.25	780.19	1671	1686.382	0.020	0.035

Table C-6: Rover data 07/05/2022.

Date Time(MST)	Lat	Long	P (mb)	N <sub>sum</sub>	N	$\theta_G$ (avg)	$\theta_V$
2022/07/05 08:18:34			781.505	407	414.9266	-0.719	-1.223
2022/07/05 08:19:40	40.9516	-105.25	781.62	1764	1799.948	0.007	0.012
2022/07/05 08:20:40	40.9516	-105.25	781.72	1661	1696.155	0.019	0.033
2022/07/05 08:21:40	40.9516	-105.25	781.78	1641	1676.506	0.022	0.037
2022/07/05 08:22:40	40.95159	-105.25	781.89	1681	1718.827	0.016	0.028
2022/07/05 08:23:40	40.95146	-105.249	782.26	1639	1680.663	0.021	0.036
2022/07/05 08:24:40	40.95107	-105.245	783.04	1633	1684.598	0.021	0.035
2022/07/05 08:25:40	40.95112	-105.242	784.105	1604	1668.306	0.023	0.039
2022/07/05 08:26:40	40.95099	-105.242	784.22	1640	1707.261	0.018	0.030
2022/07/05 08:27:40	40.95099	-105.242	784.155	1664	1731.378	0.015	0.025
2022/07/05 08:28:40	40.95099	-105.242	784.16	1643	1709.594	0.017	0.030
2022/07/05 08:29:40	40.95099	-105.242	784.135	1584	1647.885	0.026	0.044
2022/07/05 08:30:40	40.95099	-105.242	784.125	1655	1721.616	0.016	0.027
2022/07/05 08:31:40	40.95099	-105.242	784.08	1593	1656.547	0.024	0.042
2022/07/05 08:32:40	40.95099	-105.242	784.11	1578	1641.327	0.027	0.045
2022/07/05 08:33:40	40.95099	-105.242	784.105	1633	1698.469	0.019	0.032
2022/07/05 08:34:40	40.95099	-105.242	784.105	1581	1644.384	0.026	0.044
2022/07/05 08:35:40	40.95099	-105.242	784.105	1612	1676.627	0.022	0.037
2022/07/05 08:36:40	40.95099	-105.242	784.2	1663	1730.938	0.015	0.025
2022/07/05 08:37:40	40.95099	-105.242	784.11	1582	1645.488	0.026	0.044
2022/07/05 08:38:40	40.95099	-105.242	784.1	1545	1606.879	0.032	0.054
2022/07/05 08:39:40	40.95099	-105.242	784.04	1600	1663.313	0.024	0.040
2022/07/05 08:40:40	40.95099	-105.242	784.105	1598	1662.066	0.024	0.040
2022/07/05 08:41:40	40.95099	-105.242	784.035	1541	1601.917	0.032	0.055
2022/07/05 08:42:40	40.95099	-105.242	784.105	1621	1685.988	0.020	0.035
2022/07/05 08:43:40	40.95099	-105.242	784.125	1629	1694.57	0.019	0.033
2022/07/05 08:44:40	40.95099	-105.242	784.1	1615	1679.683	0.021	0.036
2022/07/05 08:45:40	40.95099	-105.242	784.105	1626	1691.188	0.020	0.034
2022/07/05 08:46:40	40.95173	-105.242	784.495	1562	1629.509	0.028	0.048
2022/07/05 08:47:40	40.95232	-105.239	786.585	1500	1590.216	0.034	0.058
2022/07/05 08:48:40	40.95382	-105.236	788.525	1587	1707.769	0.018	0.030
2022/07/05 08:49:40	40.95603	-105.236	789.205	1395	1509.039	0.048	0.082
2022/07/05 08:50:40	40.95692	-105.234	789.165	1446	1563.726	0.039	0.066
2022/07/05 08:51:40	40.95796	-105.235	789.225	1406	1521.172	0.046	0.078
2022/07/05 08:52:40	40.95828	-105.237	788.84	1496	1613.754	0.031	0.052
2022/07/05 08:53:40	40.95905	-105.239	788.93	1452	1567.376	0.038	0.065
2022/07/05 08:54:40	40.9593	-105.24	789.105	1432	1547.871	0.041	0.070
2022/07/05 08:55:40	40.95838	-105.237	788.9	1388	1497.945	0.050	0.086
2022/07/05 08:56:40	40.95795	-105.235	789.23	1476	1596.968	0.033	0.056
2022/07/05 08:57:40	40.95681	-105.235	788.87	1443	1556.941	0.040	0.068
2022/07/05 08:58:40	40.95729	-105.234	789.61	1484	1610.328	0.031	0.053
2022/07/05 08:59:40	40.95774	-105.232	790.18	1348	1469.185	0.056	0.096

2022/07/05 09:00:40	40.95753	-105.229	790.65	1361	1488.732	0.052	0.089
2022/07/05 09:01:40	40.95757	-105.228	790.91	1418	1554.19	0.040	0.068
2022/07/05 09:02:40	40.95775	-105.226	791.455	1243	1368.111	0.080	0.136
2022/07/05 09:03:40	40.9575	-105.225	791.71	1208	1332.202	0.090	0.154
2022/07/05 09:04:40	40.95649	-105.224	791.86	1309	1445.255	0.061	0.104
2022/07/05 09:05:40	40.95609	-105.224	791.85	1321	1458.391	0.059	0.099
2022/07/05 09:06:40	40.95609	-105.224	791.875	1339	1478.548	0.054	0.092
2022/07/05 09:07:40	40.95609	-105.224	791.905	1272	1404.89	0.071	0.120
2022/07/05 09:08:40	40.95531	-105.222	792.345	1377	1526.021	0.045	0.077
2022/07/05 09:09:40	40.95485	-105.22	792.3	1297	1436.865	0.063	0.108
2022/07/05 09:10:40	40.953	-105.22	790.12	1445	1574.178	0.037	0.063
2022/07/05 09:11:40	40.95153	-105.221	790.81	1550	1697.56	0.019	0.032
2022/07/05 09:12:40	40.95049	-105.223	790.37	1474	1608.865	0.031	0.053
2022/07/05 09:13:40	40.95024	-105.225	789.405	1510	1635.957	0.027	0.046
2022/07/05 09:14:40	40.9506	-105.227	787.495	1572	1678.264	0.021	0.037
2022/07/05 09:15:40	40.95113	-105.229	786.135	1587	1676.629	0.022	0.037
2022/07/05 09:16:40	40.95063	-105.231	785.945	1652	1742.748	0.013	0.023
2022/07/05 09:17:40	40.94929	-105.233	785.845	1566	1650.752	0.025	0.043
2022/07/05 09:18:40	40.94875	-105.234	785.45	1629	1711.947	0.017	0.029
2022/07/05 09:19:40	40.94868	-105.234	785.39	1575	1654.433	0.025	0.042
2022/07/05 09:20:40	40.94817	-105.232	785.95	1553	1638.373	0.027	0.046
2022/07/05 09:21:40	40.94781	-105.229	787.985	1539	1649.245	0.025	0.043
2022/07/05 09:22:40	40.94727	-105.227	787.74	1497	1601.212	0.033	0.055
2022/07/05 09:23:40	40.947	-105.225	786.64	1479	1568.617	0.038	0.064
2022/07/05 09:24:40	40.94717	-105.222	787.435	1465	1563.309	0.039	0.066
2022/07/05 09:25:40	40.94686	-105.219	787.59	1521	1625.005	0.029	0.049
2022/07/05 09:26:40	40.94687	-105.217	789.16	1648	1782.104	0.009	0.015
2022/07/05 09:27:40	40.94725	-105.216	791.75	1538	1696.654	0.019	0.032
2022/07/05 09:28:40	40.94705	-105.215	792.24	1475	1633.306	0.028	0.047
2022/07/05 09:29:40	40.94709	-105.215	792.245	1375	1522.632	0.046	0.078
2022/07/05 09:30:40	40.94711	-105.216	790.155	1495	1629.087	0.028	0.048
2022/07/05 09:31:40	40.94677	-105.218	787.96	1564	1675.713	0.022	0.037
2022/07/05 09:32:40	40.94698	-105.22	787.345	1561	1664.597	0.023	0.040
2022/07/05 09:33:40	40.94698	-105.22	787.3	1496	1594.731	0.034	0.057
2022/07/05 09:34:40	40.94698	-105.22	787.36	1544	1646.659	0.026	0.044
2022/07/05 09:35:40	40.94698	-105.22	787.29	1569	1672.42	0.022	0.038
2022/07/05 09:36:40	40.94719	-105.222	787.395	1518	1619.367	0.030	0.051
2022/07/05 09:37:40	40.94708	-105.225	786.62	1483	1572.617	0.037	0.063
2022/07/05 09:38:40	40.94543	-105.224	785.775	1556	1639.327	0.027	0.046
2022/07/05 09:39:40	40.94368	-105.224	787.425	1565	1669.891	0.023	0.038
2022/07/05 09:40:40	40.94228	-105.222	787.99	1635	1752.189	0.012	0.021
2022/07/05 09:41:40	40.9417	-105.223	787.095	1637	1742.284	0.014	0.023
2022/07/05 09:42:40	40.94183	-105.226	785.55	1621	1704.852	0.018	0.031
2022/07/05 09:43:40	40.94141	-105.227	785.395	1626	1708.071	0.018	0.030
2022/07/05 09:44:40	40.94141	-105.227	785.4	1612	1693.429	0.020	0.033

2022/07/05 09:45:40	40.94141	-105.227	785.39	1495	1570.398	0.037	0.064
2022/07/05 09:46:40	40.94141	-105.227	785.415	1585	1665.258	0.023	0.040
2022/07/05 09:47:40	40.94141	-105.227	785.405	1596	1676.686	0.022	0.037
2022/07/05 09:48:40	40.94141	-105.227	785.45	1576	1656.248	0.024	0.042
2022/07/05 09:49:40	40.94141	-105.227	785.43	1694	1779.983	0.009	0.016
2022/07/05 09:50:40	40.94141	-105.227	785.41	1614	1695.661	0.019	0.033
2022/07/05 09:51:40	40.94141	-105.227	785.405	1626	1708.202	0.018	0.030
2022/07/05 09:52:40	40.94141	-105.227	785.345	1647	1729.465	0.015	0.026
2022/07/05 09:53:40	40.94141	-105.227	785.415	1589	1669.46	0.023	0.039
2022/07/05 09:54:40	40.94141	-105.227	785.42	1567	1646.41	0.026	0.044
2022/07/05 09:55:40	40.94141	-105.227	785.44	1671	1755.95	0.012	0.020
2022/07/05 09:56:40	40.94141	-105.227	785.405	1671	1755.477	0.012	0.020
2022/07/05 09:57:40	40.94079	-105.228	785.17	1644	1723.99	0.016	0.027
2022/07/05 09:58:40	40.94041	-105.232	784.17	1597	1661.857	0.024	0.040
2022/07/05 09:59:40	40.94064	-105.236	783.27	1658	1713.419	0.017	0.029
2022/07/05 10:00:40	40.94148	-105.239	782.765	1558	1603.828	0.032	0.055
2022/07/05 10:01:40	40.94205	-105.243	782.225	1696	1738.643	0.014	0.024
2022/07/05 10:02:40	40.94378	-105.242	782.92	1641	1691.287	0.020	0.034
2022/07/05 10:03:40	40.94559	-105.239	783.1	1568	1618.291	0.030	0.051
2022/07/05 10:04:40	40.94798	-105.238	785.505	1590	1671.669	0.022	0.038
2022/07/05 10:05:40	40.94967	-105.239	784.675	1518	1585.803	0.035	0.059
2022/07/05 10:06:40	40.9503	-105.239	784.67	1609	1680.803	0.021	0.036
2022/07/05 10:07:40	40.95068	-105.241	784.26	1488	1549.504	0.041	0.070
2022/07/05 10:08:40	40.95114	-105.242	783.745	1526	1582.786	0.035	0.060
2022/07/05 10:09:40	40.95114	-105.242	783.76	1585	1644.171	0.026	0.044
2022/07/05 10:10:40	40.95114	-105.242	783.765	1610	1670.169	0.023	0.038
2022/07/05 10:11:40	40.95114	-105.242	783.74	1577	1635.621	0.027	0.047
2022/07/05 10:12:40	40.95114	-105.242	783.75	1579	1637.821	0.027	0.046
2022/07/05 10:13:40	40.95114	-105.242	783.74	1510	1566.13	0.038	0.065
2022/07/05 10:14:40	40.95114	-105.242	783.735	1529	1585.775	0.035	0.059
2022/07/05 10:15:40	40.95114	-105.242	783.735	1538	1595.109	0.033	0.057
2022/07/05 10:16:40	40.95114	-105.242	783.72	1568	1626.036	0.029	0.049
2022/07/05 10:17:40	40.95114	-105.242	783.74	1578	1636.658	0.027	0.046
2022/07/05 10:18:40	40.95114	-105.242	783.755	1571	1629.586	0.028	0.048
2022/07/05 10:19:40	40.95114	-105.242	783.745	1569	1627.386	0.029	0.049
2022/07/05 10:20:40	40.95116	-105.242	783.74	1558	1615.914	0.030	0.051
2022/07/05 10:21:40	40.9503	-105.239	784.625	1584	1654.114	0.025	0.042
2022/07/05 10:22:40	40.95019	-105.239	784.56	1533	1600.056	0.033	0.056
2022/07/05 10:23:40	40.94975	-105.239	784.695	1584	1655.006	0.025	0.042
2022/07/05 10:24:40	40.94838	-105.238	785.87	1626	1714.329	0.017	0.029
2022/07/05 10:25:40	40.94645	-105.239	783.975	1528	1587.669	0.035	0.059
2022/07/05 10:26:40	40.945	-105.24	783.07	1624	1675.7	0.022	0.037
2022/07/05 10:27:40	40.94324	-105.243	782.74	1600	1646.747	0.026	0.044
2022/07/05 10:28:40	40.9427	-105.246	782.145	1671	1711.96	0.017	0.029
2022/07/05 10:29:40	40.94491	-105.248	782.025	1622	1660.224	0.024	0.041

2022/07/05 10:30:40	40.94686	-105.25	781.93	1617	1653.896	0.025	0.042
2022/07/05 10:31:40	40.94499	-105.248	782.11	1664	1704.329	0.018	0.031
2022/07/05 10:32:40	40.9427	-105.246	782.245	1617	1657.912	0.024	0.041
2022/07/05 10:33:40	40.94115	-105.245	782.17	1669	1710.24	0.017	0.030
2022/07/05 10:34:40	40.93871	-105.246	781.935	1677	1715.331	0.017	0.028
2022/07/05 10:35:40	40.93674	-105.247	783.38	1523	1575.241	0.037	0.062
2022/07/05 10:36:40	40.9343	-105.247	784.54	1609	1679.122	0.021	0.036
2022/07/05 10:37:40	40.93292	-105.248	784.52	1577	1645.474	0.026	0.044
2022/07/05 10:38:40	40.93225	-105.249	784.82	1622	1696.342	0.019	0.033
2022/07/05 10:39:40	40.93125	-105.25	785.36	1670	1753.819	0.012	0.021
2022/07/05 10:40:40	40.93123	-105.251	785.355	1658	1741.15	0.014	0.023
2022/07/05 10:41:40	40.93071	-105.253	785.2	1639	1719.144	0.016	0.028
2022/07/05 10:42:40	40.9294	-105.255	786.62	1714	1817.576	0.005	0.009
2022/07/05 10:43:40	40.92928	-105.257	788.135	1723	1848.559	0.002	0.004
2022/07/05 10:44:40	40.92989	-105.26	789.53	1707	1851.171	0.002	0.003
2022/07/05 10:45:40	40.93007	-105.259	788.975	1570	1695.34	0.019	0.033
2022/07/05 10:46:40	40.92905	-105.257	787.47	1651	1762.265	0.011	0.019
2022/07/05 10:47:40	40.92765	-105.258	788.385	1709	1837.072	0.003	0.006
2022/07/05 10:48:40	40.92589	-105.259	790.095	1578	1718.737	0.016	0.028
2022/07/05 10:49:40	40.92336	-105.259	790.99	1640	1798.619	0.007	0.012
2022/07/05 10:50:40	40.92256	-105.259	791.375	1579	1736.861	0.014	0.024
2022/07/05 10:51:40	40.92479	-105.259	790.31	1600	1745.587	0.013	0.022
2022/07/05 10:52:40	40.92688	-105.259	789.425	1586	1718.562	0.016	0.028
2022/07/05 10:53:40	40.92801	-105.257	787.975	1599	1713.411	0.017	0.029
2022/07/05 10:54:40	40.92804	-105.257	787.945	1682	1801.933	0.007	0.012
2022/07/05 10:55:40	40.92804	-105.257	787.94	1659	1777.225	0.010	0.016
2022/07/05 10:56:40	40.92804	-105.257	787.94	1619	1734.374	0.014	0.025
2022/07/05 10:57:40	40.92804	-105.257	788.015	1678	1798.617	0.007	0.012
2022/07/05 10:58:40	40.92804	-105.257	787.955	1613	1728.146	0.015	0.026
2022/07/05 10:59:40	40.92804	-105.257	787.94	1633	1749.372	0.013	0.022
2022/07/05 11:00:40	40.92804	-105.257	787.935	1713	1835.002	0.003	0.006
2022/07/05 11:01:40	40.92804	-105.257	787.95	1729	1852.356	0.002	0.003
2022/07/05 11:02:40	40.92804	-105.257	787.955	1637	1753.86	0.012	0.021
2022/07/05 11:03:40	40.92804	-105.257	787.955	1662	1780.644	0.009	0.016
2022/07/05 11:04:40	40.92804	-105.257	787.975	1684	1804.493	0.007	0.011
2022/07/05 11:05:40	40.92804	-105.257	787.96	1649	1766.784	0.011	0.018
2022/07/05 11:06:40	40.92803	-105.257	787.94	1626	1741.873	0.014	0.023
2022/07/05 11:07:40	40.92803	-105.257	787.95	1685	1805.217	0.007	0.011
2022/07/05 11:08:40	40.92851	-105.257	787.385	1625	1733.378	0.015	0.025
2022/07/05 11:09:40	40.92812	-105.255	787.35	1602	1708.384	0.018	0.030
2022/07/05 11:10:40	40.92659	-105.252	787.36	1658	1768.239	0.011	0.018
2022/07/05 11:11:40	40.92558	-105.251	788.165	1632	1751.332	0.012	0.021
2022/07/05 11:12:40	40.92558	-105.25	788.12	1571	1685.288	0.021	0.035
2022/07/05 11:13:40	40.92507	-105.25	787.325	1511	1611.031	0.031	0.053
2022/07/05 11:14:40	40.92396	-105.248	787.355	1653	1762.839	0.011	0.019

2022/07/05 11:15:40	40.92276	-105.246	788.72	1552	1672.615	0.022	0.038
2022/07/05 11:16:40	40.92256	-105.245	788.905	1581	1706.298	0.018	0.030
2022/07/05 11:17:40	40.92251	-105.243	789.025	1504	1624.696	0.029	0.049
2022/07/05 11:18:40	40.92284	-105.24	788.975	1484	1602.474	0.032	0.055
2022/07/05 11:19:40	40.92034	-105.239	788.325	1547	1662.164	0.024	0.040
2022/07/05 11:20:40	40.91878	-105.238	788.125	1464	1570.564	0.037	0.064
2022/07/05 11:21:40	40.91856	-105.236	788	1524	1633.359	0.028	0.047
2022/07/05 11:22:40	40.91804	-105.232	787.535	1465	1564.513	0.038	0.065
2022/07/05 11:23:40	40.91645	-105.231	786.79	1590	1688.291	0.020	0.034
2022/07/05 11:24:40	40.91442	-105.23	787.265	1612	1717.923	0.016	0.028
2022/07/05 11:25:40	40.91214	-105.229	788.275	1649	1771.075	0.010	0.017
2022/07/05 11:26:40	40.9099	-105.229	788.69	1600	1723.947	0.016	0.027
2022/07/05 11:27:40	40.90785	-105.227	789.53	1522	1650.546	0.025	0.043
2022/07/05 11:28:40	40.90674	-105.224	790.9	1485	1627.499	0.029	0.049
2022/07/05 11:29:40	40.90642	-105.221	791.845	1499	1654.841	0.025	0.042
2022/07/05 11:30:40	40.90443	-105.22	791.565	1353	1490.445	0.052	0.088
2022/07/05 11:31:40	40.90473	-105.218	790.43	1481	1617.252	0.030	0.051
2022/07/05 11:32:40	40.9045	-105.22	791.68	1425	1571.15	0.037	0.063
2022/07/05 11:33:40	40.9064	-105.221	791.615	1401	1543.916	0.042	0.071
2022/07/05 11:34:40	40.9068	-105.224	790.485	1408	1538.187	0.043	0.073
2022/07/05 11:35:40	40.90807	-105.227	789.295	1527	1652.975	0.025	0.042
2022/07/05 11:36:40	40.9094	-105.228	788.55	1523	1639.214	0.027	0.046
2022/07/05 11:37:40	40.9094	-105.228	788.56	1582	1702.848	0.018	0.031
2022/07/05 11:38:40	40.9094	-105.228	788.61	1578	1699.196	0.019	0.032
2022/07/05 11:39:40	40.9094	-105.228	788.605	1598	1720.666	0.016	0.027
2022/07/05 11:40:40	40.9094	-105.228	788.555	1603	1725.385	0.016	0.026
2022/07/05 11:41:40	40.9094	-105.228	788.65	1640	1766.502	0.011	0.018
2022/07/05 11:42:40	40.9094	-105.228	788.63	1659	1786.692	0.009	0.014
2022/07/05 11:43:40	40.9094	-105.228	788.635	1634	1759.836	0.011	0.020
2022/07/05 11:44:40	40.9094	-105.228	788.645	1604	1727.658	0.015	0.026
2022/07/05 11:45:40	40.9094	-105.228	788.65	1570	1691.102	0.020	0.034
2022/07/05 11:46:40	40.9094	-105.228	788.645	1615	1739.507	0.014	0.024
2022/07/05 11:47:40	40.9094	-105.228	788.66	1616	1740.785	0.014	0.023
2022/07/05 11:48:40	40.9094	-105.228	788.64	1603	1726.515	0.015	0.026
2022/07/05 11:49:40	40.90939	-105.228	788.645	1593	1715.81	0.017	0.028
2022/07/05 11:50:40	40.90939	-105.228	788.645	1540	1658.724	0.024	0.041
2022/07/05 11:51:40	40.90939	-105.228	788.64	1615	1739.44	0.014	0.024
2022/07/05 11:52:40	40.90939	-105.228	788.635	1651	1778.145	0.009	0.016
2022/07/05 11:53:40	40.90939	-105.228	788.625	1600	1723.085	0.016	0.027
2022/07/05 11:54:40	40.90939	-105.228	788.575	1563	1682.59	0.021	0.036
2022/07/05 11:55:40	40.90939	-105.228	788.55	1636	1760.837	0.011	0.019
2022/07/05 11:56:40	40.90939	-105.228	788.54	1584	1704.738	0.018	0.031
2022/07/05 11:57:40	40.91043	-105.229	788.505	1602	1723.645	0.016	0.027
2022/07/05 11:58:40	40.9128	-105.23	787.73	1595	1705.903	0.018	0.030
2022/07/05 11:59:40	40.91499	-105.23	786.28	1528	1616.1	0.030	0.051

2022/07/05 12:00:40	40.91712	-105.231	786.645	1606	1703.378	0.018	0.031
2022/07/05 12:01:40	40.9181	-105.233	787.34	1605	1711.451	0.017	0.029
2022/07/05 12:02:40	40.91855	-105.236	787.675	1538	1644.243	0.026	0.044
2022/07/05 12:03:40	40.91818	-105.239	788.075	1594	1709.369	0.017	0.030
2022/07/05 12:04:40	40.91713	-105.242	788.655	1539	1657.775	0.024	0.041
2022/07/05 12:05:40	40.91704	-105.242	788.62	1593	1715.48	0.017	0.028
2022/07/05 12:06:40	40.91704	-105.242	788.625	1650	1776.931	0.010	0.016
2022/07/05 12:07:40	40.91666	-105.243	789.02	1612	1741.296	0.014	0.023
2022/07/05 12:08:40	40.91459	-105.244	790.52	1613	1762.617	0.011	0.019
2022/07/05 12:09:40	40.91253	-105.246	791.755	1550	1709.957	0.017	0.030
2022/07/05 12:10:40	40.91066	-105.248	793.015	1597	1778.984	0.009	0.016
2022/07/05 12:11:40	40.90873	-105.25	794.55	1528	1722.359	0.016	0.027
2022/07/05 12:12:40	40.9065	-105.25	795.375	1558	1767.366	0.011	0.018
2022/07/05 12:13:40	40.90473	-105.25	797.565	1513	1745.507	0.013	0.022
2022/07/05 12:14:40	40.90414	-105.247	798.47	1356	1575.32	0.037	0.062
2022/07/05 12:15:40	40.90452	-105.249	797.715	1415	1634.333	0.028	0.047
2022/07/05 12:16:40	40.90474	-105.25	797.565	1433	1653.213	0.025	0.042
2022/07/05 12:17:40	40.90499	-105.251	797.245	1434	1650.295	0.025	0.043
2022/07/05 12:18:40	40.90534	-105.252	796.715	1531	1754.75	0.012	0.021
2022/07/05 12:19:40	40.90534	-105.252	796.72	1378	1579.451	0.036	0.061
2022/07/05 12:20:40	40.90534	-105.252	796.71	1377	1578.183	0.036	0.061
2022/07/05 12:21:40	40.90534	-105.252	796.71	1372	1572.453	0.037	0.063
2022/07/05 12:22:40	40.90534	-105.252	796.715	1408	1613.774	0.031	0.052
2022/07/05 12:23:40	40.90534	-105.252	796.715	1389	1591.998	0.034	0.058
2022/07/05 12:24:40	40.90534	-105.252	796.73	1393	1596.767	0.033	0.056
2022/07/05 12:25:40	40.90534	-105.252	796.775	1432	1642.04	0.026	0.045
2022/07/05 12:26:40	40.90534	-105.252	796.725	1420	1627.653	0.029	0.049
2022/07/05 12:27:40	40.90534	-105.252	796.795	1414	1621.65	0.029	0.050
2022/07/05 12:28:40	40.90534	-105.252	796.785	1418	1626.112	0.029	0.049
2022/07/05 12:29:40	40.90534	-105.252	796.79	1396	1600.945	0.033	0.055
2022/07/05 12:30:40	40.90534	-105.252	796.735	1454	1666.754	0.023	0.039
2022/07/05 12:31:40	40.90534	-105.252	796.785	1447	1659.368	0.024	0.041
2022/07/05 12:32:40	40.90534	-105.252	796.775	1463	1677.587	0.022	0.037
2022/07/05 12:33:40	40.90534	-105.252	796.79	1422	1630.762	0.028	0.048
2022/07/05 12:34:40	40.90534	-105.252	796.83	1452	1665.679	0.023	0.039
2022/07/05 12:35:40	40.90534	-105.252	796.8	1416	1624.006	0.029	0.049
2022/07/05 12:36:40	40.90534	-105.252	796.71	1421	1628.612	0.028	0.048
2022/07/05 12:37:40	40.90534	-105.252	796.77	1454	1667.203	0.023	0.039
2022/07/05 12:38:40	40.90534	-105.252	796.765	1312	1504.323	0.049	0.084
2022/07/05 12:39:40	40.90534	-105.252	796.72	1398	1602.375	0.032	0.055
2022/07/05 12:40:40	40.90624	-105.254	796.9	1443	1656.247	0.024	0.042
2022/07/05 12:41:40	40.90751	-105.256	798.465	1447	1680.973	0.021	0.036
2022/07/05 12:42:40	40.90775	-105.256	798.59	1471	1710.5	0.017	0.030
2022/07/05 12:43:40	40.90631	-105.254	797.015	1432	1645.078	0.026	0.044
2022/07/05 12:44:40	40.90774	-105.253	795.73	1425	1620.918	0.030	0.050

2022/07/05 12:45:40	40.90916	-105.251	794.695	1524	1719.769	0.016	0.028
2022/07/05 12:46:40	40.91093	-105.249	793.275	1450	1618.47	0.030	0.051
2022/07/05 12:47:40	40.91265	-105.247	791.95	1499	1656.179	0.024	0.042
2022/07/05 12:48:40	40.91386	-105.246	791.68	1554	1713.38	0.017	0.029
2022/07/05 12:49:40	40.91388	-105.246	791.65	1482	1633.619	0.028	0.047
2022/07/05 12:50:40	40.91388	-105.246	791.605	1387	1528.37	0.045	0.076
2022/07/05 12:51:40	40.91455	-105.244	790.475	1530	1671.339	0.022	0.038
2022/07/05 12:52:40	40.91644	-105.243	789.08	1534	1657.805	0.024	0.041
2022/07/05 12:53:40	40.91704	-105.242	788.52	1666	1792.712	0.008	0.013
2022/07/05 12:54:40	40.91708	-105.242	788.51	1624	1747.383	0.013	0.022
2022/07/05 12:55:40	40.91776	-105.241	788.365	1572	1689.545	0.020	0.034
2022/07/05 12:56:40	40.91895	-105.238	787.36	1570	1674.388	0.022	0.037
2022/07/05 12:57:40	40.92004	-105.235	786.785	1518	1611.778	0.031	0.053
2022/07/05 12:58:40	40.92199	-105.234	786.6	1585	1680.522	0.021	0.036
2022/07/05 12:59:40	40.92478	-105.235	786.15	1601	1691.615	0.020	0.034
2022/07/05 13:00:40	40.92746	-105.236	785.59	1655	1741.147	0.014	0.023
2022/07/05 13:01:40	40.92917	-105.238	784.89	1660	1737.019	0.014	0.024
2022/07/05 13:02:40	40.93098	-105.241	784.61	1566	1635.129	0.027	0.047
2022/07/05 13:03:40	40.93342	-105.241	784.05	1687	1753.891	0.012	0.021
2022/07/05 13:04:40	40.93576	-105.242	782.945	1556	1603.991	0.032	0.055
2022/07/05 13:05:40	40.9375	-105.244	782.05	1655	1694.328	0.019	0.033
2022/07/05 13:06:40	40.9395	-105.246	781.24	1655	1683.793	0.021	0.035
2022/07/05 13:07:40	40.94207	-105.244	781.8	1772	1810.619	0.006	0.010
2022/07/05 13:08:40	40.94377	-105.242	782.41	1632	1675.419	0.022	0.037
2022/07/05 13:09:40	40.94527	-105.24	782.055	1658	1697.464	0.019	0.032
2022/07/05 13:10:40	40.94564	-105.239	782.61	1552	1595.746	0.033	0.057
2022/07/05 13:11:40	40.94564	-105.239	782.59	1554	1597.556	0.033	0.056
2022/07/05 13:12:40	40.94644	-105.238	783.465	1543	1596.972	0.033	0.056
2022/07/05 13:13:40	40.94761	-105.235	784.1	1629	1694.244	0.019	0.033
2022/07/05 13:14:40	40.94825	-105.234	784.47	1537	1603.12	0.032	0.055
2022/07/05 13:15:40	40.94688	-105.237	783.85	1679	1742.888	0.013	0.023
2022/07/05 13:16:40	40.94567	-105.239	782.81	1583	1630.128	0.028	0.048
2022/07/05 13:17:40	40.94565	-105.239	782.72	1586	1632.086	0.028	0.047
2022/07/05 13:18:40	40.94565	-105.239	782.815	1531	1576.641	0.036	0.062
2022/07/05 13:19:40	40.94565	-105.239	782.82	1522	1567.433	0.038	0.065
2022/07/05 13:20:40	40.94565	-105.239	782.825	1481	1525.268	0.045	0.077
2022/07/05 13:21:40	40.94565	-105.239	782.82	1449	1492.254	0.052	0.088
2022/07/05 13:22:40	40.94565	-105.239	782.83	1590	1637.589	0.027	0.046
2022/07/05 13:23:40	40.94565	-105.239	782.82	1496	1540.657	0.043	0.072
2022/07/05 13:24:40	40.94565	-105.239	782.81	1547	1593.057	0.034	0.057
2022/07/05 13:25:40	40.94565	-105.239	782.83	1577	1624.2	0.029	0.049
2022/07/05 13:26:40	40.94565	-105.239	782.81	1540	1585.848	0.035	0.059
2022/07/05 13:27:40	40.94565	-105.239	782.81	1551	1597.176	0.033	0.056
2022/07/05 13:28:40	40.94565	-105.239	782.825	1506	1551.015	0.041	0.069
2022/07/05 13:29:40	40.94565	-105.239	782.835	1541	1587.183	0.035	0.059

2022/07/05 13:30:40	40.94565	-105.239	782.89	1587	1635.254	0.027	0.047
2022/07/05 13:31:40	40.94565	-105.239	782.855	1501	1546.223	0.042	0.071
2022/07/05 13:32:40	40.94565	-105.239	782.93	1546	1593.499	0.034	0.057
2022/07/05 13:33:40	40.94574	-105.239	783.01	1481	1527.442	0.045	0.076
2022/07/05 13:34:40	40.94576	-105.239	783.06	1568	1617.793	0.030	0.051
2022/07/05 13:35:40	40.94576	-105.239	782.99	1533	1580.829	0.036	0.061
2022/07/05 13:36:40	40.94576	-105.239	783.035	1517	1564.872	0.038	0.065
2022/07/05 13:37:40	40.94576	-105.239	782.975	1582	1631.17	0.028	0.048
2022/07/05 13:38:40	40.94576	-105.239	783.035	1541	1589.63	0.034	0.058
2022/07/05 13:39:40	40.94576	-105.239	782.97	1620	1670.286	0.023	0.038
2022/07/05 13:40:40	40.94576	-105.239	782.955	1571	1619.578	0.030	0.051
2022/07/05 13:41:40	40.94576	-105.239	782.96	1523	1570.155	0.037	0.064

Table C-7: Rover data 07/26/2022.

Date Time(UTC)	Lat	Long	P (mb)	N <sub>sum</sub>	N	$\theta_G$ (avg)	$\theta_V$
2022/07/26 08:13:35			782.535	360	369.9336	-0.622	-1.057
2022/07/26 08:14:41	40.95165	-105.25029	782.89	1586	1634.224	0.028	0.047
2022/07/26 08:15:41	40.95165	-105.25029	783.045	1419	1463.892	0.057	0.097
2022/07/26 08:16:41	40.95165	-105.25029	783.175	1426	1472.587	0.056	0.094
2022/07/26 08:17:41	40.95164	-105.25029	783.145	1427	1473.279	0.055	0.094
2022/07/26 08:18:41	40.95164	-105.25028	783.08	1457	1503.5	0.049	0.084
2022/07/26 08:19:41	40.95164	-105.25028	783.115	1342	1385.203	0.076	0.129
2022/07/26 08:20:41	40.95162	-105.25028	783.035	1464	1510.2	0.048	0.082
2022/07/26 08:21:41	40.95161	-105.25028	783.09	1444	1490.2	0.052	0.088
2022/07/26 08:22:41	40.95161	-105.25028	783.07	1468	1514.734	0.047	0.080
2022/07/26 08:23:41	40.95161	-105.25029	783.035	1531	1579.314	0.036	0.061
2022/07/26 08:24:41	40.95161	-105.25029	783.045	1463	1509.284	0.048	0.082
2022/07/26 08:25:41	40.95161	-105.25029	783.05	1464	1510.374	0.048	0.082
2022/07/26 08:26:41	40.95161	-105.25029	783.055	1457	1503.21	0.049	0.084
2022/07/26 08:27:41	40.95161	-105.25029	783.07	1456	1502.352	0.050	0.084
2022/07/26 08:28:41	40.95161	-105.25030	783.08	1451	1497.308	0.051	0.086
2022/07/26 08:29:41	40.95161	-105.25030	783.1	1479	1526.437	0.045	0.077
2022/07/26 08:30:41	40.95153	-105.24959	783.27	1501	1551.172	0.041	0.069
2022/07/26 08:31:41	40.95117	-105.24573	784.07	1369	1423.501	0.066	0.113
2022/07/26 08:32:41	40.95125	-105.24261	784.68	1419	1482.439	0.054	0.091
2022/07/26 08:33:41	40.95125	-105.24261	784.595	1361	1420.915	0.067	0.114
2022/07/26 08:34:41	40.9519	-105.24112	786.07	1352	1427.642	0.065	0.111
2022/07/26 08:35:41	40.9524	-105.23849	787.895	1428	1529.233	0.045	0.076
2022/07/26 08:36:41	40.95337	-105.23631	789.575	1331	1443.915	0.062	0.105
2022/07/26 08:37:41	40.95449	-105.23611	790.165	1335	1454.849	0.059	0.101
2022/07/26 08:38:41	40.95647	-105.23549	790.505	1241	1355.955	0.084	0.142
2022/07/26 08:39:41	40.95777	-105.23384	790.845	1340	1467.964	0.056	0.096
2022/07/26 08:40:41	40.95805	-105.23601	790.61	1221	1335.181	0.090	0.152
2022/07/26 08:41:41	40.95821	-105.23720	790.615	1314	1436.934	0.063	0.107
2022/07/26 08:42:41	40.95868	-105.23843	790.625	1370	1498.288	0.050	0.086
2022/07/26 08:43:41	40.95957	-105.24025	790.665	1345	1471.4	0.056	0.095
2022/07/26 08:44:41	40.95895	-105.23907	790.7	1275	1395.198	0.073	0.124
2022/07/26 08:45:41	40.9585	-105.23778	790.64	1234	1349.709	0.085	0.145
2022/07/26 08:46:41	40.95799	-105.23537	790.79	1313	1437.776	0.063	0.107
2022/07/26 08:47:41	40.95773	-105.23380	790.835	1257	1376.931	0.078	0.132
2022/07/26 08:48:41	40.95674	-105.23513	790.655	1265	1383.775	0.076	0.129
2022/07/26 08:49:41	40.95757	-105.23313	791.905	1346	1486.621	0.053	0.090
2022/07/26 08:50:41	40.95775	-105.23176	791.915	1220	1347.561	0.086	0.146
2022/07/26 08:51:41	40.95755	-105.22953	792.385	1249	1384.595	0.076	0.129
2022/07/26 08:52:41	40.95764	-105.22734	792.92	1252	1393.65	0.074	0.125
2022/07/26 08:53:41	40.95743	-105.22847	792.775	1214	1349.843	0.085	0.145
2022/07/26 08:54:41	40.95774	-105.23052	792.345	1227	1359.788	0.083	0.140

2022/07/26 08:55:41	40.95754	-105.23302	791.96	1193	1318.195	0.095	0.161
2022/07/26 08:56:41	40.9566	-105.23517	790.77	1226	1342.302	0.088	0.149
2022/07/26 08:57:41	40.9549	-105.23602	790.415	1284	1401.966	0.071	0.122
2022/07/26 08:58:41	40.95274	-105.23701	789.09	1333	1440.694	0.062	0.106
2022/07/26 08:59:41	40.95204	-105.23995	786.955	1301	1383.182	0.076	0.130
2022/07/26 09:00:41	40.951	-105.24160	785.48	1433	1506.315	0.049	0.083
2022/07/26 09:01:41	40.95027	-105.23897	786.305	1332	1409.07	0.070	0.119
2022/07/26 09:02:41	40.95018	-105.23897	786.26	1377	1456.169	0.059	0.100
2022/07/26 09:03:41	40.94918	-105.23782	787.25	1392	1483.296	0.053	0.091
2022/07/26 09:04:41	40.9482	-105.23789	787.345	1231	1312.696	0.097	0.164
2022/07/26 09:05:41	40.94646	-105.23802	785.88	1408	1484.601	0.053	0.090
2022/07/26 09:06:41	40.9476	-105.23509	786.365	1506	1593.874	0.034	0.057
2022/07/26 09:07:41	40.94869	-105.23377	786.97	1368	1454.582	0.059	0.101
2022/07/26 09:08:41	40.94883	-105.23347	787.155	1349	1436.425	0.063	0.108
2022/07/26 09:09:41	40.95019	-105.23138	787.34	1411	1504.584	0.049	0.084
2022/07/26 09:10:41	40.95127	-105.22971	787.435	1444	1540.9	0.042	0.072
2022/07/26 09:11:41	40.9506	-105.22716	788.93	1469	1585.727	0.035	0.059
2022/07/26 09:12:41	40.9504	-105.22432	791.445	1392	1531.991	0.044	0.075
2022/07/26 09:13:41	40.95125	-105.22136	792.355	1376	1525.03	0.045	0.077
2022/07/26 09:14:41	40.95303	-105.21990	791.64	1356	1494.613	0.051	0.087
2022/07/26 09:15:41	40.95496	-105.21974	794.34	1328	1494.501	0.051	0.087
2022/07/26 09:16:41	40.95533	-105.22221	794.035	1178	1322.584	0.093	0.159
2022/07/26 09:17:41	40.95638	-105.22403	793.65	1164	1302.997	0.100	0.169
2022/07/26 09:18:41	40.95741	-105.22462	793.415	1087	1214.603	0.133	0.226
2022/07/26 09:19:41	40.95772	-105.22526	793.325	1126	1257.309	0.116	0.197
2022/07/26 09:20:41	40.95699	-105.22430	793.45	1125	1257.402	0.116	0.197
2022/07/26 09:21:41	40.95557	-105.22277	793.98	1181	1325.391	0.093	0.157
2022/07/26 09:22:41	40.95516	-105.22034	794.275	1112	1250.793	0.118	0.201
2022/07/26 09:23:41	40.95368	-105.21975	792.365	1276	1414.308	0.068	0.116
2022/07/26 09:24:41	40.95168	-105.22062	792.67	1309	1454.297	0.059	0.101
2022/07/26 09:25:41	40.9505	-105.22292	791.895	1368	1510.803	0.048	0.082
2022/07/26 09:26:41	40.95019	-105.22558	790.515	1333	1456.589	0.059	0.100
2022/07/26 09:27:41	40.95088	-105.22792	788.38	1354	1455.412	0.059	0.101
2022/07/26 09:28:41	40.95129	-105.22999	787.39	1491	1590.503	0.034	0.058
2022/07/26 09:29:41	40.94986	-105.23184	787.435	1373	1465.135	0.057	0.097
2022/07/26 09:30:41	40.94874	-105.23369	787.145	1469	1564.081	0.039	0.065
2022/07/26 09:31:41	40.94867	-105.23378	787.1	1344	1430.495	0.065	0.110
2022/07/26 09:32:41	40.94867	-105.23378	787.11	1382	1471.053	0.056	0.095
2022/07/26 09:33:41	40.94867	-105.23378	787.12	1401	1491.393	0.052	0.088
2022/07/26 09:34:41	40.94826	-105.23288	787.245	1360	1449.141	0.061	0.103
2022/07/26 09:35:41	40.94772	-105.23017	788.965	1422	1535.406	0.043	0.074
2022/07/26 09:36:41	40.94794	-105.22762	789.835	1340	1456.591	0.059	0.100
2022/07/26 09:37:41	40.94692	-105.22566	788.7	1312	1413.746	0.069	0.117
2022/07/26 09:38:41	40.94749	-105.22314	789.04	1329	1435.818	0.063	0.108
2022/07/26 09:39:41	40.94703	-105.22012	788.96	1409	1521.311	0.046	0.078

2022/07/26 09:40:41	40.94693	-105.21731	790.465	1428	1559.796	0.039	0.067
2022/07/26 09:41:41	40.94723	-105.21559	793.45	1346	1504.412	0.049	0.084
2022/07/26 09:42:41	40.94719	-105.21575	793.1	1344	1498.134	0.050	0.086
2022/07/26 09:43:41	40.9469	-105.21748	790.28	1416	1544.487	0.042	0.071
2022/07/26 09:44:41	40.94704	-105.22022	789.065	1410	1523.622	0.046	0.078
2022/07/26 09:45:41	40.94751	-105.22342	788.995	1206	1302.481	0.100	0.170
2022/07/26 09:46:41	40.94579	-105.22467	787.79	1269	1357.863	0.083	0.141
2022/07/26 09:47:41	40.94371	-105.22427	789.315	1464	1585.021	0.035	0.060
2022/07/26 09:48:41	40.94231	-105.22209	789.805	1408	1530.155	0.044	0.075
2022/07/26 09:49:41	40.94177	-105.22389	788.755	1391	1499.507	0.050	0.085
2022/07/26 09:50:41	40.94117	-105.22766	787.125	1405	1495.708	0.051	0.086
2022/07/26 09:51:41	40.94035	-105.23043	786.62	1373	1455.97	0.059	0.100
2022/07/26 09:52:41	40.94046	-105.23238	785.825	1397	1472.379	0.056	0.094
2022/07/26 09:53:41	40.94068	-105.23577	785.38	1480	1554.522	0.040	0.068
2022/07/26 09:54:41	40.94145	-105.23927	784.81	1407	1471.374	0.056	0.095
2022/07/26 09:55:41	40.942	-105.24311	784.19	1422	1479.978	0.054	0.092
2022/07/26 09:56:41	40.94271	-105.24600	784.215	1414	1471.935	0.056	0.095
2022/07/26 09:57:41	40.94505	-105.24844	783.85	1449	1504.136	0.049	0.084
2022/07/26 09:58:41	40.94679	-105.25036	783.91	1458	1514.178	0.047	0.080
2022/07/26 09:59:41	40.94495	-105.24836	784.075	1483	1542.099	0.042	0.072
2022/07/26 10:00:41	40.94259	-105.24568	784.215	1391	1447.993	0.061	0.103
2022/07/26 10:01:41	40.94074	-105.24531	784.245	1454	1513.924	0.047	0.081
2022/07/26 10:02:41	40.93819	-105.24592	784.255	1393	1450.522	0.060	0.102
2022/07/26 10:03:41	40.93612	-105.24754	785.66	1316	1385.248	0.076	0.129
2022/07/26 10:04:41	40.93392	-105.24753	786.515	1347	1427.244	0.065	0.111
2022/07/26 10:05:41	40.93228	-105.24900	786.81	1348	1431.552	0.064	0.110
2022/07/26 10:06:41	40.93125	-105.25049	787.39	1386	1478.495	0.054	0.092
2022/07/26 10:07:41	40.93106	-105.25125	787.555	1409	1504.941	0.049	0.083
2022/07/26 10:08:41	40.93047	-105.25408	787.69	1387	1482.984	0.053	0.091
2022/07/26 10:09:41	40.92873	-105.25624	789.24	1428	1545.153	0.042	0.071
2022/07/26 10:10:41	40.92997	-105.25861	790.845	1408	1542.457	0.042	0.072
2022/07/26 10:11:41	40.93021	-105.26009	791.975	1330	1469.741	0.056	0.095
2022/07/26 10:12:41	40.93021	-105.26009	792.005	1258	1390.498	0.074	0.126
2022/07/26 10:13:41	40.93021	-105.26009	792.035	1308	1446.098	0.061	0.104
2022/07/26 10:14:41	40.93021	-105.26009	792.035	1284	1419.564	0.067	0.114
2022/07/26 10:15:41	40.93021	-105.26009	792.04	1239	1369.866	0.080	0.136
2022/07/26 10:16:41	40.93021	-105.26009	792.04	1244	1375.394	0.078	0.133
2022/07/26 10:17:41	40.93021	-105.26009	792.04	1286	1421.83	0.067	0.113
2022/07/26 10:18:41	40.93021	-105.26009	792.045	1261	1394.243	0.073	0.125
2022/07/26 10:19:41	40.93021	-105.26009	792.055	1294	1430.84	0.065	0.110
2022/07/26 10:20:41	40.93021	-105.26009	792.055	1283	1418.677	0.067	0.115
2022/07/26 10:21:41	40.93021	-105.26009	792.055	1236	1366.707	0.081	0.137
2022/07/26 10:22:41	40.93018	-105.26022	792.125	1270	1405.059	0.071	0.120
2022/07/26 10:23:41	40.92971	-105.25828	790.495	1359	1484.771	0.053	0.090
2022/07/26 10:24:41	40.92857	-105.25644	789.71	1426	1548.583	0.041	0.070

2022/07/26 10:25:41	40.92684	-105.25857	791.805	1426	1573.767	0.037	0.063
2022/07/26 10:26:41	40.92447	-105.25889	792.945	1350	1503.027	0.049	0.084
2022/07/26 10:27:41	40.92211	-105.25954	794	1307	1467.022	0.057	0.096
2022/07/26 10:28:41	40.92258	-105.25918	793.635	1366	1528.942	0.045	0.076
2022/07/26 10:29:41	40.9248	-105.25886	792.48	1360	1508.749	0.048	0.082
2022/07/26 10:30:41	40.92695	-105.25842	791.41	1389	1528.277	0.045	0.076
2022/07/26 10:31:41	40.92805	-105.25688	790.1	1387	1510.76	0.048	0.082
2022/07/26 10:32:41	40.92815	-105.25536	789.62	1407	1526.891	0.045	0.076
2022/07/26 10:33:41	40.92663	-105.25255	789.515	1398	1515.898	0.047	0.080
2022/07/26 10:34:41	40.92558	-105.25055	790.39	1304	1423.53	0.066	0.113
2022/07/26 10:35:41	40.92497	-105.24970	789.31	1303	1410.658	0.069	0.118
2022/07/26 10:36:41	40.92334	-105.24659	790.595	1355	1481.541	0.054	0.091
2022/07/26 10:37:41	40.92228	-105.24366	792.185	1270	1405.708	0.071	0.120
2022/07/26 10:38:41	40.92294	-105.24139	791.1	1213	1331.447	0.091	0.154
2022/07/26 10:39:41	40.92151	-105.23876	790.99	1263	1385.156	0.076	0.129
2022/07/26 10:40:41	40.91887	-105.23860	790.285	1319	1438.741	0.063	0.107
2022/07/26 10:41:41	40.91841	-105.23521	789.955	1275	1387.217	0.075	0.128
2022/07/26 10:42:41	40.91761	-105.23169	789.155	1333	1441.415	0.062	0.106
2022/07/26 10:43:41	40.91528	-105.23050	788.69	1300	1400.707	0.072	0.122
2022/07/26 10:44:41	40.91309	-105.22998	790.08	1274	1387.464	0.075	0.128
2022/07/26 10:45:41	40.91066	-105.22951	790.94	1385	1518.371	0.047	0.079
2022/07/26 10:46:41	40.90863	-105.22727	791.475	1317	1449.783	0.060	0.103
2022/07/26 10:47:41	40.90699	-105.22471	792.595	1264	1403.491	0.071	0.121
2022/07/26 10:48:41	40.90673	-105.22176	793.935	1270	1424.779	0.066	0.112
2022/07/26 10:49:41	40.90449	-105.22022	794.035	1194	1340.548	0.088	0.150
2022/07/26 10:50:41	40.90472	-105.21840	792.7	1202	1335.729	0.089	0.152
2022/07/26 10:51:41	40.90462	-105.22045	794.18	1260	1416.229	0.068	0.116
2022/07/26 10:52:41	40.90597	-105.22120	794.115	1267	1423.384	0.066	0.113
2022/07/26 10:53:41	40.90669	-105.22391	793.175	1277	1424.272	0.066	0.112
2022/07/26 10:54:41	40.90804	-105.22680	791.625	1339	1475.705	0.055	0.093
2022/07/26 10:55:41	40.90939	-105.22797	790.905	1341	1469.738	0.056	0.095
2022/07/26 10:56:41	40.90939	-105.22797	790.925	1388	1521.484	0.046	0.078
2022/07/26 10:57:41	40.90939	-105.22797	790.915	1403	1537.808	0.043	0.073
2022/07/26 10:58:41	40.90939	-105.22797	790.9	1404	1538.727	0.043	0.073
2022/07/26 10:59:41	40.90939	-105.22797	790.96	1374	1506.544	0.049	0.083
2022/07/26 11:00:41	40.90939	-105.22797	790.93	1301	1426.172	0.066	0.112
2022/07/26 11:01:41	40.90939	-105.22797	790.92	1342	1471.004	0.056	0.095
2022/07/26 11:02:41	40.90939	-105.22797	790.935	1418	1554.489	0.040	0.068
2022/07/26 11:03:41	40.90939	-105.22797	790.845	1379	1510.688	0.048	0.082
2022/07/26 11:04:41	40.90939	-105.22797	790.85	1393	1526.084	0.045	0.077
2022/07/26 11:05:41	40.90938	-105.22797	790.91	1362	1492.811	0.051	0.087
2022/07/26 11:06:41	40.90938	-105.22797	790.85	1395	1528.275	0.045	0.076
2022/07/26 11:07:41	40.90938	-105.22797	790.9	1374	1505.848	0.049	0.083
2022/07/26 11:08:41	40.90938	-105.22797	790.845	1393	1526.025	0.045	0.077
2022/07/26 11:09:41	40.90938	-105.22797	790.895	1384	1516.749	0.047	0.080

2022/07/26 11:10:41	40.90938	-105.22797	790.895	1334	1461.953	0.058	0.098
2022/07/26 11:11:41	40.90938	-105.22797	790.91	1297	1421.569	0.067	0.114
2022/07/26 11:12:41	40.90938	-105.22797	790.905	1360	1490.562	0.052	0.088
2022/07/26 11:13:41	40.90938	-105.22797	790.92	1375	1507.176	0.049	0.083
2022/07/26 11:14:41	40.90938	-105.22797	790.96	1338	1467.071	0.057	0.096
2022/07/26 11:15:41	40.90939	-105.22797	790.95	1332	1460.38	0.058	0.099
2022/07/26 11:16:41	40.9111	-105.22966	790.785	1371	1501.23	0.050	0.085
2022/07/26 11:17:41	40.91381	-105.23024	789.825	1348	1465.175	0.057	0.097
2022/07/26 11:18:41	40.91603	-105.23063	788.925	1342	1448.58	0.061	0.103
2022/07/26 11:19:41	40.91801	-105.23232	789.865	1354	1472.15	0.056	0.095
2022/07/26 11:20:41	40.91856	-105.23612	790.145	1237	1347.843	0.086	0.146
2022/07/26 11:21:41	40.91804	-105.24013	791.07	1260	1382.717	0.076	0.130
2022/07/26 11:22:41	40.91703	-105.24206	791.31	1362	1497.416	0.051	0.086
2022/07/26 11:23:41	40.91606	-105.24298	792.135	1318	1458.276	0.059	0.100
2022/07/26 11:24:41	40.9137	-105.24505	793.77	1291	1446.499	0.061	0.104
2022/07/26 11:25:41	40.91126	-105.24719	795.635	1244	1413.998	0.069	0.117
2022/07/26 11:26:41	40.90881	-105.24950	797.28	1350	1554.044	0.040	0.068
2022/07/26 11:27:41	40.9062	-105.24977	798.48	1323	1537.101	0.043	0.073
2022/07/26 11:28:41	40.9046	-105.24970	800.43	1290	1521.434	0.046	0.078
2022/07/26 11:29:41	40.90413	-105.24739	801.415	1184	1407.048	0.070	0.119
2022/07/26 11:30:41	40.90411	-105.24737	801.485	1253	1489.85	0.052	0.088
2022/07/26 11:31:41	40.90411	-105.24737	801.485	1204	1431.587	0.064	0.110
2022/07/26 11:32:41	40.90432	-105.24826	801.135	1148	1361.328	0.082	0.140
2022/07/26 11:33:41	40.90472	-105.24996	800.47	1238	1460.555	0.058	0.099
2022/07/26 11:34:41	40.90508	-105.25075	800.13	1196	1407.315	0.070	0.119
2022/07/26 11:35:41	40.90534	-105.25175	799.625	1288	1509.688	0.048	0.082
2022/07/26 11:36:41	40.90534	-105.25175	799.61	1194	1399.347	0.072	0.123
2022/07/26 11:37:41	40.90534	-105.25175	799.61	1234	1446.227	0.061	0.104
2022/07/26 11:38:41	40.90534	-105.25175	799.605	1285	1505.94	0.049	0.083
2022/07/26 11:39:41	40.90534	-105.25175	799.615	1312	1537.701	0.043	0.073
2022/07/26 11:40:41	40.90534	-105.25174	799.66	1254	1470.232	0.056	0.095
2022/07/26 11:41:41	40.90533	-105.25174	799.61	1256	1472.01	0.056	0.095
2022/07/26 11:42:41	40.90533	-105.25174	799.615	1248	1462.691	0.058	0.098
2022/07/26 11:43:41	40.90533	-105.25174	799.63	1192	1397.219	0.073	0.124
2022/07/26 11:44:41	40.90533	-105.25174	799.62	1163	1363.121	0.082	0.139
2022/07/26 11:45:41	40.90533	-105.25174	799.61	1190	1394.66	0.073	0.125
2022/07/26 11:46:41	40.90533	-105.25174	799.615	1190	1394.713	0.073	0.125
2022/07/26 11:47:41	40.90533	-105.25174	799.61	1201	1407.551	0.070	0.119
2022/07/26 11:48:41	40.90533	-105.25174	799.665	1177	1380.008	0.077	0.131
2022/07/26 11:49:41	40.90533	-105.25174	799.61	1306	1530.61	0.044	0.075
2022/07/26 11:50:41	40.90533	-105.25174	799.53	1208	1414.883	0.068	0.116
2022/07/26 11:51:41	40.90533	-105.25174	799.53	1209	1416.055	0.068	0.116
2022/07/26 11:52:41	40.90533	-105.25174	799.505	1238	1449.742	0.060	0.103
2022/07/26 11:53:41	40.90533	-105.25174	799.52	1209	1415.946	0.068	0.116
2022/07/26 11:54:41	40.90533	-105.25174	799.51	1227	1436.916	0.063	0.107

2022/07/26 11:55:41	40.90533	-105.25174	799.515	1214	1421.747	0.067	0.113
2022/07/26 11:56:41	40.90533	-105.25174	799.43	1235	1445.394	0.061	0.104
2022/07/26 11:57:41	40.90533	-105.25174	799.425	1185	1386.823	0.075	0.128
2022/07/26 11:58:41	40.90533	-105.25174	799.44	1199	1403.369	0.071	0.121
2022/07/26 11:59:41	40.90533	-105.25174	799.515	1193	1397.153	0.073	0.124
2022/07/26 12:00:41	40.90533	-105.25174	799.515	1247	1460.394	0.058	0.099
2022/07/26 12:01:41	40.90533	-105.25174	799.495	1180	1381.716	0.077	0.130
2022/07/26 12:02:41	40.90533	-105.25174	799.525	1206	1412.486	0.069	0.117
2022/07/26 12:03:41	40.90533	-105.25174	799.585	1245	1458.838	0.058	0.099
2022/07/26 12:04:41	40.90533	-105.25174	799.595	1217	1426.138	0.066	0.112
2022/07/26 12:05:41	40.90533	-105.25174	799.59	1270	1488.189	0.052	0.089
2022/07/26 12:06:41	40.90533	-105.25174	799.585	1176	1377.986	0.078	0.132
2022/07/26 12:07:41	40.90533	-105.25174	799.605	1256	1471.954	0.056	0.095
2022/07/26 12:08:41	40.90533	-105.25174	799.63	1289	1510.918	0.048	0.082
2022/07/26 12:09:41	40.90533	-105.25174	799.635	1186	1390.239	0.074	0.127
2022/07/26 12:10:41	40.90583	-105.25298	799.065	1262	1472.848	0.055	0.094
2022/07/26 12:11:41	40.90663	-105.25489	800.53	1280	1510.803	0.048	0.082
2022/07/26 12:12:41	40.90789	-105.25587	801.53	1274	1515.344	0.047	0.080
2022/07/26 12:13:41	40.90633	-105.25451	799.85	1191	1398.413	0.072	0.123
2022/07/26 12:14:41	40.90759	-105.25289	798.515	1261	1465.462	0.057	0.097
2022/07/26 12:15:41	40.90913	-105.25097	797.375	1339	1542.509	0.042	0.072
2022/07/26 12:16:41	40.91095	-105.24907	795.975	1291	1471.268	0.056	0.095
2022/07/26 12:17:41	40.91286	-105.24680	794.66	1273	1436.139	0.063	0.108
2022/07/26 12:18:41	40.91389	-105.24618	794.41	1264	1423.243	0.066	0.113
2022/07/26 12:19:41	40.91419	-105.24525	793.62	1188	1329.556	0.091	0.155
2022/07/26 12:20:41	40.91592	-105.24311	791.925	1313	1450.397	0.060	0.102
2022/07/26 12:21:41	40.91704	-105.24207	791.22	1379	1515.056	0.047	0.080
2022/07/26 12:22:41	40.91729	-105.24155	791.24	1283	1409.802	0.070	0.118
2022/07/26 12:23:41	40.91877	-105.23962	790.34	1256	1370.602	0.080	0.135
2022/07/26 12:24:41	40.91891	-105.23880	790.405	1338	1460.815	0.058	0.099
2022/07/26 12:25:41	40.91956	-105.23586	789.63	1278	1387.006	0.075	0.128
2022/07/26 12:26:41	40.9216	-105.23386	789.49	1342	1454.895	0.059	0.101
2022/07/26 12:27:41	40.92463	-105.23470	788.98	1305	1409.238	0.070	0.119
2022/07/26 12:28:41	40.92737	-105.23555	788.345	1386	1489.408	0.052	0.089
2022/07/26 12:29:41	40.92918	-105.23821	787.74	1261	1348.783	0.086	0.146
2022/07/26 12:30:41	40.93117	-105.24063	787.41	1404	1497.927	0.050	0.086
2022/07/26 12:31:41	40.93169	-105.24092	787.31	1387	1478.651	0.054	0.092
2022/07/26 12:32:41	40.93394	-105.24134	786.625	1430	1516.473	0.047	0.080
2022/07/26 12:33:41	40.93612	-105.24224	785.645	1474	1551.382	0.041	0.069
2022/07/26 12:34:41	40.93754	-105.24416	784.9	1429	1495.417	0.051	0.087
2022/07/26 12:35:41	40.93976	-105.24556	784.195	1404	1461.301	0.058	0.098
2022/07/26 12:36:41	40.94222	-105.24414	784.57	1519	1585.566	0.035	0.059
2022/07/26 12:37:41	40.94412	-105.24136	785.15	1423	1492.007	0.052	0.088
2022/07/26 12:38:41	40.94581	-105.23906	785.54	1395	1467.048	0.057	0.096
2022/07/26 12:39:41	40.94586	-105.23903	785.52	1381	1452.102	0.060	0.102

2022/07/26 12:40:41	40.94586	-105.23904	785.575	1308	1375.926	0.078	0.133
2022/07/26 12:41:41	40.94586	-105.23904	785.52	1402	1474.183	0.055	0.094
2022/07/26 12:42:41	40.94585	-105.23904	785.575	1321	1389.601	0.075	0.127
2022/07/26 12:43:41	40.94585	-105.23904	785.57	1282	1348.524	0.086	0.146
2022/07/26 12:44:41	40.94585	-105.23904	785.605	1390	1462.522	0.058	0.098
2022/07/26 12:45:41	40.94585	-105.23904	785.59	1296	1363.46	0.082	0.139
2022/07/26 12:46:41	40.94585	-105.23904	785.59	1375	1446.572	0.061	0.104
2022/07/26 12:47:41	40.94585	-105.23904	785.595	1303	1370.877	0.080	0.135
2022/07/26 12:48:41	40.94585	-105.23904	785.62	1338	1407.971	0.070	0.119
2022/07/26 12:49:41	40.94585	-105.23904	785.685	1351	1422.363	0.067	0.113
2022/07/26 12:50:41	40.94585	-105.23904	785.7	1339	1409.892	0.070	0.118
2022/07/26 12:51:41	40.94585	-105.23904	785.7	1300	1368.827	0.080	0.136
2022/07/26 12:52:41	40.94585	-105.23904	785.7	1286	1354.086	0.084	0.143
2022/07/26 12:53:41	40.94585	-105.23904	785.7	1326	1396.204	0.073	0.124
2022/07/26 12:54:41	40.94585	-105.23905	785.685	1365	1437.102	0.063	0.107
2022/07/26 12:55:41	40.94585	-105.23905	785.61	1380	1452.056	0.060	0.102
2022/07/26 12:56:41	40.94585	-105.23905	785.615	1395	1467.896	0.057	0.096
2022/07/26 12:57:41	40.94585	-105.23905	785.585	1308	1376.032	0.078	0.133
2022/07/26 12:58:41	40.94585	-105.23905	785.585	1340	1409.696	0.070	0.118
2022/07/26 12:59:41	40.94585	-105.23905	785.625	1324	1393.293	0.074	0.125
2022/07/26 13:00:41	40.94585	-105.23905	785.6	1377	1448.788	0.061	0.103
2022/07/26 13:01:41	40.94585	-105.23905	785.605	1352	1422.539	0.067	0.113
2022/07/26 13:02:41	40.94585	-105.23905	785.595	1343	1412.961	0.069	0.117
2022/07/26 13:03:41	40.94585	-105.23905	785.6	1408	1481.404	0.054	0.091
2022/07/26 13:04:41	40.94585	-105.23905	785.525	1291	1357.52	0.083	0.141
2022/07/26 13:05:41	40.94585	-105.23905	785.51	1382	1453.041	0.060	0.101
2022/07/26 13:06:41	40.94585	-105.23905	785.535	1313	1380.76	0.077	0.131
2022/07/26 13:07:41	40.94585	-105.23905	785.595	1408	1481.347	0.054	0.091
2022/07/26 13:08:41	40.94585	-105.23905	785.545	1294	1360.884	0.082	0.140
2022/07/26 13:09:41	40.94585	-105.23905	785.52	1348	1417.403	0.068	0.115
2022/07/26 13:10:41	40.94585	-105.23905	785.515	1388	1459.406	0.058	0.099
2022/07/26 13:11:41	40.94534	-105.23945	784.765	1337	1397.687	0.073	0.123
2022/07/26 13:12:41	40.94342	-105.24281	784.92	1516	1586.705	0.035	0.059
2022/07/26 13:13:41	40.94171	-105.24152	784.77	1445	1510.647	0.048	0.082
2022/07/26 13:14:41	40.94075	-105.23624	785.34	1470	1543.543	0.042	0.071
2022/07/26 13:15:41	40.94036	-105.23055	786.605	1405	1489.731	0.052	0.088
2022/07/26 13:16:41	40.94144	-105.22739	787.265	1502	1600.695	0.033	0.055
2022/07/26 13:17:41	40.94144	-105.22740	787.235	1471	1567.296	0.038	0.065
2022/07/26 13:18:41	40.94143	-105.22740	787.28	1443	1537.996	0.043	0.073
2022/07/26 13:19:41	40.94143	-105.22741	787.26	1485	1582.517	0.035	0.060
2022/07/26 13:20:41	40.94143	-105.22741	787.255	1406	1498.272	0.050	0.086
2022/07/26 13:21:41	40.94143	-105.22741	787.32	1438	1533.139	0.044	0.075
2022/07/26 13:22:41	40.94143	-105.22741	787.285	1474	1571.097	0.037	0.063
2022/07/26 13:23:41	40.94143	-105.22742	787.255	1495	1593.113	0.034	0.057
2022/07/26 13:24:41	40.94143	-105.22742	787.255	1512	1611.228	0.031	0.053

2022/07/26 13:25:41	40.94143	-105.22742	787.195	1408	1499.71	0.050	0.085
2022/07/26 13:26:41	40.94143	-105.22742	787.185	1423	1515.57	0.047	0.080
2022/07/26 13:27:41	40.94143	-105.22742	787.25	1438	1532.313	0.044	0.075
2022/07/26 13:28:41	40.94143	-105.22742	787.265	1520	1619.878	0.030	0.050
2022/07/26 13:29:41	40.94142	-105.22742	787.235	1516	1615.242	0.030	0.052
2022/07/26 13:30:41	40.94143	-105.22742	787.22	1539	1639.558	0.027	0.046
2022/07/26 13:31:41	40.94143	-105.22742	787.265	1515	1614.549	0.030	0.052
2022/07/26 13:32:41	40.94143	-105.22742	787.275	1390	1481.45	0.054	0.091
2022/07/26 13:33:41	40.94143	-105.22742	787.29	1434	1528.521	0.045	0.076
2022/07/26 13:34:41	40.94143	-105.22742	787.29	1415	1508.269	0.048	0.082
2022/07/26 13:35:41	40.94143	-105.22742	787.295	1470	1566.954	0.038	0.065
2022/07/26 13:36:41	40.94143	-105.22742	787.35	1459	1555.888	0.040	0.068
2022/07/26 13:37:41	40.94143	-105.22742	787.375	1433	1528.455	0.045	0.076
2022/07/26 13:38:41	40.94143	-105.22743	787.37	1512	1612.656	0.031	0.052
2022/07/26 13:39:41	40.94143	-105.22742	787.365	1490	1589.13	0.034	0.059
2022/07/26 13:40:41	40.94143	-105.22742	787.365	1436	1531.537	0.044	0.075
2022/07/26 13:41:41	40.94143	-105.22742	787.36	1483	1581.603	0.036	0.061
2022/07/26 13:42:41	40.94143	-105.22742	787.305	1459	1555.349	0.040	0.068
2022/07/26 13:43:41	40.94143	-105.22742	787.375	1494	1593.519	0.034	0.057
2022/07/26 13:44:41	40.94142	-105.22742	787.365	1437	1532.604	0.044	0.075
2022/07/26 13:45:41	40.94142	-105.22742	787.3	1418	1511.583	0.048	0.081
2022/07/26 13:46:41	40.94142	-105.22742	787.3	1445	1540.365	0.043	0.072
2022/07/26 13:47:41	40.94142	-105.22742	787.305	1491	1589.462	0.034	0.058
2022/07/26 13:48:41	40.94142	-105.22743	787.355	1478	1576.21	0.036	0.062
2022/07/26 13:49:41	40.94142	-105.22743	787.365	1399	1492.076	0.052	0.088
2022/07/26 13:50:41	40.94142	-105.22743	787.345	1429	1523.837	0.046	0.077
2022/07/26 13:51:41	40.94142	-105.22743	787.425	1442	1538.647	0.043	0.073
2022/07/26 13:52:41	40.94142	-105.22743	787.54	1474	1574.185	0.037	0.063
2022/07/26 13:53:41	40.94029	-105.22906	787.385	1426	1521.106	0.046	0.078
2022/07/26 13:54:41	40.94044	-105.23404	786.095	1435	1515.577	0.047	0.080
2022/07/26 13:55:41	40.9415	-105.23957	785.505	1449	1523.427	0.046	0.078
2022/07/26 13:56:41	40.94251	-105.24385	784.91	1505	1575.07	0.037	0.062
2022/07/26 13:57:41	40.94491	-105.24044	785.525	1437	1511.043	0.048	0.081
2022/07/26 13:58:41	40.94688	-105.23832	787.07	1385	1473.793	0.055	0.094
2022/07/26 13:59:41	40.94897	-105.23805	788.09	1397	1498.283	0.050	0.086
2022/07/26 14:00:41	40.95019	-105.23897	787.185	1403	1494.269	0.051	0.087
2022/07/26 14:01:41	40.95036	-105.23947	787.12	1354	1441.36	0.062	0.106
2022/07/26 14:02:41	40.95102	-105.24157	786.36	1312	1388.501	0.075	0.127
2022/07/26 14:03:41	40.95102	-105.24156	786.365	1379	1459.464	0.058	0.099
2022/07/26 14:04:41	40.95102	-105.24156	786.295	1388	1468.197	0.056	0.096
2022/07/26 14:05:41	40.95102	-105.24156	786.29	1484	1569.684	0.038	0.064
2022/07/26 14:06:41	40.95102	-105.24156	786.3	1368	1447.097	0.061	0.104
2022/07/26 14:07:41	40.95102	-105.24156	786.235	1431	1512.983	0.048	0.081
2022/07/26 14:08:41	40.95102	-105.24156	786.245	1455	1538.476	0.043	0.073
2022/07/26 14:09:41	40.95101	-105.24156	786.25	1497	1582.947	0.035	0.060

2022/07/26 14:10:41	40.95101	-105.24156	786.26	1431	1513.274	0.048	0.081
2022/07/26 14:11:41	40.95101	-105.24155	786.265	1376	1455.168	0.059	0.101
2022/07/26 14:12:41	40.95101	-105.24155	786.26	1391	1470.974	0.056	0.095
2022/07/26 14:13:41	40.95101	-105.24155	786.195	1409	1489.264	0.052	0.089
2022/07/26 14:14:41	40.95101	-105.24155	786.21	1367	1445.038	0.061	0.104
2022/07/26 14:15:41	40.95101	-105.24155	786.205	1449	1531.66	0.044	0.075
2022/07/26 14:16:41	40.95101	-105.24155	786.195	1436	1517.802	0.047	0.079
2022/07/26 14:17:41	40.95101	-105.24155	786.195	1342	1418.447	0.068	0.115
2022/07/26 14:18:41	40.95101	-105.24155	786.13	1459	1541.34	0.042	0.072
2022/07/26 14:19:41	40.95101	-105.24155	786.14	1414	1493.916	0.051	0.087
2022/07/26 14:20:41	40.95101	-105.24155	786.1	1382	1459.657	0.058	0.099
2022/07/26 14:21:41	40.95101	-105.24155	786.08	1432	1512.234	0.048	0.081
2022/07/26 14:22:41	40.95101	-105.24155	786.025	1378	1454.592	0.059	0.101
2022/07/26 14:23:41	40.95101	-105.24156	786.005	1441	1520.86	0.046	0.078
2022/07/26 14:24:41	40.95101	-105.24156	785.96	1373	1448.589	0.061	0.103
2022/07/26 14:25:41	40.95101	-105.24156	785.965	1397	1473.967	0.055	0.094
2022/07/26 14:26:41	40.95101	-105.24155	785.96	1396	1472.855	0.055	0.094
2022/07/26 14:27:41	40.95101	-105.24155	785.925	1435	1513.595	0.047	0.081
2022/07/26 14:28:41	40.95102	-105.24155	785.915	1474	1554.611	0.040	0.068
2022/07/26 14:29:41	40.95102	-105.24155	785.955	1405	1482.294	0.054	0.091
2022/07/26 14:30:41	40.95102	-105.24154	785.915	1383	1458.634	0.058	0.099
2022/07/26 14:31:41	40.95102	-105.24154	785.87	1346	1419.119	0.067	0.114
2022/07/26 14:32:41	40.95102	-105.24154	785.855	1453	1531.755	0.044	0.075
2022/07/26 14:33:41	40.95102	-105.24154	785.785	1305	1374.991	0.078	0.133
2022/07/26 14:34:41	40.95102	-105.24153	785.785	1352	1424.512	0.066	0.112
2022/07/26 14:35:41	40.95102	-105.24154	785.78	1334	1405.493	0.071	0.120
2022/07/26 14:36:41	40.95102	-105.24154	785.79	1400	1475.143	0.055	0.093
2022/07/26 14:37:41	40.95102	-105.24154	785.805	1326	1397.333	0.073	0.123
2022/07/26 14:38:41	40.95102	-105.24154	785.775	1390	1464.438	0.057	0.097
2022/07/26 14:39:41	40.95102	-105.24155	785.71	1409	1483.712	0.053	0.091
2022/07/26 14:40:41	40.95102	-105.24155	785.725	1403	1477.565	0.055	0.093
2022/07/26 14:41:41	40.95102	-105.24155	785.705	1432	1507.874	0.049	0.083
2022/07/26 14:42:41	40.95102	-105.24155	785.705	1463	1540.516	0.043	0.072
2022/07/26 14:43:41	40.95102	-105.24155	785.635	1401	1474.436	0.055	0.094
2022/07/26 14:44:41	40.95102	-105.24155	785.635	1431	1506.009	0.049	0.083
2022/07/26 14:45:41	40.95102	-105.24155	785.63	1445	1520.684	0.046	0.078
2022/07/26 14:46:41	40.95102	-105.24155	785.605	1434	1508.818	0.048	0.082
2022/07/26 14:47:41	40.95102	-105.24155	785.615	1386	1458.425	0.059	0.099
2022/07/26 14:48:41	40.95102	-105.24155	785.6	1392	1464.57	0.057	0.097
2022/07/26 14:49:41	40.95102	-105.24155	785.545	1407	1479.725	0.054	0.092
2022/07/26 14:50:41	40.95102	-105.24155	785.52	724	761.2756	1.123	1.909

Table C-8: Rover data 07/29/2022.

Date Time(MST)	Lat	Long	P (mb)	N <sub>sum</sub>	N	$\theta_G$ (avg)	$\theta_V$
2022/07/29 08:06:22			784.63	374	390.5698	-0.662	-1.126
2022/07/29 08:07:28	40.95159	-105.2503	785.06	1272	1332.761	0.090	0.154
2022/07/29 08:08:28	40.95159	-105.2503	784.895	1237	1294.443	0.102	0.174
2022/07/29 08:09:28	40.95159	-105.2503	784.65	1214	1267.981	0.112	0.190
2022/07/29 08:10:28	40.9515	-105.2493	784.785	1183	1236.887	0.124	0.210
2022/07/29 08:11:28	40.95111	-105.2455	785.535	1191	1252.464	0.118	0.200
2022/07/29 08:12:28	40.9512	-105.2421	786.275	1224	1294.522	0.102	0.174
2022/07/29 08:13:28	40.95098	-105.2415	786.465	1185	1255.11	0.117	0.198
2022/07/29 08:14:28	40.95098	-105.2415	786.475	1226	1298.636	0.101	0.172
2022/07/29 08:15:28	40.95098	-105.2415	786.41	1207	1277.87	0.108	0.184
2022/07/29 08:16:28	40.95098	-105.2415	786.425	1220	1291.783	0.103	0.176
2022/07/29 08:17:28	40.95098	-105.2415	786.4	1173	1241.778	0.122	0.207
2022/07/29 08:18:28	40.95098	-105.2415	786.36	1172	1240.338	0.122	0.208
2022/07/29 08:19:28	40.95098	-105.2415	786.385	1190	1259.63	0.115	0.195
2022/07/29 08:20:28	40.95098	-105.2415	786.31	1196	1265.25	0.113	0.192
2022/07/29 08:21:28	40.95098	-105.2415	786.31	1187	1255.729	0.116	0.198
2022/07/29 08:22:28	40.95098	-105.2415	786.29	1170	1237.554	0.123	0.210
2022/07/29 08:23:28	40.95098	-105.2415	786.365	1225	1296.478	0.102	0.173
2022/07/29 08:24:28	40.95098	-105.2415	786.355	1206	1276.271	0.109	0.185
2022/07/29 08:25:28	40.95098	-105.2415	786.36	1158	1225.521	0.128	0.218
2022/07/29 08:26:28	40.95098	-105.2415	786.41	1188	1257.755	0.116	0.196
2022/07/29 08:27:28	40.95098	-105.2415	786.41	1292	1367.861	0.080	0.137
2022/07/29 08:28:28	40.95098	-105.2415	786.415	1148	1215.453	0.133	0.226
2022/07/29 08:29:28	40.95098	-105.2415	786.41	1173	1241.874	0.122	0.207
2022/07/29 08:30:28	40.95098	-105.2415	786.45	1179	1248.611	0.119	0.202
2022/07/29 08:31:28	40.95098	-105.2415	786.415	1175	1244.039	0.121	0.205
2022/07/29 08:32:28	40.95098	-105.2415	786.42	1203	1273.734	0.110	0.186
2022/07/29 08:33:28	40.95098	-105.2415	786.435	1183	1252.702	0.117	0.200
2022/07/29 08:34:28	40.95098	-105.2415	786.43	1200	1270.655	0.111	0.188
2022/07/29 08:35:28	40.95098	-105.2415	786.43	1248	1321.481	0.094	0.159
2022/07/29 08:36:28	40.95098	-105.2415	786.49	1144	1211.918	0.134	0.228
2022/07/29 08:37:28	40.95098	-105.2415	786.445	1175	1244.327	0.121	0.205
2022/07/29 08:38:28	40.95098	-105.2415	786.44	1149	1216.746	0.132	0.225
2022/07/29 08:39:28	40.95098	-105.2415	786.49	1193	1263.827	0.113	0.193
2022/07/29 08:40:28	40.95098	-105.2415	786.5	1167	1236.378	0.124	0.211
2022/07/29 08:41:28	40.95098	-105.2415	786.51	1210	1282.033	0.107	0.181
2022/07/29 08:42:28	40.95098	-105.2415	786.52	1195	1266.238	0.112	0.191
2022/07/29 08:43:28	40.95098	-105.2415	786.525	1220	1292.778	0.103	0.175
2022/07/29 08:44:28	40.95098	-105.2415	786.575	1229	1302.816	0.100	0.170
2022/07/29 08:45:28	40.95098	-105.2415	786.58	1194	1265.763	0.113	0.191
2022/07/29 08:46:28	40.95098	-105.2415	786.585	1180	1250.97	0.118	0.201
2022/07/29 08:47:28	40.95098	-105.2415	786.575	1186	1257.234	0.116	0.197

2022/07/29 08:48:28	40.95098	-105.2415	786.6	1204	1276.56	0.109	0.185
2022/07/29 08:49:28	40.95098	-105.2415	786.645	1164	1234.578	0.125	0.212
2022/07/29 08:50:28	40.95098	-105.2415	786.64	1210	1283.317	0.106	0.181
2022/07/29 08:51:28	40.95098	-105.2415	786.645	1108	1175.182	0.152	0.258
2022/07/29 08:52:28	40.95098	-105.2415	786.65	1208	1281.295	0.107	0.182
2022/07/29 08:53:28	40.95098	-105.2415	786.645	1217	1290.791	0.104	0.176
2022/07/29 08:54:28	40.95098	-105.2415	786.65	1220	1294.023	0.103	0.174
2022/07/29 08:55:28	40.95169	-105.2416	787.09	1176	1251.586	0.118	0.200
2022/07/29 08:56:28	40.95231	-105.2386	789.205	1207	1305.67	0.099	0.168
2022/07/29 08:57:28	40.95369	-105.2362	791.245	1153	1267.002	0.112	0.191
2022/07/29 08:58:28	40.95582	-105.2358	791.925	1097	1211.794	0.134	0.228
2022/07/29 08:59:28	40.95692	-105.2344	791.975	1108	1224.416	0.129	0.219
2022/07/29 09:00:28	40.95799	-105.2352	792.115	1057	1169.317	0.155	0.263
2022/07/29 09:01:28	40.95842	-105.2375	791.755	1112	1226.757	0.128	0.217
2022/07/29 09:02:28	40.95937	-105.2396	792.06	1087	1201.996	0.139	0.236
2022/07/29 09:03:28	40.95908	-105.2393	791.81	1102	1216.239	0.132	0.225
2022/07/29 09:04:28	40.95814	-105.237	791.855	1118	1234.326	0.125	0.212
2022/07/29 09:05:28	40.95791	-105.2343	792.31	1079	1195.449	0.142	0.241
2022/07/29 09:06:28	40.95679	-105.2351	791.995	1153	1274.34	0.109	0.186
2022/07/29 09:07:28	40.95755	-105.233	793.27	1010	1127.304	0.178	0.303
2022/07/29 09:08:28	40.95774	-105.2305	793.575	1000	1118.767	0.184	0.312
2022/07/29 09:09:28	40.95756	-105.2277	793.935	1038	1164.504	0.157	0.267
2022/07/29 09:10:28	40.95775	-105.2261	794.505	921	1037.79	0.246	0.417
2022/07/29 09:11:28	40.95724	-105.2245	794.815	932	1052.694	0.232	0.395
2022/07/29 09:12:28	40.95565	-105.2229	795.255	977	1107.267	0.191	0.325
2022/07/29 09:13:28	40.95505	-105.22	795.665	1023	1163.066	0.158	0.268
2022/07/29 09:14:28	40.9539	-105.2197	793.965	1158	1299.429	0.101	0.171
2022/07/29 09:15:28	40.95236	-105.22	793.735	1130	1265.766	0.113	0.191
2022/07/29 09:16:28	40.95071	-105.2221	793.62	1152	1289.267	0.104	0.177
2022/07/29 09:17:28	40.9503	-105.2248	792.52	1168	1296.148	0.102	0.173
2022/07/29 09:18:28	40.95061	-105.2273	790.185	1170	1275.232	0.109	0.186
2022/07/29 09:19:28	40.95131	-105.2298	788.755	1201	1294.686	0.102	0.174
2022/07/29 09:20:28	40.94981	-105.232	788.755	1118	1205.211	0.137	0.233
2022/07/29 09:21:28	40.94876	-105.2337	788.42	1153	1239.739	0.123	0.208
2022/07/29 09:22:28	40.94868	-105.2338	788.29	1161	1247.092	0.120	0.203
2022/07/29 09:23:28	40.94797	-105.2313	789.125	1194	1290.812	0.104	0.176
2022/07/29 09:24:28	40.94816	-105.2279	791.34	1097	1206.347	0.137	0.233
2022/07/29 09:25:28	40.94691	-105.2259	790.075	1070	1165.251	0.157	0.267
2022/07/29 09:26:28	40.9475	-105.2231	790.385	1089	1188.776	0.145	0.246
2022/07/29 09:27:28	40.947	-105.22	790.375	1054	1150.481	0.165	0.280
2022/07/29 09:28:28	40.94688	-105.217	792.21	1161	1285.308	0.106	0.180
2022/07/29 09:29:28	40.94709	-105.2152	795.42	1122	1273.217	0.110	0.187
2022/07/29 09:30:28	40.94711	-105.2161	793.585	1115	1247.522	0.120	0.203
2022/07/29 09:31:28	40.94678	-105.2182	791.105	1177	1291.982	0.103	0.176
2022/07/29 09:32:28	40.94704	-105.2211	790.38	1125	1228.027	0.127	0.217

2022/07/29 09:33:28	40.9472	-105.2242	789.89	1070	1163.592	0.158	0.268
2022/07/29 09:34:28	40.94543	-105.2244	788.935	1134	1224.155	0.129	0.219
2022/07/29 09:35:28	40.94334	-105.2241	790.785	1171	1282.232	0.107	0.181
2022/07/29 09:36:28	40.94191	-105.2224	791.185	1168	1282.893	0.106	0.181
2022/07/29 09:37:28	40.94179	-105.2247	789.49	1219	1321.548	0.094	0.159
2022/07/29 09:38:28	40.9414	-105.2274	788.54	1237	1331.288	0.091	0.154
2022/07/29 09:39:28	40.9414	-105.2274	788.535	1139	1225.771	0.128	0.218
2022/07/29 09:40:28	40.9414	-105.2274	788.53	1184	1274.15	0.110	0.186
2022/07/29 09:41:28	40.94141	-105.2274	788.54	1237	1331.288	0.091	0.154
2022/07/29 09:42:28	40.94141	-105.2274	788.565	1187	1277.723	0.108	0.184
2022/07/29 09:43:28	40.94141	-105.2274	788.555	1171	1260.403	0.115	0.195
2022/07/29 09:44:28	40.94141	-105.2274	788.595	1183	1273.712	0.110	0.186
2022/07/29 09:45:28	40.94141	-105.2274	788.565	1190	1280.952	0.107	0.182
2022/07/29 09:46:28	40.94141	-105.2274	788.55	1199	1290.491	0.104	0.177
2022/07/29 09:47:28	40.94141	-105.2274	788.605	1210	1302.882	0.100	0.169
2022/07/29 09:48:28	40.94141	-105.2274	788.61	1165	1254.476	0.117	0.199
2022/07/29 09:49:28	40.94141	-105.2274	788.61	1184	1274.935	0.109	0.186
2022/07/29 09:50:28	40.94141	-105.2274	788.615	1201	1293.291	0.103	0.175
2022/07/29 09:51:28	40.94141	-105.2274	788.615	1138	1225.45	0.128	0.218
2022/07/29 09:52:28	40.94141	-105.2274	788.615	1191	1282.522	0.107	0.181
2022/07/29 09:53:28	40.94141	-105.2274	788.63	1368	1473.294	0.055	0.094
2022/07/29 09:54:28	40.94141	-105.2274	788.625	1123	1209.39	0.135	0.230
2022/07/29 09:55:28	40.94141	-105.2274	788.635	1219	1312.876	0.096	0.164
2022/07/29 09:56:28	40.94141	-105.2274	788.62	1220	1313.802	0.096	0.163
2022/07/29 09:57:28	40.94141	-105.2274	788.62	1193	1284.726	0.106	0.180
2022/07/29 09:58:28	40.94141	-105.2274	788.585	1206	1298.375	0.101	0.172
2022/07/29 09:59:28	40.94141	-105.2274	788.625	1185	1276.16	0.109	0.185
2022/07/29 10:00:28	40.94141	-105.2274	788.565	1174	1263.729	0.113	0.193
2022/07/29 10:01:28	40.94141	-105.2274	788.615	1160	1249.14	0.119	0.202
2022/07/29 10:02:28	40.94141	-105.2274	788.62	1168	1257.803	0.116	0.196
2022/07/29 10:03:28	40.94141	-105.2274	788.615	1169	1258.832	0.115	0.196
2022/07/29 10:04:28	40.94141	-105.2274	788.625	1154	1242.775	0.121	0.206
2022/07/29 10:05:28	40.94141	-105.2274	788.63	1263	1360.212	0.082	0.140
2022/07/29 10:06:28	40.94141	-105.2274	788.65	1140	1227.934	0.127	0.217
2022/07/29 10:07:28	40.94141	-105.2274	788.64	1202	1294.617	0.102	0.174
2022/07/29 10:08:28	40.94141	-105.2274	788.63	1192	1283.748	0.106	0.180
2022/07/29 10:09:28	40.94141	-105.2274	788.625	1202	1294.467	0.102	0.174
2022/07/29 10:10:28	40.94141	-105.2274	788.655	1203	1295.844	0.102	0.173
2022/07/29 10:11:28	40.94141	-105.2274	788.645	1191	1282.819	0.106	0.181
2022/07/29 10:12:28	40.94141	-105.2274	788.645	1172	1262.354	0.114	0.194
2022/07/29 10:13:28	40.94141	-105.2274	788.645	1167	1256.968	0.116	0.197
2022/07/29 10:14:28	40.94141	-105.2274	788.6	1165	1254.38	0.117	0.199
2022/07/29 10:15:28	40.94025	-105.2293	788.2	1201	1289.165	0.104	0.177
2022/07/29 10:16:28	40.94036	-105.2331	787.15	1167	1242.582	0.121	0.206
2022/07/29 10:17:28	40.94098	-105.2374	786.425	1230	1302.371	0.100	0.170

2022/07/29 10:18:28	40.94169	-105.2414	785.99	1252	1321.233	0.094	0.160
2022/07/29 10:19:28	40.9425	-105.2454	785.55	1233	1296.781	0.102	0.173
2022/07/29 10:20:28	40.94425	-105.2478	785.465	1240	1303.29	0.100	0.169
2022/07/29 10:21:28	40.94584	-105.2496	785.505	1172	1232.199	0.126	0.214
2022/07/29 10:22:28	40.94589	-105.2497	785.505	1265	1329.976	0.091	0.155
2022/07/29 10:23:28	40.94339	-105.2471	785.42	1212	1273.42	0.110	0.187
2022/07/29 10:24:28	40.94157	-105.2447	785.58	1234	1298.133	0.101	0.172
2022/07/29 10:25:28	40.93879	-105.2455	785.185	1267	1328.8	0.092	0.156
2022/07/29 10:26:28	40.93652	-105.2474	786.82	1184	1257.484	0.116	0.197
2022/07/29 10:27:28	40.93363	-105.2476	787.695	1142	1221.076	0.130	0.222
2022/07/29 10:28:28	40.93143	-105.2503	788.635	1200	1292.413	0.103	0.175
2022/07/29 10:29:28	40.93124	-105.2506	788.78	1130	1218.382	0.131	0.224
2022/07/29 10:30:28	40.93084	-105.2524	788.55	1132	1218.379	0.131	0.224
2022/07/29 10:31:28	40.9294	-105.2553	789.99	1230	1338.617	0.089	0.151
2022/07/29 10:32:28	40.92962	-105.258	791.51	1171	1289.41	0.104	0.177
2022/07/29 10:33:28	40.92996	-105.26	793.005	1188	1323.275	0.093	0.158
2022/07/29 10:34:28	40.92927	-105.2572	791.33	1139	1252.438	0.118	0.200
2022/07/29 10:35:28	40.92787	-105.2571	791.44	1198	1318.43	0.095	0.161
2022/07/29 10:36:28	40.92581	-105.2589	793.465	1203	1344.738	0.087	0.148
2022/07/29 10:37:28	40.92286	-105.2591	794.82	1228	1387.08	0.075	0.128
2022/07/29 10:38:28	40.9231	-105.259	794.575	1240	1397.995	0.072	0.123
2022/07/29 10:39:28	40.92573	-105.2589	793.385	1177	1314.864	0.096	0.163
2022/07/29 10:40:28	40.92773	-105.2574	791.52	1159	1276.295	0.109	0.185
2022/07/29 10:41:28	40.92803	-105.2569	791.41	1244	1368.738	0.080	0.136
2022/07/29 10:42:28	40.92803	-105.2569	791.45	1278	1406.58	0.070	0.120
2022/07/29 10:43:28	40.92803	-105.2569	791.44	1238	1362.451	0.082	0.139
2022/07/29 10:44:28	40.92803	-105.2569	791.455	1212	1333.991	0.090	0.153
2022/07/29 10:45:28	40.92803	-105.2569	791.435	1213	1334.886	0.090	0.152
2022/07/29 10:46:28	40.92802	-105.2569	791.445	1210	1331.687	0.091	0.154
2022/07/29 10:47:28	40.92802	-105.2569	791.455	1168	1285.563	0.106	0.179
2022/07/29 10:48:28	40.92802	-105.2569	791.45	1157	1273.406	0.110	0.187
2022/07/29 10:49:28	40.92802	-105.2569	791.51	1224	1347.77	0.086	0.146
2022/07/29 10:50:28	40.92802	-105.2569	791.505	1176	1294.866	0.102	0.174
2022/07/29 10:51:28	40.92802	-105.2569	791.495	1201	1322.291	0.094	0.159
2022/07/29 10:52:28	40.92802	-105.2569	791.495	1214	1336.604	0.089	0.152
2022/07/29 10:53:28	40.92802	-105.2569	791.56	1181	1300.922	0.100	0.171
2022/07/29 10:54:28	40.92802	-105.2569	791.5	1237	1361.979	0.082	0.139
2022/07/29 10:55:28	40.92802	-105.2569	791.505	1220	1343.314	0.087	0.148
2022/07/29 10:56:28	40.92802	-105.2569	791.505	1255	1381.851	0.077	0.130
2022/07/29 10:57:28	40.92802	-105.2569	791.505	1223	1346.617	0.086	0.147
2022/07/29 10:58:28	40.92802	-105.2569	791.535	1212	1334.813	0.090	0.153
2022/07/29 10:59:28	40.92802	-105.2569	791.5	1220	1343.262	0.087	0.148
2022/07/29 11:00:28	40.92802	-105.2569	791.515	1258	1385.261	0.076	0.129
2022/07/29 11:01:28	40.92802	-105.2569	791.57	1286	1416.693	0.068	0.115
2022/07/29 11:02:28	40.92802	-105.2569	791.575	1175	1294.463	0.102	0.174

2022/07/29 11:03:28	40.92802	-105.2569	791.58	1227	1351.802	0.085	0.144
2022/07/29 11:04:28	40.92802	-105.2569	791.575	1250	1377.088	0.078	0.132
2022/07/29 11:05:28	40.92802	-105.2569	791.58	1268	1396.972	0.073	0.124
2022/07/29 11:06:28	40.92802	-105.2569	791.465	1198	1318.684	0.095	0.161
2022/07/29 11:07:28	40.92802	-105.2569	791.48	1209	1330.945	0.091	0.154
2022/07/29 11:08:28	40.92802	-105.2569	791.53	1187	1307.23	0.098	0.167
2022/07/29 11:09:28	40.92802	-105.2569	791.53	1202	1323.749	0.093	0.158
2022/07/29 11:10:28	40.92802	-105.2569	791.54	1186	1306.229	0.099	0.168
2022/07/29 11:11:28	40.92802	-105.2569	791.585	1222	1346.345	0.086	0.147
2022/07/29 11:12:28	40.92802	-105.2569	791.575	1253	1380.393	0.077	0.131
2022/07/29 11:13:28	40.92802	-105.2569	791.575	1164	1282.344	0.107	0.181
2022/07/29 11:14:28	40.92802	-105.2569	791.59	1237	1362.924	0.082	0.139
2022/07/29 11:15:28	40.92802	-105.2569	791.595	1181	1301.273	0.100	0.170
2022/07/29 11:16:28	40.92803	-105.2569	791.625	1215	1339.045	0.088	0.150
2022/07/29 11:17:28	40.92803	-105.2569	791.645	1264	1393.262	0.074	0.125
2022/07/29 11:18:28	40.92816	-105.2568	791.475	1264	1391.439	0.074	0.126
2022/07/29 11:19:28	40.92801	-105.2549	790.82	1217	1332.961	0.090	0.153
2022/07/29 11:20:28	40.92623	-105.2519	791.5	1224	1347.666	0.086	0.146
2022/07/29 11:21:28	40.92559	-105.2505	791.735	1150	1268.483	0.112	0.190
2022/07/29 11:22:28	40.92558	-105.2504	791.605	1112	1225.34	0.129	0.218
2022/07/29 11:23:28	40.92458	-105.2489	790.38	1220	1331.727	0.091	0.154
2022/07/29 11:24:28	40.92276	-105.2456	792.16	1098	1215.095	0.133	0.226
2022/07/29 11:25:28	40.92257	-105.2428	792.335	1128	1249.978	0.119	0.202
2022/07/29 11:26:28	40.92251	-105.2396	792.035	1098	1213.926	0.133	0.227
2022/07/29 11:27:28	40.9196	-105.239	791.54	1159	1276.492	0.109	0.185
2022/07/29 11:28:28	40.91856	-105.2359	791.505	1064	1171.546	0.154	0.261
2022/07/29 11:29:28	40.91791	-105.2319	790.77	1156	1265.661	0.113	0.191
2022/07/29 11:30:28	40.91569	-105.2306	789.93	1158	1259.677	0.115	0.195
2022/07/29 11:31:28	40.91308	-105.23	791.415	1197	1317.076	0.095	0.162
2022/07/29 11:32:28	40.91024	-105.229	792.055	1172	1295.939	0.102	0.173
2022/07/29 11:33:28	40.90743	-105.2261	793.155	1126	1255.665	0.116	0.198
2022/07/29 11:34:28	40.90678	-105.222	795.31	1082	1226.787	0.128	0.217
2022/07/29 11:35:28	40.90451	-105.2203	795.49	1012	1149.011	0.166	0.281
2022/07/29 11:36:28	40.90473	-105.2184	794.14	1008	1132.634	0.175	0.298
2022/07/29 11:37:28	40.90516	-105.2208	795.6	1013	1151.121	0.164	0.279
2022/07/29 11:38:28	40.9067	-105.2231	794.995	1064	1203.455	0.138	0.235
2022/07/29 11:39:28	40.9077	-105.2265	793.21	1074	1198.184	0.141	0.239
2022/07/29 11:40:28	40.90942	-105.228	792.15	1165	1289.141	0.104	0.177
2022/07/29 11:41:28	40.90942	-105.228	792.145	1187	1313.435	0.096	0.164
2022/07/29 11:42:28	40.90942	-105.228	792.16	1159	1282.6	0.107	0.181
2022/07/29 11:43:28	40.90942	-105.228	792.195	1171	1296.229	0.102	0.173
2022/07/29 11:44:28	40.90941	-105.228	792.195	1221	1351.577	0.085	0.144
2022/07/29 11:45:28	40.90941	-105.228	792.18	1171	1296.08	0.102	0.173
2022/07/29 11:46:28	40.90941	-105.228	792.24	1173	1298.893	0.101	0.172
2022/07/29 11:47:28	40.90941	-105.228	792.26	1186	1313.491	0.096	0.164

2022/07/29 11:48:28	40.90941	-105.228	792.18	1174	1299.4	0.101	0.171
2022/07/29 11:49:28	40.90941	-105.228	792.185	1170	1295.023	0.102	0.174
2022/07/29 11:50:28	40.90941	-105.228	792.2	1175	1300.707	0.100	0.171
2022/07/29 11:51:28	40.90941	-105.228	792.195	1163	1287.374	0.105	0.178
2022/07/29 11:52:28	40.90941	-105.228	792.18	1257	1391.266	0.074	0.126
2022/07/29 11:53:28	40.90941	-105.228	792.175	1160	1283.855	0.106	0.180
2022/07/29 11:54:28	40.90941	-105.228	792.185	1195	1322.694	0.093	0.159
2022/07/29 11:55:28	40.90941	-105.228	792.19	1234	1365.914	0.081	0.137
2022/07/29 11:56:28	40.90941	-105.228	792.195	1217	1347.149	0.086	0.146
2022/07/29 11:57:28	40.90941	-105.228	792.2	1147	1269.712	0.111	0.189
2022/07/29 11:58:28	40.90941	-105.228	792.21	1197	1325.163	0.093	0.157
2022/07/29 11:59:28	40.90941	-105.228	792.215	1135	1256.573	0.116	0.197
2022/07/29 12:00:28	40.90941	-105.228	792.19	1187	1313.89	0.096	0.163
2022/07/29 12:01:28	40.90941	-105.228	792.125	1203	1330.934	0.091	0.154
2022/07/29 12:02:28	40.90941	-105.228	792.185	1160	1283.954	0.106	0.180
2022/07/29 12:03:28	40.90941	-105.228	792.135	1171	1295.631	0.102	0.174
2022/07/29 12:04:28	40.90941	-105.228	792.115	1134	1254.5	0.117	0.199
2022/07/29 12:05:28	40.90941	-105.228	792.11	1187	1313.081	0.096	0.164
2022/07/29 12:06:28	40.90941	-105.228	792.12	1223	1353.009	0.084	0.144
2022/07/29 12:07:28	40.90941	-105.228	792.06	1152	1273.873	0.110	0.186
2022/07/29 12:08:28	40.90941	-105.228	792.055	1150	1271.612	0.110	0.188
2022/07/29 12:09:28	40.90941	-105.228	792.095	1141	1262.049	0.114	0.194
2022/07/29 12:10:28	40.90941	-105.228	792.03	1117	1234.885	0.125	0.212
2022/07/29 12:11:28	40.90941	-105.228	792.035	1136	1255.938	0.116	0.198
2022/07/29 12:12:28	40.90941	-105.228	792.025	1193	1318.855	0.095	0.161
2022/07/29 12:13:28	40.90941	-105.228	791.95	1193	1318.093	0.095	0.161
2022/07/29 12:14:28	40.90983	-105.2284	792.12	1197	1324.245	0.093	0.158
2022/07/29 12:15:28	40.91204	-105.2294	791.59	1197	1318.852	0.095	0.161
2022/07/29 12:16:28	40.9146	-105.2304	790.45	1150	1255.994	0.116	0.198
2022/07/29 12:17:28	40.91673	-105.2308	790.215	1155	1259.174	0.115	0.196
2022/07/29 12:18:28	40.91813	-105.2329	791.02	1182	1296.621	0.102	0.173
2022/07/29 12:19:28	40.91858	-105.2363	791.14	1126	1236.333	0.124	0.211
2022/07/29 12:20:28	40.91807	-105.2401	792.045	1121	1239.45	0.123	0.209
2022/07/29 12:21:28	40.9173	-105.2416	792.19	1195	1322.745	0.093	0.159
2022/07/29 12:22:28	40.9173	-105.2415	792.18	1194	1321.536	0.094	0.159
2022/07/29 12:23:28	40.9173	-105.2415	792.18	1216	1345.886	0.086	0.147
2022/07/29 12:24:28	40.9171	-105.242	792.16	1172	1296.987	0.102	0.173
2022/07/29 12:25:28	40.91705	-105.2421	792.18	1166	1290.546	0.104	0.176
2022/07/29 12:26:28	40.91567	-105.2433	793.32	1205	1345.47	0.087	0.147
2022/07/29 12:27:28	40.9134	-105.2453	794.96	1204	1361.438	0.082	0.140
2022/07/29 12:28:28	40.91109	-105.2474	796.6	1164	1332.934	0.090	0.153
2022/07/29 12:29:28	40.90879	-105.2495	798.15	1150	1332.713	0.090	0.154
2022/07/29 12:30:28	40.90612	-105.2498	799.31	1250	1461.598	0.058	0.098
2022/07/29 12:31:28	40.90447	-105.2491	801.44	1116	1326.493	0.092	0.157
2022/07/29 12:32:28	40.90442	-105.2487	801.605	1006	1197.266	0.141	0.240

2022/07/29 12:33:28	40.90473	-105.25	801.17	1129	1339.158	0.088	0.150
2022/07/29 12:34:28	40.90499	-105.2505	800.99	1055	1249.65	0.119	0.202
2022/07/29 12:35:28	40.90534	-105.2518	800.38	1059	1248.51	0.119	0.203
2022/07/29 12:36:28	40.90534	-105.2518	800.38	1128	1329.858	0.091	0.155
2022/07/29 12:37:28	40.90534	-105.2518	800.355	1143	1347.283	0.086	0.146
2022/07/29 12:38:28	40.90534	-105.2518	800.35	1121	1321.3	0.094	0.159
2022/07/29 12:39:28	40.90534	-105.2518	800.295	1072	1263.01	0.114	0.193
2022/07/29 12:40:28	40.90534	-105.2518	800.35	1155	1361.375	0.082	0.140
2022/07/29 12:41:28	40.90534	-105.2518	800.31	1149	1353.886	0.084	0.143
2022/07/29 12:42:28	40.90534	-105.2518	800.295	1098	1293.642	0.103	0.175
2022/07/29 12:43:28	40.90534	-105.2517	800.29	1101	1297.127	0.102	0.173
2022/07/29 12:44:28	40.90534	-105.2517	800.295	1084	1277.148	0.108	0.184
2022/07/29 12:45:28	40.90534	-105.2517	800.32	1129	1330.422	0.091	0.155
2022/07/29 12:46:28	40.90534	-105.2517	800.29	1121	1320.69	0.094	0.160
2022/07/29 12:47:28	40.90534	-105.2517	800.285	1096	1291.187	0.104	0.176
2022/07/29 12:48:28	40.90534	-105.2517	800.295	1114	1312.493	0.097	0.164
2022/07/29 12:49:28	40.90534	-105.2517	800.225	1138	1340.047	0.088	0.150
2022/07/29 12:50:28	40.90534	-105.2517	800.265	1136	1338.104	0.089	0.151
2022/07/29 12:51:28	40.90534	-105.2517	800.215	1077	1268.119	0.112	0.190
2022/07/29 12:52:28	40.90534	-105.2517	800.2	1194	1405.719	0.071	0.120
2022/07/29 12:53:28	40.90534	-105.2517	800.195	1116	1313.838	0.096	0.163
2022/07/29 12:54:28	40.90534	-105.2517	800.21	1147	1350.489	0.085	0.145
2022/07/29 12:55:28	40.90534	-105.2517	800.2	1179	1388.059	0.075	0.127
2022/07/29 12:56:28	40.90534	-105.2517	800.195	1118	1316.192	0.095	0.162
2022/07/29 12:57:28	40.90534	-105.2517	800.205	1193	1404.596	0.071	0.120
2022/07/29 12:58:28	40.90534	-105.2517	800.14	1117	1314.458	0.096	0.163
2022/07/29 12:59:28	40.90534	-105.2517	800.205	1051	1237.41	0.124	0.210
2022/07/29 13:00:28	40.90534	-105.2517	800.215	1044	1229.263	0.127	0.216
2022/07/29 13:01:28	40.90534	-105.2517	800.205	1108	1304.52	0.099	0.169
2022/07/29 13:02:28	40.90534	-105.2517	800.24	1137	1339.024	0.088	0.150
2022/07/29 13:03:28	40.90534	-105.2517	800.225	1106	1302.366	0.100	0.170
2022/07/29 13:04:28	40.90534	-105.2517	800.235	1116	1314.242	0.096	0.163
2022/07/29 13:05:28	40.90534	-105.2517	800.23	1086	1278.864	0.108	0.183
2022/07/29 13:06:28	40.90534	-105.2517	800.21	1141	1343.425	0.087	0.148
2022/07/29 13:07:28	40.90534	-105.2517	800.21	1107	1303.393	0.100	0.169
2022/07/29 13:08:28	40.90534	-105.2517	800.16	1103	1298.183	0.101	0.172
2022/07/29 13:09:28	40.90534	-105.2517	800.13	1121	1319.064	0.095	0.161
2022/07/29 13:10:28	40.90534	-105.2517	800.12	1121	1318.962	0.095	0.161
2022/07/29 13:11:28	40.90534	-105.2517	800.135	1156	1360.3	0.082	0.140
2022/07/29 13:12:28	40.90534	-105.2517	800.135	1049	1234.39	0.125	0.212
2022/07/29 13:13:28	40.90535	-105.2517	800.135	1160	1365.007	0.081	0.138
2022/07/29 13:14:28	40.90535	-105.2517	800.12	1137	1337.788	0.089	0.151
2022/07/29 13:15:28	40.90535	-105.2517	800.13	1103	1297.883	0.101	0.172
2022/07/29 13:16:28	40.90535	-105.2517	800.11	1162	1367.097	0.081	0.137
2022/07/29 13:17:28	40.90535	-105.2517	800.11	1081	1271.8	0.110	0.188

2022/07/29 13:18:28	40.90535	-105.2517	800.1	1111	1306.995	0.098	0.167
2022/07/29 13:19:28	40.90535	-105.2517	800.095	1117	1314.003	0.096	0.163
2022/07/29 13:20:28	40.90535	-105.2517	800.04	1101	1294.632	0.102	0.174
2022/07/29 13:21:28	40.90535	-105.2517	800.015	1060	1246.182	0.120	0.204
2022/07/29 13:22:28	40.90535	-105.2518	800.06	1097	1290.128	0.104	0.177
2022/07/29 13:23:28	40.90621	-105.254	800.21	1096	1290.441	0.104	0.177
2022/07/29 13:24:28	40.90787	-105.2525	798.905	1116	1300.852	0.100	0.171
2022/07/29 13:25:28	40.9099	-105.2503	797.46	1084	1249.571	0.119	0.202
2022/07/29 13:26:28	40.91191	-105.2479	795.935	1160	1321.569	0.094	0.159
2022/07/29 13:27:28	40.91388	-105.2463	794.99	1138	1287.105	0.105	0.178
2022/07/29 13:28:28	40.9139	-105.2462	794.99	1122	1269.008	0.111	0.189
2022/07/29 13:29:28	40.9141	-105.2456	794.5	1057	1190.99	0.144	0.245
2022/07/29 13:30:28	40.91552	-105.2433	792.94	1181	1314.82	0.096	0.163
2022/07/29 13:31:28	40.91705	-105.242	791.695	1213	1337.561	0.089	0.151
2022/07/29 13:32:28	40.91717	-105.2418	791.7	1219	1344.229	0.087	0.148
2022/07/29 13:33:28	40.9189	-105.2391	790.725	1145	1253.184	0.117	0.199
2022/07/29 13:34:28	40.9198	-105.2354	790.13	1174	1279.05	0.108	0.183
2022/07/29 13:35:28	40.92184	-105.2341	789.925	1132	1231.347	0.126	0.214
2022/07/29 13:36:28	40.92449	-105.2346	789.54	1111	1204.926	0.137	0.234
2022/07/29 13:37:28	40.9272	-105.2354	788.865	1175	1267.731	0.112	0.190
2022/07/29 13:38:28	40.92914	-105.2381	788.235	1136	1219.722	0.131	0.223
2022/07/29 13:39:28	40.93116	-105.2406	787.94	1194	1279.088	0.108	0.183
2022/07/29 13:40:28	40.9313	-105.2407	787.935	1190	1274.753	0.109	0.186
2022/07/29 13:41:28	40.9313	-105.2407	787.965	1196	1281.477	0.107	0.182
2022/07/29 13:42:28	40.93266	-105.2411	787.65	1234	1318.99	0.095	0.161
2022/07/29 13:43:28	40.93536	-105.2417	786.44	1206	1277.107	0.108	0.184
2022/07/29 13:44:28	40.93749	-105.2439	785.465	1251	1314.851	0.096	0.163
2022/07/29 13:45:28	40.93971	-105.2455	784.63	1277	1333.577	0.090	0.153
2022/07/29 13:46:28	40.94221	-105.2442	785.13	1266	1327.189	0.092	0.156
2022/07/29 13:47:28	40.94422	-105.2412	785.72	1189	1252.143	0.118	0.200
2022/07/29 13:48:28	40.94589	-105.239	786.265	1234	1304.998	0.099	0.168
2022/07/29 13:49:28	40.94802	-105.2378	788.25	1225	1315.433	0.096	0.163
2022/07/29 13:50:28	40.9494	-105.2384	787.705	1157	1237.21	0.124	0.210
2022/07/29 13:51:28	40.95019	-105.239	787.26	1168	1244.7	0.121	0.205
2022/07/29 13:52:28	40.95034	-105.2392	787.305	1267	1350.67	0.085	0.145
2022/07/29 13:53:28	40.9512	-105.2418	786.36	1158	1225.521	0.128	0.218
2022/07/29 13:54:28	40.9511	-105.2454	785.32	1278	1341.731	0.088	0.149
2022/07/29 13:55:28	40.95153	-105.2495	784.185	1318	1371.685	0.079	0.135
2022/07/29 13:56:28	40.95164	-105.2505	783.96	1317	1368.272	0.080	0.136

Table C-9: Rover data 08/02/2022.

Date Time(MST)	Lat	Long	P (mb)	N <sub>raw</sub>	N	$\theta_G$ (avg)	$\theta_V$
2022/08/02 08:11:26			781.2	333	338.6891	-0.570	-0.970
2022/08/02 08:12:32	40.95162	-105.2504	781.51	1500	1529.272	0.045	0.076
2022/08/02 08:13:32	40.95162	-105.2504	781.58	1406	1434.211	0.064	0.109
2022/08/02 08:14:32	40.95162	-105.2504	781.58	1391	1418.91	0.067	0.115
2022/08/02 08:15:32	40.95162	-105.2504	781.585	1378	1405.703	0.071	0.120
2022/08/02 08:16:32	40.95162	-105.2504	781.545	1446	1474.616	0.055	0.094
2022/08/02 08:17:32	40.95162	-105.2504	781.565	1410	1438.125	0.063	0.107
2022/08/02 08:18:32	40.95162	-105.2504	781.5	1472	1500.61	0.050	0.085
2022/08/02 08:19:32	40.95162	-105.2504	781.47	1377	1403.44	0.071	0.121
2022/08/02 08:20:32	40.95162	-105.2504	781.425	1447	1474.273	0.055	0.094
2022/08/02 08:21:32	40.95162	-105.2504	781.37	1348	1372.825	0.079	0.134
2022/08/02 08:22:32	40.95162	-105.2504	781.37	1362	1387.083	0.075	0.128
2022/08/02 08:23:32	40.95162	-105.2504	781.405	1445	1472.009	0.056	0.095
2022/08/02 08:24:32	40.95162	-105.2504	781.395	1452	1479.025	0.054	0.092
2022/08/02 08:25:32	40.95162	-105.2504	781.39	1445	1471.839	0.056	0.095
2022/08/02 08:26:32	40.95162	-105.2504	781.335	1352	1376.528	0.078	0.133
2022/08/02 08:27:32	40.95162	-105.2504	781.35	1425	1451.02	0.060	0.102
2022/08/02 08:28:32	40.95162	-105.2504	781.34	1405	1430.545	0.065	0.110
2022/08/02 08:29:32	40.95162	-105.2504	781.29	1397	1421.852	0.067	0.113
2022/08/02 08:30:32	40.95162	-105.2504	781.305	1405	1430.159	0.065	0.110
2022/08/02 08:31:32	40.95163	-105.2504	781.35	1424	1450.002	0.060	0.103
2022/08/02 08:32:32	40.95163	-105.2504	781.35	1354	1378.724	0.077	0.132
2022/08/02 08:33:32	40.95163	-105.2504	781.36	1435	1461.315	0.058	0.098
2022/08/02 08:34:32	40.95163	-105.2504	781.375	1397	1422.783	0.066	0.113
2022/08/02 08:35:32	40.95163	-105.2504	781.37	1408	1433.93	0.064	0.109
2022/08/02 08:36:32	40.95163	-105.2504	781.36	1444	1470.48	0.056	0.095
2022/08/02 08:37:32	40.95163	-105.2504	781.365	1465	1491.923	0.052	0.088
2022/08/02 08:38:32	40.95163	-105.2504	781.365	1392	1417.581	0.068	0.115
2022/08/02 08:39:32	40.95156	-105.2497	781.595	1412	1440.498	0.062	0.106
2022/08/02 08:40:32	40.95125	-105.246	782.44	1451	1489.948	0.052	0.088
2022/08/02 08:41:32	40.95124	-105.2425	783.24	1340	1384.47	0.076	0.129
2022/08/02 08:42:33	40.951	-105.2415	783.77	1380	1431.628	0.064	0.110
2022/08/02 08:43:33	40.951	-105.2415	783.765	1366	1417.05	0.068	0.115
2022/08/02 08:44:34	40.951	-105.2415	783.755	1369	1420.053	0.067	0.114
2022/08/02 08:45:34	40.95101	-105.2415	783.76	1402	1454.339	0.059	0.101
2022/08/02 08:46:35	40.95101	-105.2415	783.69	1379	1429.71	0.065	0.110
2022/08/02 08:47:36	40.95101	-105.2415	783.72	1394	1445.595	0.061	0.104
2022/08/02 08:48:37	40.95101	-105.2415	783.725	1405	1457.059	0.059	0.100
2022/08/02 08:49:38	40.95101	-105.2415	783.715	1430	1482.871	0.053	0.091
2022/08/02 08:50:38	40.95101	-105.2415	783.715	1354	1404.061	0.071	0.121
2022/08/02 08:51:38	40.95101	-105.2415	783.705	1384	1435.06	0.064	0.108
2022/08/02 08:52:38	40.95101	-105.2415	783.76	1374	1425.294	0.066	0.112

2022/08/02 08:53:38	40.95101	-105.2415	783.795	1409	1461.995	0.058	0.098
2022/08/02 08:54:38	40.95101	-105.2415	783.765	1377	1428.461	0.065	0.111
2022/08/02 08:55:38	40.95101	-105.2415	783.775	1398	1450.358	0.060	0.102
2022/08/02 08:56:38	40.95101	-105.2415	783.775	1343	1393.298	0.074	0.125
2022/08/02 08:57:38	40.95101	-105.2415	783.775	1377	1428.571	0.065	0.111
2022/08/02 08:58:38	40.95101	-105.2415	783.78	1345	1395.426	0.073	0.124
2022/08/02 08:59:38	40.95101	-105.2415	783.77	1347	1397.394	0.073	0.123
2022/08/02 09:00:38	40.95101	-105.2415	783.8	1313	1362.436	0.082	0.139
2022/08/02 09:01:38	40.95101	-105.2415	783.85	1260	1307.944	0.098	0.167
2022/08/02 09:02:38	40.95101	-105.2415	783.785	1331	1380.955	0.077	0.131
2022/08/02 09:03:38	40.95101	-105.2415	783.77	1335	1384.945	0.076	0.129
2022/08/02 09:04:38	40.95101	-105.2415	783.79	1294	1342.618	0.087	0.149
2022/08/02 09:05:38	40.95101	-105.2415	783.79	1350	1400.722	0.072	0.122
2022/08/02 09:06:38	40.95101	-105.2415	783.825	1418	1471.673	0.056	0.095
2022/08/02 09:07:38	40.95101	-105.2415	783.775	1313	1362.174	0.082	0.139
2022/08/02 09:08:38	40.95101	-105.2415	783.83	1388	1440.593	0.062	0.106
2022/08/02 09:09:38	40.95101	-105.2415	783.78	1303	1351.852	0.085	0.144
2022/08/02 09:10:38	40.95101	-105.2415	783.775	1333	1382.923	0.076	0.130
2022/08/02 09:11:38	40.951	-105.2415	783.77	1351	1401.543	0.072	0.122
2022/08/02 09:12:38	40.951	-105.2415	783.76	1338	1387.95	0.075	0.128
2022/08/02 09:13:38	40.951	-105.2415	783.765	1410	1462.694	0.058	0.098
2022/08/02 09:14:38	40.951	-105.2415	783.76	1371	1422.182	0.067	0.113
2022/08/02 09:15:38	40.951	-105.2415	783.735	1373	1423.983	0.066	0.113
2022/08/02 09:16:38	40.951	-105.2415	783.685	1371	1421.361	0.067	0.114
2022/08/02 09:17:38	40.951	-105.2415	783.73	1315	1363.776	0.081	0.138
2022/08/02 09:18:38	40.951	-105.2415	783.69	1398	1449.409	0.060	0.103
2022/08/02 09:19:38	40.951	-105.2415	783.67	1353	1402.538	0.071	0.121
2022/08/02 09:20:38	40.95107	-105.2416	783.585	1426	1477.243	0.055	0.093
2022/08/02 09:21:38	40.95203	-105.24	785.225	1268	1330.259	0.091	0.155
2022/08/02 09:22:38	40.95278	-105.2368	787.345	1295	1380.944	0.077	0.131
2022/08/02 09:23:38	40.95481	-105.236	788.59	1300	1399.629	0.072	0.123
2022/08/02 09:24:38	40.95667	-105.2351	788.815	1191	1284.499	0.106	0.180
2022/08/02 09:25:38	40.95791	-105.2342	789.045	1267	1368.888	0.080	0.136
2022/08/02 09:26:38	40.95814	-105.2369	788.74	1261	1359.209	0.083	0.141
2022/08/02 09:27:39	40.95903	-105.2392	788.655	1287	1386.326	0.075	0.128
2022/08/02 09:28:40	40.95942	-105.2399	788.92	1213	1309.284	0.098	0.166
2022/08/02 09:29:41	40.95847	-105.2377	788.615	1229	1323.443	0.093	0.158
2022/08/02 09:30:42	40.95796	-105.235	788.965	1283	1385.321	0.076	0.129
2022/08/02 09:31:43	40.95683	-105.2346	788.67	1255	1352.013	0.085	0.144
2022/08/02 09:32:44	40.95736	-105.2336	789.5	1270	1376.944	0.078	0.132
2022/08/02 09:33:45	40.95775	-105.2311	789.99	1145	1246.111	0.120	0.204
2022/08/02 09:34:45	40.95742	-105.2285	790.61	1157	1265.197	0.113	0.192
2022/08/02 09:35:45	40.95777	-105.2263	791.105	1042	1143.794	0.169	0.287
2022/08/02 09:36:45	40.95748	-105.2247	791.395	1030	1133.149	0.175	0.297
2022/08/02 09:37:45	40.9561	-105.2239	791.555	1029	1133.444	0.175	0.297

2022/08/02 09:38:45	40.95516	-105.2213	792.03	1152	1273.578	0.110	0.187
2022/08/02 09:39:45	40.95433	-105.2196	790.97	1153	1264.322	0.113	0.192
2022/08/02 09:40:45	40.95236	-105.22	790.36	1207	1317.334	0.095	0.162
2022/08/02 09:41:45	40.95072	-105.222	790.305	1235	1347.323	0.086	0.146
2022/08/02 09:42:45	40.95031	-105.2247	789.23	1286	1391.396	0.074	0.126
2022/08/02 09:43:45	40.95059	-105.2272	786.895	1352	1436.74	0.063	0.108
2022/08/02 09:44:45	40.9513	-105.2299	785.49	1342	1410.768	0.069	0.118
2022/08/02 09:45:45	40.9499	-105.2317	785.475	1305	1371.713	0.079	0.135
2022/08/02 09:46:45	40.94874	-105.2337	785.235	1353	1419.541	0.067	0.114
2022/08/02 09:47:45	40.94867	-105.2338	785.225	1313	1377.468	0.078	0.132
2022/08/02 09:48:45	40.94823	-105.2324	785.545	1279	1345.109	0.087	0.147
2022/08/02 09:49:45	40.94784	-105.2291	787.745	1353	1447.244	0.061	0.104
2022/08/02 09:50:45	40.94714	-105.2269	787.33	1261	1344.532	0.087	0.148
2022/08/02 09:51:45	40.94731	-105.2239	786.85	1233	1309.827	0.097	0.166
2022/08/02 09:52:45	40.94703	-105.221	787.035	1177	1252.12	0.118	0.200
2022/08/02 09:53:45	40.9468	-105.2182	787.735	1282	1371.193	0.079	0.135
2022/08/02 09:54:45	40.94711	-105.2159	790.855	1389	1521.76	0.046	0.078
2022/08/02 09:55:45	40.94722	-105.2155	791.5	1265	1392.808	0.074	0.125
2022/08/02 09:56:45	40.94691	-105.2175	788.27	1313	1410.146	0.069	0.118
2022/08/02 09:57:45	40.94688	-105.2193	787.36	1338	1426.962	0.066	0.111
2022/08/02 09:58:45	40.94688	-105.2193	787.34	1296	1381.957	0.077	0.130
2022/08/02 09:59:45	40.94688	-105.2193	787.345	1312	1399.072	0.072	0.123
2022/08/02 10:00:45	40.94688	-105.2193	787.335	1327	1414.959	0.068	0.116
2022/08/02 10:01:45	40.94688	-105.2193	787.345	1271	1355.351	0.084	0.142
2022/08/02 10:02:45	40.94688	-105.2193	787.33	1338	1426.633	0.066	0.111
2022/08/02 10:03:45	40.94688	-105.2193	787.215	1352	1440.284	0.062	0.106
2022/08/02 10:04:45	40.94688	-105.2193	787.285	1329	1416.546	0.068	0.116
2022/08/02 10:05:45	40.94688	-105.2193	787.285	1290	1374.977	0.078	0.133
2022/08/02 10:06:45	40.94688	-105.2193	787.275	1274	1357.818	0.083	0.141
2022/08/02 10:07:45	40.94705	-105.2215	787.04	1348	1434.089	0.064	0.109
2022/08/02 10:08:45	40.94709	-105.2245	786.35	1175	1243.417	0.121	0.206
2022/08/02 10:09:45	40.94522	-105.2245	785.9	1269	1338.245	0.089	0.151
2022/08/02 10:10:45	40.94317	-105.2239	787.575	1322	1412.235	0.069	0.117
2022/08/02 10:11:45	40.94191	-105.2224	787.875	1350	1445.481	0.061	0.104
2022/08/02 10:12:45	40.94183	-105.2255	785.665	1389	1462.145	0.058	0.098
2022/08/02 10:13:45	40.9414	-105.2274	784.905	1384	1448.381	0.061	0.103
2022/08/02 10:14:45	40.9414	-105.2274	784.87	1325	1386.263	0.075	0.128
2022/08/02 10:15:45	40.9414	-105.2274	784.935	1360	1423.593	0.066	0.113
2022/08/02 10:16:45	40.9414	-105.2274	784.935	1414	1480.118	0.054	0.092
2022/08/02 10:17:45	40.9414	-105.2274	784.96	1355	1418.633	0.067	0.115
2022/08/02 10:18:45	40.9414	-105.2274	784.95	1395	1460.399	0.058	0.099
2022/08/02 10:19:45	40.9414	-105.2274	784.895	1408	1473.384	0.055	0.094
2022/08/02 10:20:45	40.9414	-105.2274	785	1331	1393.935	0.073	0.125
2022/08/02 10:21:45	40.9414	-105.2274	785.025	1350	1414.105	0.069	0.117
2022/08/02 10:22:45	40.9414	-105.2274	785.025	1394	1460.195	0.058	0.099

2022/08/02 10:23:45	40.9414	-105.2274	785.005	1421	1488.248	0.052	0.089
2022/08/02 10:24:45	40.9414	-105.2274	785.02	1460	1529.27	0.045	0.076
2022/08/02 10:25:45	40.9414	-105.2274	785.01	1301	1362.621	0.082	0.139
2022/08/02 10:26:45	40.9414	-105.2274	785.045	1370	1435.276	0.064	0.108
2022/08/02 10:27:45	40.9414	-105.2274	785.095	1335	1399.147	0.072	0.123
2022/08/02 10:28:45	40.9414	-105.2274	785.09	1461	1531.142	0.044	0.075
2022/08/02 10:29:45	40.9414	-105.2274	785.095	1383	1449.453	0.060	0.103
2022/08/02 10:30:45	40.9414	-105.2274	785.095	1296	1358.273	0.083	0.141
2022/08/02 10:31:45	40.9414	-105.2274	785.125	1375	1441.402	0.062	0.106
2022/08/02 10:32:45	40.9414	-105.2274	785.15	1456	1526.607	0.045	0.077
2022/08/02 10:33:45	40.9414	-105.2274	785.195	1386	1453.717	0.060	0.101
2022/08/02 10:34:45	40.9414	-105.2274	785.12	1346	1410.947	0.069	0.118
2022/08/02 10:35:45	40.9414	-105.2274	785.125	1357	1422.533	0.067	0.113
2022/08/02 10:36:45	40.9414	-105.2274	785.11	1330	1394.068	0.073	0.125
2022/08/02 10:37:45	40.9414	-105.2274	785.2	1365	1431.746	0.064	0.109
2022/08/02 10:38:45	40.9414	-105.2274	785.195	1365	1431.691	0.064	0.110
2022/08/02 10:39:45	40.9414	-105.2274	785.2	1408	1476.848	0.055	0.093
2022/08/02 10:40:45	40.9414	-105.2274	785.205	1378	1445.437	0.061	0.104
2022/08/02 10:41:45	40.9414	-105.2274	785.17	1348	1413.588	0.069	0.117
2022/08/02 10:42:45	40.9414	-105.2274	785.215	1447	1517.931	0.047	0.079
2022/08/02 10:43:45	40.9414	-105.2274	785.185	1369	1435.775	0.063	0.108
2022/08/02 10:44:45	40.9414	-105.2274	785.245	1368	1435.39	0.064	0.108
2022/08/02 10:45:45	40.9414	-105.2274	785.25	1385	1453.283	0.060	0.101
2022/08/02 10:46:45	40.9414	-105.2274	785.25	1354	1420.755	0.067	0.114
2022/08/02 10:47:45	40.9414	-105.2274	785.185	1422	1491.361	0.052	0.088
2022/08/02 10:48:45	40.9414	-105.2274	785.17	1299	1362.204	0.082	0.139
2022/08/02 10:49:45	40.9414	-105.2274	785.2	1326	1390.839	0.074	0.126
2022/08/02 10:50:45	40.9414	-105.2274	785.25	1360	1427.05	0.065	0.111
2022/08/02 10:51:45	40.9414	-105.2274	785.285	1382	1450.526	0.060	0.102
2022/08/02 10:52:45	40.94139	-105.2274	785.32	1380	1448.817	0.061	0.103
2022/08/02 10:53:45	40.94036	-105.2307	784.49	1406	1466.71	0.057	0.096
2022/08/02 10:54:45	40.94055	-105.235	783.47	1369	1416.94	0.068	0.115
2022/08/02 10:55:45	40.94121	-105.2384	782.945	1442	1486.475	0.053	0.090
2022/08/02 10:56:45	40.94183	-105.2421	782.57	1414	1453.409	0.060	0.101
2022/08/02 10:57:45	40.94269	-105.2459	782.3	1366	1401.155	0.072	0.122
2022/08/02 10:58:45	40.94503	-105.2484	782.08	1338	1370.111	0.080	0.136
2022/08/02 10:59:45	40.94682	-105.2504	782.12	1424	1458.624	0.058	0.099
2022/08/02 11:00:45	40.94469	-105.2481	782.435	1410	1447.791	0.061	0.103
2022/08/02 11:01:45	40.94253	-105.2455	782.455	1414	1452.122	0.060	0.102
2022/08/02 11:02:45	40.94057	-105.2454	782.35	1389	1425.295	0.066	0.112
2022/08/02 11:03:45	40.93815	-105.2459	782.395	1390	1426.816	0.066	0.111
2022/08/02 11:04:45	40.93601	-105.2476	783.905	1289	1338.615	0.089	0.151
2022/08/02 11:05:45	40.93304	-105.2477	784.575	1352	1411.302	0.069	0.118
2022/08/02 11:06:45	40.93138	-105.2503	785.415	1372	1441.472	0.062	0.106
2022/08/02 11:07:45	40.93121	-105.2506	785.54	1396	1468.1	0.056	0.096

2022/08/02 11:08:45	40.9309	-105.252	785.365	1314	1380.004	0.077	0.131
2022/08/02 11:09:45	40.93073	-105.2529	785.17	1407	1475.458	0.055	0.093
2022/08/02 11:10:45	40.93073	-105.2529	785.175	1509	1582.482	0.035	0.060
2022/08/02 11:11:45	40.93073	-105.2529	785.245	1440	1510.936	0.048	0.082
2022/08/02 11:12:45	40.93073	-105.2529	785.215	1467	1538.911	0.043	0.073
2022/08/02 11:13:45	40.93073	-105.2529	785.185	1401	1469.336	0.056	0.096
2022/08/02 11:14:45	40.93073	-105.2529	785.18	1497	1569.958	0.038	0.064
2022/08/02 11:15:45	40.93073	-105.2529	785.16	1439	1508.899	0.048	0.082
2022/08/02 11:16:45	40.9303	-105.2544	786.07	1368	1444.537	0.062	0.105
2022/08/02 11:17:45	40.92875	-105.2564	787.165	1330	1416.302	0.068	0.116
2022/08/02 11:18:45	40.93009	-105.2589	789.3	1368	1480.915	0.054	0.091
2022/08/02 11:19:45	40.92991	-105.2595	789.63	1315	1427.162	0.065	0.111
2022/08/02 11:20:45	40.92949	-105.2576	788.04	1369	1467.688	0.057	0.096
2022/08/02 11:21:45	40.92848	-105.2565	787.73	1409	1506.97	0.049	0.083
2022/08/02 11:22:45	40.92691	-105.2585	789.595	1365	1481.027	0.054	0.091
2022/08/02 11:23:45	40.92431	-105.2589	790.945	1442	1580.921	0.036	0.061
2022/08/02 11:24:45	40.92206	-105.2596	791.98	1425	1574.784	0.037	0.062
2022/08/02 11:25:45	40.92406	-105.2589	790.96	1369	1501.062	0.050	0.085
2022/08/02 11:26:45	40.92648	-105.259	789.97	1361	1480.957	0.054	0.091
2022/08/02 11:27:45	40.92802	-105.2569	787.95	1428	1529.881	0.044	0.076
2022/08/02 11:28:45	40.92803	-105.2569	788.035	1378	1477.28	0.055	0.093
2022/08/02 11:29:45	40.92803	-105.2569	787.955	1423	1524.583	0.045	0.077
2022/08/02 11:30:45	40.92803	-105.2569	787.965	1417	1518.271	0.047	0.079
2022/08/02 11:31:45	40.92803	-105.2569	787.955	1396	1495.655	0.051	0.087
2022/08/02 11:32:45	40.92803	-105.2569	787.955	1372	1469.942	0.056	0.095
2022/08/02 11:33:45	40.92803	-105.2569	788.025	1480	1586.507	0.035	0.059
2022/08/02 11:34:45	40.92803	-105.2569	787.96	1388	1487.142	0.053	0.089
2022/08/02 11:35:45	40.92802	-105.2569	787.95	1351	1447.387	0.061	0.104
2022/08/02 11:36:45	40.92802	-105.2569	787.88	1415	1515.136	0.047	0.080
2022/08/02 11:37:45	40.92802	-105.2569	787.925	1403	1502.808	0.049	0.084
2022/08/02 11:38:45	40.92802	-105.2569	787.865	1369	1465.712	0.057	0.097
2022/08/02 11:39:45	40.92802	-105.2569	787.89	1412	1512.041	0.048	0.081
2022/08/02 11:40:45	40.92802	-105.2569	787.935	1377	1475.072	0.055	0.094
2022/08/02 11:41:45	40.92802	-105.2569	787.94	1401	1500.839	0.050	0.085
2022/08/02 11:42:45	40.92802	-105.2569	787.885	1339	1433.813	0.064	0.109
2022/08/02 11:43:45	40.92802	-105.2569	787.86	1464	1567.363	0.038	0.065
2022/08/02 11:44:45	40.92802	-105.2569	787.77	1437	1537.391	0.043	0.073
2022/08/02 11:45:45	40.92802	-105.2569	787.84	1425	1525.374	0.045	0.077
2022/08/02 11:46:45	40.92802	-105.2569	787.865	1423	1523.527	0.046	0.078
2022/08/02 11:47:45	40.92802	-105.2569	787.865	1459	1562.07	0.039	0.066
2022/08/02 11:48:45	40.92802	-105.2569	787.87	1426	1526.797	0.045	0.077
2022/08/02 11:49:45	40.92802	-105.2569	787.875	1423	1523.644	0.046	0.077
2022/08/02 11:50:45	40.92802	-105.2569	787.94	1413	1513.694	0.047	0.081
2022/08/02 11:51:45	40.92802	-105.2569	787.86	1431	1532.033	0.044	0.075
2022/08/02 11:52:45	40.92802	-105.2569	787.915	1426	1527.327	0.045	0.076

2022/08/02 11:53:45	40.92802	-105.2569	787.905	1492	1597.893	0.033	0.056
2022/08/02 11:54:45	40.92802	-105.2569	787.93	1387	1485.727	0.053	0.090
2022/08/02 11:55:45	40.92802	-105.2569	787.905	1412	1512.215	0.048	0.081
2022/08/02 11:56:45	40.92802	-105.2569	787.92	1478	1583.082	0.035	0.060
2022/08/02 11:57:45	40.92802	-105.2569	787.91	1444	1546.546	0.041	0.071
2022/08/02 11:58:45	40.92802	-105.2569	787.825	1369	1465.261	0.057	0.097
2022/08/02 11:59:45	40.92802	-105.2569	787.9	1460	1563.562	0.039	0.066
2022/08/02 12:00:45	40.92802	-105.2569	787.935	1450	1553.271	0.040	0.069
2022/08/02 12:01:45	40.92802	-105.2569	787.83	1412	1511.342	0.048	0.081
2022/08/02 12:02:45	40.92802	-105.2569	787.99	1408	1508.919	0.048	0.082
2022/08/02 12:03:45	40.92802	-105.2569	787.915	1414	1514.474	0.047	0.080
2022/08/02 12:04:45	40.92862	-105.2564	787.38	1451	1547.714	0.041	0.070
2022/08/02 12:05:45	40.92743	-105.2539	787.28	1413	1506.021	0.049	0.083
2022/08/02 12:06:45	40.92567	-105.2511	788.32	1396	1499.865	0.050	0.085
2022/08/02 12:07:45	40.92559	-105.2504	788.015	1278	1369.865	0.080	0.136
2022/08/02 12:08:45	40.9255	-105.2502	787.755	1338	1431.309	0.065	0.110
2022/08/02 12:09:45	40.92394	-105.2475	787.475	1412	1507.217	0.049	0.083
2022/08/02 12:10:45	40.92211	-105.2441	789.865	1310	1424.31	0.066	0.112
2022/08/02 12:11:45	40.92311	-105.2411	788.585	1309	1409.265	0.070	0.118
2022/08/02 12:12:45	40.92134	-105.2387	788.365	1286	1382.159	0.077	0.130
2022/08/02 12:13:45	40.91876	-105.2384	787.95	1241	1329.539	0.091	0.155
2022/08/02 12:14:45	40.91832	-105.2345	787.47	1260	1344.915	0.087	0.147
2022/08/02 12:15:45	40.91726	-105.2313	786.75	1325	1406.476	0.070	0.120
2022/08/02 12:16:45	40.91493	-105.2304	786.615	1366	1448.491	0.061	0.103
2022/08/02 12:17:45	40.91243	-105.2297	787.84	1311	1403.344	0.071	0.121
2022/08/02 12:18:45	40.91002	-105.2288	788.44	1322	1421.672	0.067	0.113
2022/08/02 12:19:45	40.90767	-105.2265	789.385	1290	1397.391	0.073	0.123
2022/08/02 12:20:45	40.90668	-105.2231	791.165	1271	1395.809	0.073	0.124
2022/08/02 12:21:45	40.90516	-105.2208	791.8	1202	1326.504	0.092	0.157
2022/08/02 12:22:45	40.90473	-105.2184	790.045	1130	1230.307	0.126	0.215
2022/08/02 12:23:45	40.90474	-105.2184	790.06	1191	1296.872	0.102	0.173
2022/08/02 12:24:45	40.90466	-105.2205	791.715	1216	1341.076	0.088	0.149
2022/08/02 12:25:45	40.90676	-105.2223	791.055	1193	1309.041	0.098	0.166
2022/08/02 12:26:45	40.90711	-105.2255	789.365	1183	1281.286	0.107	0.182
2022/08/02 12:27:45	40.9093	-105.2279	788.37	1254	1347.819	0.086	0.146
2022/08/02 12:28:45	40.90943	-105.228	788.275	1345	1444.57	0.062	0.105
2022/08/02 12:29:45	40.90943	-105.228	788.27	1348	1447.736	0.061	0.103
2022/08/02 12:30:45	40.90942	-105.228	788.205	1300	1395.486	0.073	0.124
2022/08/02 12:31:45	40.90942	-105.228	788.18	1298	1393.071	0.074	0.125
2022/08/02 12:32:45	40.90942	-105.228	788.25	1311	1407.782	0.070	0.119
2022/08/02 12:33:45	40.90942	-105.228	788.175	1348	1446.677	0.061	0.104
2022/08/02 12:34:45	40.90942	-105.228	788.15	1344	1442.107	0.062	0.106
2022/08/02 12:35:45	40.90942	-105.228	788.065	1325	1420.79	0.067	0.114
2022/08/02 12:36:45	40.90942	-105.228	788.08	1307	1401.65	0.072	0.122
2022/08/02 12:37:45	40.90942	-105.228	788.14	1399	1501.006	0.050	0.085

2022/08/02 12:38:45	40.90942	-105.228	788.075	1271	1362.991	0.082	0.139
2022/08/02 12:39:45	40.90942	-105.228	788.07	1335	1431.568	0.064	0.110
2022/08/02 12:40:45	40.90942	-105.228	788.12	1371	1470.738	0.056	0.095
2022/08/02 12:41:45	40.90942	-105.228	788.14	1361	1460.235	0.058	0.099
2022/08/02 12:42:45	40.90942	-105.228	788.145	1309	1404.498	0.071	0.120
2022/08/02 12:43:45	40.90942	-105.228	788.06	1299	1392.857	0.074	0.125
2022/08/02 12:44:45	40.90942	-105.228	787.95	1327	1421.675	0.067	0.113
2022/08/02 12:45:45	40.90942	-105.228	787.965	1355	1451.84	0.060	0.102
2022/08/02 12:46:45	40.90942	-105.228	787.96	1306	1399.284	0.072	0.123
2022/08/02 12:47:45	40.90942	-105.228	787.95	1306	1399.177	0.072	0.123
2022/08/02 12:48:45	40.90942	-105.228	787.94	1280	1371.216	0.079	0.135
2022/08/02 12:49:45	40.90942	-105.228	787.95	1354	1450.601	0.060	0.102
2022/08/02 12:50:45	40.90942	-105.228	787.935	1276	1366.879	0.081	0.137
2022/08/02 12:51:45	40.90942	-105.228	787.89	1298	1389.964	0.075	0.127
2022/08/02 12:52:45	40.90942	-105.228	787.855	1308	1400.295	0.072	0.122
2022/08/02 12:53:45	40.90942	-105.228	787.82	1310	1402.058	0.071	0.121
2022/08/02 12:54:45	40.90942	-105.228	787.815	1326	1419.128	0.067	0.114
2022/08/02 12:55:45	40.90942	-105.228	787.825	1261	1349.667	0.085	0.145
2022/08/02 12:56:45	40.90942	-105.228	787.815	1319	1411.636	0.069	0.118
2022/08/02 12:57:45	40.90942	-105.228	787.73	1368	1463.12	0.058	0.098
2022/08/02 12:58:45	40.90942	-105.228	787.7	1365	1459.574	0.058	0.099
2022/08/02 12:59:45	40.90942	-105.228	787.665	1322	1413.214	0.069	0.117
2022/08/02 13:00:45	40.90942	-105.228	787.6	1319	1409.301	0.070	0.118
2022/08/02 13:01:45	40.90944	-105.228	787.605	1309	1398.67	0.072	0.123
2022/08/02 13:02:45	40.91123	-105.2296	787.655	1276	1363.935	0.081	0.138
2022/08/02 13:03:45	40.9142	-105.2304	786.385	1279	1353.837	0.084	0.143
2022/08/02 13:04:45	40.9163	-105.2307	785.855	1368	1442.147	0.062	0.106
2022/08/02 13:05:45	40.91738	-105.2315	785.93	1344	1417.665	0.068	0.115
2022/08/02 13:06:45	40.91836	-105.2347	786.685	1253	1329.383	0.091	0.155
2022/08/02 13:07:45	40.91829	-105.2383	787.305	1357	1446.613	0.061	0.104
2022/08/02 13:08:45	40.91717	-105.2418	787.94	1270	1360.504	0.082	0.140
2022/08/02 13:09:45	40.91704	-105.2421	788.035	1368	1466.56	0.057	0.097
2022/08/02 13:10:45	40.91624	-105.2428	788.79	1369	1476.189	0.055	0.093
2022/08/02 13:11:45	40.91392	-105.2449	790.44	1351	1475.406	0.055	0.093
2022/08/02 13:12:45	40.91155	-105.2469	792.075	1294	1431.06	0.065	0.110
2022/08/02 13:13:45	40.90925	-105.2492	793.49	1323	1479.161	0.054	0.092
2022/08/02 13:14:45	40.90665	-105.2498	794.775	1411	1593.234	0.034	0.057
2022/08/02 13:15:45	40.90469	-105.2499	796.995	1331	1528.814	0.045	0.076
2022/08/02 13:16:45	40.90408	-105.2474	797.91	1156	1337.193	0.089	0.151
2022/08/02 13:17:45	40.90472	-105.25	796.905	1248	1432.485	0.064	0.109
2022/08/02 13:18:45	40.90535	-105.2518	796.085	1238	1412.063	0.069	0.117
2022/08/02 13:19:45	40.90535	-105.2518	796.17	1234	1408.422	0.070	0.119
2022/08/02 13:20:45	40.90535	-105.2518	796.175	1238	1413.042	0.069	0.117
2022/08/02 13:21:45	40.90535	-105.2518	796.14	1217	1388.698	0.075	0.127
2022/08/02 13:22:45	40.90535	-105.2518	796.125	1279	1459.277	0.058	0.099

2022/08/02 13:23:45	40.90535	-105.2518	796.1	1202	1371.16	0.079	0.135
2022/08/02 13:24:45	40.90535	-105.2517	796.1	1272	1451.011	0.060	0.102
2022/08/02 13:25:45	40.90535	-105.2517	796.025	1283	1462.714	0.058	0.098
2022/08/02 13:26:45	40.90535	-105.2517	796.08	1307	1490.707	0.052	0.088
2022/08/02 13:27:45	40.90534	-105.2517	796.07	1264	1441.552	0.062	0.106
2022/08/02 13:28:45	40.90534	-105.2517	796.055	1234	1407.175	0.070	0.119
2022/08/02 13:29:45	40.90534	-105.2517	796.01	1221	1391.869	0.074	0.126
2022/08/02 13:30:45	40.90534	-105.2517	796.05	1310	1493.783	0.051	0.087
2022/08/02 13:31:45	40.90534	-105.2517	796.05	1259	1435.629	0.064	0.108
2022/08/02 13:32:45	40.90534	-105.2517	796.055	1259	1435.684	0.064	0.108
2022/08/02 13:33:45	40.90534	-105.2517	796.04	1199	1367.106	0.081	0.137
2022/08/02 13:34:45	40.90534	-105.2517	795.97	1285	1464.374	0.057	0.097
2022/08/02 13:35:45	40.90534	-105.2517	796.015	1284	1463.741	0.057	0.098
2022/08/02 13:36:45	40.90534	-105.2517	796.025	1320	1504.897	0.049	0.083
2022/08/02 13:37:45	40.90534	-105.2517	796.015	1280	1459.181	0.058	0.099
2022/08/02 13:38:45	40.90534	-105.2517	796.01	1276	1454.565	0.059	0.101
2022/08/02 13:39:45	40.90534	-105.2517	795.96	1279	1457.424	0.059	0.100
2022/08/02 13:40:45	40.90534	-105.2517	795.945	1192	1358.13	0.083	0.141
2022/08/02 13:41:45	40.90534	-105.2517	795.99	1247	1421.288	0.067	0.114
2022/08/02 13:42:45	40.90534	-105.2517	795.905	1273	1449.973	0.060	0.103
2022/08/02 13:43:45	40.90534	-105.2517	795.895	1233	1404.304	0.071	0.121
2022/08/02 13:44:45	40.90534	-105.2517	795.835	1291	1469.683	0.056	0.095
2022/08/02 13:45:45	40.90534	-105.2517	795.84	1248	1420.786	0.067	0.114
2022/08/02 13:46:45	40.90534	-105.2517	795.83	1229	1399.048	0.072	0.123
2022/08/02 13:47:45	40.90534	-105.2518	795.81	1235	1405.661	0.071	0.120
2022/08/02 13:48:45	40.90613	-105.2538	795.9	1280	1457.89	0.059	0.100
2022/08/02 13:49:45	40.90766	-105.2528	794.825	1267	1431.187	0.065	0.110
2022/08/02 13:50:45	40.90941	-105.2507	793.695	1355	1517.331	0.047	0.079
2022/08/02 13:51:45	40.91118	-105.2487	792.45	1366	1515.055	0.047	0.080
2022/08/02 13:52:45	40.91296	-105.2467	791.115	1343	1474.312	0.055	0.094
2022/08/02 13:53:45	40.91387	-105.2463	790.965	1314	1440.811	0.062	0.106
2022/08/02 13:54:45	40.91389	-105.2462	790.84	1255	1374.794	0.078	0.133
2022/08/02 13:55:45	40.91418	-105.2453	790.14	1220	1329.269	0.091	0.155
2022/08/02 13:56:45	40.91573	-105.2432	788.55	1368	1472.387	0.056	0.094
2022/08/02 13:57:45	40.91704	-105.2421	787.61	1368	1461.768	0.058	0.098
2022/08/02 13:58:45	40.91709	-105.2419	787.35	1382	1473.774	0.055	0.094
2022/08/02 13:59:45	40.91846	-105.2401	786.74	1270	1347.99	0.086	0.146
2022/08/02 14:00:45	40.91921	-105.2365	786.185	1351	1427.85	0.065	0.111
2022/08/02 14:01:45	40.92128	-105.2337	785.715	1296	1364.773	0.081	0.138
2022/08/02 14:02:45	40.92461	-105.2347	785.31	1393	1462.353	0.058	0.098
2022/08/02 14:03:45	40.92754	-105.2357	784.485	1385	1444.748	0.061	0.105
2022/08/02 14:04:45	40.92947	-105.2385	784	1335	1387.4	0.075	0.128
2022/08/02 14:05:45	40.93121	-105.2407	783.925	1403	1457.227	0.059	0.100
2022/08/02 14:06:45	40.93131	-105.2407	783.96	1368	1421.257	0.067	0.114
2022/08/02 14:07:45	40.9325	-105.2411	783.61	1413	1464.058	0.057	0.097

2022/08/02 14:08:45	40.93528	-105.2417	782.265	1451	1487.941	0.052	0.089
2022/08/02 14:09:45	40.9375	-105.244	781.165	1414	1437.77	0.063	0.107
2022/08/02 14:10:45	40.93987	-105.2456	780.65	1383	1400.683	0.072	0.122
2022/08/02 14:11:45	40.94258	-105.2438	781.175	1430	1454.151	0.059	0.101
2022/08/02 14:12:45	40.94463	-105.2407	781.61	1414	1442.705	0.062	0.105
2022/08/02 14:13:45	40.94644	-105.2386	782.685	1317	1354.904	0.084	0.143
2022/08/02 14:14:45	40.94864	-105.2384	784.45	1308	1364.058	0.081	0.138
2022/08/02 14:15:45	40.94995	-105.2389	783.085	1476	1523.165	0.046	0.078
2022/08/02 14:16:45	40.95028	-105.239	783.245	1330	1374.191	0.079	0.134
2022/08/02 14:17:45	40.95067	-105.2405	782.77	1423	1464.914	0.057	0.097
2022/08/02 14:18:45	40.95123	-105.2431	780.96	1359	1379.666	0.077	0.131
2022/08/02 14:19:45	40.95126	-105.2468	780.405	1487	1503.174	0.049	0.084
2022/08/02 14:20:45	40.95164	-105.2504	779.86	1455	1464.667	0.057	0.097
2022/08/02 14:21:45	40.95164	-105.2505	779.895	1402	1411.695	0.069	0.117

Table C-10: Rover data 08/05/2022.

Date Time(MST)	Lat	Long	P (mb)	N <sub>raw</sub>	N	$\theta_G$ (avg)	$\theta_V$
2022/08/05 08:21:26			781.785	381	389.2586	-0.659	-1.121
2022/08/05 08:22:32	40.9516	-105.25	781.88	1666	1703.358	0.018	0.031
2022/08/05 08:23:32	40.9516	-105.25	782.04	1555	1591.829	0.034	0.058
2022/08/05 08:24:32	40.95155	-105.25	782.255	1475	1512.436	0.048	0.081
2022/08/05 08:25:32	40.95124	-105.246	783.19	1563	1614.249	0.031	0.052
2022/08/05 08:26:32	40.95119	-105.243	783.385	1481	1531.859	0.044	0.075
2022/08/05 08:27:32	40.95099	-105.242	784.375	1437	1497.722	0.050	0.086
2022/08/05 08:28:32	40.95099	-105.242	784.4	1445	1506.35	0.049	0.083
2022/08/05 08:29:32	40.95099	-105.242	784.39	1424	1484.344	0.053	0.090
2022/08/05 08:30:32	40.95099	-105.242	784.33	1454	1514.915	0.047	0.080
2022/08/05 08:31:32	40.95099	-105.242	784.38	1391	1449.834	0.060	0.103
2022/08/05 08:32:32	40.95099	-105.242	784.35	1469	1530.779	0.044	0.075
2022/08/05 08:33:32	40.95099	-105.242	784.355	1461	1522.501	0.046	0.078
2022/08/05 08:34:32	40.95099	-105.242	784.37	1411	1470.566	0.056	0.095
2022/08/05 08:35:32	40.95099	-105.242	784.36	1430	1490.254	0.052	0.088
2022/08/05 08:36:32	40.95099	-105.242	784.375	1444	1505.018	0.049	0.083
2022/08/05 08:37:32	40.95099	-105.242	784.38	1474	1536.344	0.043	0.074
2022/08/05 08:38:32	40.95099	-105.242	784.355	1429	1489.154	0.052	0.089
2022/08/05 08:39:32	40.95099	-105.242	784.3	1444	1504.149	0.049	0.084
2022/08/05 08:40:32	40.95099	-105.242	784.225	1519	1581.359	0.036	0.061
2022/08/05 08:41:32	40.951	-105.242	784.25	1538	1601.447	0.032	0.055
2022/08/05 08:42:32	40.951	-105.242	784.255	1458	1518.206	0.047	0.079
2022/08/05 08:43:32	40.951	-105.242	784.23	1461	1521.037	0.046	0.078
2022/08/05 08:44:32	40.951	-105.242	784.225	1431	1489.747	0.052	0.088
2022/08/05 08:45:32	40.951	-105.242	784.23	1450	1509.585	0.048	0.082
2022/08/05 08:46:32	40.951	-105.242	784.23	1484	1544.982	0.042	0.071
2022/08/05 08:47:32	40.951	-105.242	784.285	1515	1577.924	0.036	0.062
2022/08/05 08:48:32	40.951	-105.242	784.28	1388	1445.593	0.061	0.104
2022/08/05 08:49:32	40.951	-105.242	784.28	1457	1517.456	0.047	0.079
2022/08/05 08:50:32	40.951	-105.242	784.285	1483	1544.595	0.042	0.071
2022/08/05 08:51:32	40.951	-105.242	784.26	1426	1484.941	0.053	0.090
2022/08/05 08:52:32	40.951	-105.242	784.31	1466	1527.183	0.045	0.076
2022/08/05 08:53:32	40.951	-105.242	784.255	1465	1525.495	0.045	0.077
2022/08/05 08:54:32	40.951	-105.242	784.25	1484	1545.22	0.042	0.071
2022/08/05 08:55:32	40.951	-105.242	784.32	1401	1459.582	0.058	0.099
2022/08/05 08:56:32	40.951	-105.242	784.305	1464	1525.04	0.045	0.077
2022/08/05 08:57:32	40.951	-105.242	784.3	1440	1499.982	0.050	0.085
2022/08/05 08:58:32	40.951	-105.242	784.31	1492	1554.268	0.040	0.068
2022/08/05 08:59:32	40.951	-105.242	784.235	1407	1464.874	0.057	0.097
2022/08/05 09:00:32	40.951	-105.242	784.31	1440	1500.098	0.050	0.085
2022/08/05 09:01:32	40.95104	-105.242	784.17	1488	1548.431	0.041	0.070
2022/08/05 09:02:32	40.952	-105.24	785.7	1423	1498.339	0.050	0.086

2022/08/05 09:03:32	40.95279	-105.237	787.92	1390	1488.826	0.052	0.089
2022/08/05 09:04:32	40.95542	-105.236	789.245	1335	1444.579	0.062	0.105
2022/08/05 09:05:32	40.95682	-105.235	789.255	1313	1420.882	0.067	0.114
2022/08/05 09:06:32	40.95799	-105.235	789.365	1299	1406.923	0.070	0.119
2022/08/05 09:07:32	40.95864	-105.238	789.195	1342	1451.594	0.060	0.102
2022/08/05 09:08:32	40.95959	-105.24	789.3	1342	1452.768	0.060	0.102
2022/08/05 09:09:32	40.95873	-105.239	789.165	1250	1351.769	0.085	0.144
2022/08/05 09:10:32	40.95802	-105.236	789.385	1350	1462.386	0.058	0.098
2022/08/05 09:11:32	40.95749	-105.234	789.255	1354	1465.251	0.057	0.097
2022/08/05 09:12:32	40.95692	-105.234	789.825	1376	1495.609	0.051	0.087
2022/08/05 09:13:32	40.95774	-105.232	790.43	1207	1318.044	0.095	0.161
2022/08/05 09:14:32	40.95742	-105.229	791.1	1250	1372.06	0.079	0.135
2022/08/05 09:15:32	40.95762	-105.227	791.27	1163	1278.237	0.108	0.184
2022/08/05 09:16:32	40.95782	-105.227	791.64	1174	1294.008	0.103	0.174
2022/08/05 09:17:32	40.95773	-105.226	791.675	1062	1170.875	0.154	0.262
2022/08/05 09:18:32	40.95712	-105.224	791.93	1119	1236.143	0.124	0.211
2022/08/05 09:19:32	40.95539	-105.222	792.49	1219	1352.431	0.085	0.144
2022/08/05 09:20:32	40.95461	-105.22	792.21	1243	1376.088	0.078	0.133
2022/08/05 09:21:32	40.95258	-105.22	790.56	1303	1424.301	0.066	0.112
2022/08/05 09:22:32	40.95078	-105.222	790.74	1313	1437.223	0.063	0.107
2022/08/05 09:23:32	40.95024	-105.225	789.63	1370	1486.853	0.053	0.089
2022/08/05 09:24:32	40.95065	-105.227	787.18	1348	1435.636	0.064	0.108
2022/08/05 09:25:32	40.95123	-105.23	786.25	1438	1520.559	0.046	0.078
2022/08/05 09:26:32	40.94951	-105.233	785.94	1401	1477.903	0.054	0.093
2022/08/05 09:27:32	40.9487	-105.234	785.59	1388	1460.249	0.058	0.099
2022/08/05 09:28:32	40.94834	-105.234	785.76	1418	1493.764	0.051	0.087
2022/08/05 09:29:32	40.94771	-105.23	787.95	1392	1491.312	0.052	0.088
2022/08/05 09:30:32	40.94715	-105.227	787.84	1340	1434.387	0.064	0.108
2022/08/05 09:31:32	40.94745	-105.224	787.31	1405	1497.84	0.050	0.086
2022/08/05 09:32:32	40.94692	-105.22	787.55	1335	1425.847	0.066	0.112
2022/08/05 09:33:32	40.94699	-105.217	789.815	1441	1566.138	0.038	0.065
2022/08/05 09:34:32	40.94711	-105.215	792.24	1431	1584.583	0.035	0.060
2022/08/05 09:35:32	40.94688	-105.217	789.15	1386	1498.668	0.050	0.086
2022/08/05 09:36:32	40.94691	-105.22	787.365	1476	1574.198	0.037	0.063
2022/08/05 09:37:32	40.94752	-105.223	787.27	1343	1431.303	0.065	0.110
2022/08/05 09:38:32	40.94567	-105.225	786.045	1377	1453.761	0.060	0.101
2022/08/05 09:39:32	40.94326	-105.224	787.805	1448	1549.577	0.041	0.070
2022/08/05 09:40:32	40.94176	-105.223	787.505	1470	1569.49	0.038	0.064
2022/08/05 09:41:32	40.94186	-105.227	785.79	1500	1580.511	0.036	0.061
2022/08/05 09:42:32	40.9414	-105.227	785.55	1454	1529.213	0.045	0.076
2022/08/05 09:43:32	40.9414	-105.227	785.605	1435	1509.87	0.048	0.082
2022/08/05 09:44:32	40.94141	-105.227	785.55	1400	1472.42	0.056	0.094
2022/08/05 09:45:32	40.94141	-105.227	785.62	1435	1510.044	0.048	0.082
2022/08/05 09:46:32	40.94141	-105.227	785.54	1514	1592.194	0.034	0.058
2022/08/05 09:47:32	40.94141	-105.227	785.54	1508	1585.884	0.035	0.059

2022/08/05 09:48:32	40.94141	-105.227	785.555	1446	1520.858	0.046	0.078
2022/08/05 09:49:32	40.94141	-105.227	785.545	1441	1515.482	0.047	0.080
2022/08/05 09:50:32	40.94141	-105.227	785.52	1448	1522.551	0.046	0.078
2022/08/05 09:51:32	40.94141	-105.227	785.525	1535	1614.093	0.031	0.052
2022/08/05 09:52:32	40.94141	-105.227	785.51	1486	1562.387	0.039	0.066
2022/08/05 09:53:32	40.94141	-105.227	785.55	1479	1555.506	0.040	0.068
2022/08/05 09:54:32	40.94141	-105.227	785.555	1487	1563.98	0.039	0.065
2022/08/05 09:55:32	40.94141	-105.227	785.55	1488	1564.972	0.038	0.065
2022/08/05 09:56:32	40.94141	-105.227	785.55	1421	1494.506	0.051	0.087
2022/08/05 09:57:32	40.94141	-105.227	785.53	1483	1559.473	0.039	0.067
2022/08/05 09:58:32	40.94141	-105.227	785.535	1486	1562.688	0.039	0.066
2022/08/05 09:59:32	40.94141	-105.227	785.585	1472	1548.562	0.041	0.070
2022/08/05 10:00:32	40.94141	-105.227	785.59	1406	1479.186	0.054	0.092
2022/08/05 10:01:32	40.94142	-105.227	785.6	1516	1595.034	0.033	0.057
2022/08/05 10:02:32	40.94142	-105.227	785.585	1485	1562.238	0.039	0.066
2022/08/05 10:03:32	40.94142	-105.227	785.66	1460	1536.825	0.043	0.073
2022/08/05 10:04:32	40.94142	-105.227	785.595	1447	1522.379	0.046	0.078
2022/08/05 10:05:32	40.94142	-105.227	785.585	1489	1566.446	0.038	0.065
2022/08/05 10:06:32	40.94142	-105.227	785.585	1498	1575.914	0.037	0.062
2022/08/05 10:07:32	40.94142	-105.227	785.67	1497	1575.893	0.037	0.062
2022/08/05 10:08:32	40.94142	-105.227	785.675	1486	1564.374	0.038	0.065
2022/08/05 10:09:32	40.94142	-105.227	785.605	1441	1516.183	0.047	0.080
2022/08/05 10:10:32	40.94142	-105.227	785.615	1480	1557.337	0.040	0.067
2022/08/05 10:11:32	40.94115	-105.228	785.66	1538	1618.929	0.030	0.051
2022/08/05 10:12:32	40.94038	-105.231	784.84	1517	1586.773	0.035	0.059
2022/08/05 10:13:32	40.94051	-105.235	783.82	1538	1596.154	0.033	0.057
2022/08/05 10:14:32	40.94119	-105.238	783.12	1486	1533.898	0.044	0.074
2022/08/05 10:15:32	40.9418	-105.242	782.83	1549	1595.362	0.033	0.057
2022/08/05 10:16:32	40.9425	-105.245	782.56	1577	1620.827	0.030	0.050
2022/08/05 10:17:32	40.94455	-105.248	782.5	1472	1512.21	0.048	0.081
2022/08/05 10:18:32	40.94676	-105.25	782.28	1513	1551.699	0.041	0.069
2022/08/05 10:19:32	40.94506	-105.248	782.45	1537	1578.378	0.036	0.061
2022/08/05 10:20:32	40.94253	-105.245	782.655	1470	1511.959	0.048	0.081
2022/08/05 10:21:32	40.94048	-105.245	782.515	1500	1541.153	0.042	0.072
2022/08/05 10:22:32	40.93776	-105.246	782.895	1385	1427.167	0.065	0.111
2022/08/05 10:23:32	40.9352	-105.248	784.7	1416	1479.532	0.054	0.092
2022/08/05 10:24:32	40.93237	-105.249	784.885	1446	1513.032	0.048	0.081
2022/08/05 10:25:32	40.93125	-105.25	785.78	1439	1516.12	0.047	0.080
2022/08/05 10:26:32	40.93125	-105.25	785.71	1511	1591.121	0.034	0.058
2022/08/05 10:27:32	40.93117	-105.251	785.85	1432	1509.558	0.048	0.082
2022/08/05 10:28:32	40.93053	-105.254	785.785	1502	1582.557	0.035	0.060
2022/08/05 10:29:32	40.92884	-105.257	787.52	1524	1627.333	0.029	0.049
2022/08/05 10:30:32	40.9299	-105.26	789.725	1511	1641.079	0.027	0.045
2022/08/05 10:31:32	40.9299	-105.26	790.01	1449	1577.199	0.036	0.062
2022/08/05 10:32:32	40.92945	-105.258	788.345	1444	1551.735	0.041	0.069

2022/08/05 10:33:32	40.92824	-105.257	788.075	1766	1893.817	-0.002	-0.004
2022/08/05 10:34:32	40.92605	-105.259	790.335	1550	1691.363	0.020	0.034
2022/08/05 10:35:32	40.92286	-105.259	791.66	1433	1579.727	0.036	0.061
2022/08/05 10:36:32	40.92268	-105.259	791.64	1438	1584.995	0.035	0.060
2022/08/05 10:37:32	40.92527	-105.259	790.495	1429	1561.249	0.039	0.066
2022/08/05 10:38:32	40.92752	-105.258	788.875	1534	1655.191	0.025	0.042
2022/08/05 10:39:32	40.92802	-105.257	788.31	1595	1713.539	0.017	0.029
2022/08/05 10:40:32	40.92802	-105.257	788.365	1536	1650.853	0.025	0.043
2022/08/05 10:41:32	40.92802	-105.257	788.39	1532	1646.871	0.026	0.044
2022/08/05 10:42:32	40.92802	-105.257	788.38	1515	1628.471	0.028	0.048
2022/08/05 10:43:32	40.92802	-105.257	788.34	1486	1596.807	0.033	0.056
2022/08/05 10:44:32	40.92802	-105.257	788.29	1517	1629.491	0.028	0.048
2022/08/05 10:45:32	40.92802	-105.257	788.29	1542	1656.345	0.024	0.042
2022/08/05 10:46:32	40.92802	-105.257	788.28	1493	1603.588	0.032	0.055
2022/08/05 10:47:32	40.92801	-105.257	788.395	1564	1681.335	0.021	0.036
2022/08/05 10:48:32	40.92801	-105.257	788.455	1511	1625.109	0.029	0.049
2022/08/05 10:49:32	40.92801	-105.257	788.47	1547	1664.02	0.023	0.040
2022/08/05 10:50:32	40.92801	-105.257	788.47	1503	1616.692	0.030	0.051
2022/08/05 10:51:32	40.92801	-105.257	788.425	1586	1705.379	0.018	0.031
2022/08/05 10:52:32	40.92801	-105.257	788.38	1532	1646.744	0.026	0.044
2022/08/05 10:53:32	40.92801	-105.257	788.375	1431	1538.12	0.043	0.073
2022/08/05 10:54:32	40.92801	-105.257	788.39	1605	1725.345	0.016	0.026
2022/08/05 10:55:32	40.92801	-105.257	788.395	1508	1621.134	0.030	0.050
2022/08/05 10:56:32	40.92801	-105.257	788.435	1507	1620.558	0.030	0.050
2022/08/05 10:57:32	40.92801	-105.257	788.51	1573	1692.508	0.020	0.033
2022/08/05 10:58:32	40.92801	-105.257	788.515	1546	1663.521	0.023	0.040
2022/08/05 10:59:32	40.92801	-105.257	788.495	1542	1658.961	0.024	0.041
2022/08/05 11:00:32	40.92801	-105.257	788.45	1500	1613.217	0.031	0.052
2022/08/05 11:01:32	40.92801	-105.257	788.425	1529	1644.089	0.026	0.044
2022/08/05 11:02:32	40.92801	-105.257	788.435	1522	1636.688	0.027	0.046
2022/08/05 11:03:32	40.92801	-105.257	788.435	1581	1700.134	0.019	0.032
2022/08/05 11:04:32	40.92801	-105.257	788.405	1476	1586.855	0.035	0.059
2022/08/05 11:05:32	40.92801	-105.257	788.385	1585	1703.779	0.018	0.031
2022/08/05 11:06:32	40.92801	-105.257	788.47	1526	1641.432	0.027	0.045
2022/08/05 11:07:32	40.92801	-105.257	788.51	1498	1611.81	0.031	0.053
2022/08/05 11:08:32	40.92801	-105.257	788.53	1594	1715.368	0.017	0.028
2022/08/05 11:09:32	40.92801	-105.257	788.54	1496	1610.03	0.031	0.053
2022/08/05 11:10:32	40.92801	-105.257	788.585	1519	1635.35	0.027	0.047
2022/08/05 11:11:32	40.92801	-105.257	788.535	1555	1673.463	0.022	0.038
2022/08/05 11:12:32	40.92801	-105.257	788.47	1506	1619.919	0.030	0.050
2022/08/05 11:13:32	40.92801	-105.257	788.48	1539	1655.543	0.025	0.042
2022/08/05 11:14:32	40.92801	-105.257	788.345	1524	1637.704	0.027	0.046
2022/08/05 11:15:32	40.92801	-105.257	788.345	1541	1655.972	0.025	0.042
2022/08/05 11:16:32	40.92801	-105.257	788.44	1540	1656.108	0.024	0.042
2022/08/05 11:17:32	40.92801	-105.257	788.44	1521	1635.676	0.027	0.047

2022/08/05 11:18:32	40.92801	-105.257	788.475	1488	1600.619	0.033	0.055
2022/08/05 11:19:32	40.92801	-105.257	788.43	1550	1666.734	0.023	0.039
2022/08/05 11:20:32	40.92801	-105.257	788.46	1535	1650.985	0.025	0.043
2022/08/05 11:21:32	40.92801	-105.257	788.47	1518	1632.827	0.028	0.047
2022/08/05 11:22:32	40.92801	-105.257	788.53	1549	1666.942	0.023	0.039
2022/08/05 11:23:32	40.92863	-105.256	787.89	1537	1645.897	0.026	0.044
2022/08/05 11:24:32	40.92738	-105.254	787.815	1511	1617.121	0.030	0.051
2022/08/05 11:25:32	40.9256	-105.251	788.79	1493	1609.898	0.031	0.053
2022/08/05 11:26:32	40.92558	-105.25	788.645	1364	1469.156	0.056	0.096
2022/08/05 11:27:32	40.92535	-105.25	788.15	1420	1523.655	0.046	0.077
2022/08/05 11:28:32	40.92407	-105.248	787.88	1518	1625.426	0.029	0.049
2022/08/05 11:29:32	40.92226	-105.245	789.875	1372	1491.835	0.052	0.088
2022/08/05 11:30:32	40.92279	-105.242	789.375	1323	1433.028	0.064	0.109
2022/08/05 11:31:32	40.92161	-105.239	789.27	1447	1566.073	0.038	0.065
2022/08/05 11:32:32	40.91889	-105.239	788.52	1414	1521.545	0.046	0.078
2022/08/05 11:33:32	40.91837	-105.235	788.235	1399	1502.105	0.050	0.084
2022/08/05 11:34:32	40.91745	-105.232	787.485	1397	1491.32	0.052	0.088
2022/08/05 11:35:32	40.91503	-105.23	787.285	1398	1490.091	0.052	0.088
2022/08/05 11:36:32	40.91235	-105.23	788.555	1479	1591.918	0.034	0.058
2022/08/05 11:37:32	40.90976	-105.228	789.065	1368	1478.237	0.054	0.092
2022/08/05 11:38:32	40.90748	-105.226	790.04	1353	1473.046	0.055	0.094
2022/08/05 11:39:32	40.90674	-105.222	791.76	1314	1449.658	0.060	0.103
2022/08/05 11:40:32	40.90463	-105.22	792.27	1264	1399.983	0.072	0.122
2022/08/05 11:41:32	40.9047	-105.219	790.9	1307	1432.419	0.064	0.109
2022/08/05 11:42:32	40.90572	-105.221	792.245	1297	1436.257	0.063	0.108
2022/08/05 11:43:32	40.9067	-105.224	791.395	1243	1367.48	0.080	0.137
2022/08/05 11:44:32	40.90773	-105.227	789.865	1332	1448.23	0.061	0.103
2022/08/05 11:45:32	40.90941	-105.228	789.095	1369	1479.66	0.054	0.092
2022/08/05 11:46:32	40.90941	-105.228	789.02	1380	1490.688	0.052	0.088
2022/08/05 11:47:32	40.90941	-105.228	789.015	1442	1557.601	0.040	0.067
2022/08/05 11:48:32	40.9094	-105.228	788.995	1435	1549.801	0.041	0.070
2022/08/05 11:49:32	40.9094	-105.228	789.005	1397	1508.877	0.048	0.082
2022/08/05 11:50:32	40.9094	-105.228	789.015	1446	1561.921	0.039	0.066
2022/08/05 11:51:32	40.9094	-105.228	788.945	1466	1582.671	0.035	0.060
2022/08/05 11:52:32	40.9094	-105.228	788.935	1444	1558.8	0.039	0.067
2022/08/05 11:53:32	40.9094	-105.228	788.95	1463	1579.493	0.036	0.061
2022/08/05 11:54:32	40.9094	-105.228	788.93	1460	1576.012	0.037	0.062
2022/08/05 11:55:32	40.9094	-105.228	788.885	1431	1544.172	0.042	0.071
2022/08/05 11:56:32	40.9094	-105.228	788.875	1412	1523.552	0.046	0.078
2022/08/05 11:57:32	40.9094	-105.228	788.875	1319	1423.205	0.066	0.113
2022/08/05 11:58:32	40.9094	-105.228	788.86	1496	1614.002	0.031	0.052
2022/08/05 11:59:32	40.9094	-105.228	788.865	1440	1553.645	0.040	0.068
2022/08/05 12:00:32	40.9094	-105.228	788.805	1485	1601.456	0.032	0.055
2022/08/05 12:01:32	40.90939	-105.228	788.83	1444	1557.541	0.040	0.067
2022/08/05 12:02:32	40.90939	-105.228	788.82	1466	1581.149	0.036	0.061

2022/08/05 12:03:32	40.90939	-105.228	788.88	1401	1511.741	0.048	0.081
2022/08/05 12:04:32	40.90939	-105.228	788.875	1463	1578.581	0.036	0.061
2022/08/05 12:05:32	40.90939	-105.228	788.885	1410	1521.511	0.046	0.078
2022/08/05 12:06:32	40.90939	-105.228	788.89	1508	1627.325	0.029	0.049
2022/08/05 12:07:32	40.90939	-105.228	788.855	1441	1554.604	0.040	0.068
2022/08/05 12:08:32	40.90939	-105.228	788.86	1368	1475.906	0.055	0.093
2022/08/05 12:09:32	40.90939	-105.228	788.86	1386	1495.325	0.051	0.087
2022/08/05 12:10:32	40.90939	-105.228	788.865	1454	1568.75	0.038	0.064
2022/08/05 12:11:32	40.90939	-105.228	788.86	1479	1595.661	0.033	0.057
2022/08/05 12:12:32	40.90939	-105.228	788.78	1414	1524.595	0.045	0.077
2022/08/05 12:13:32	40.90939	-105.228	788.77	1453	1566.524	0.038	0.065
2022/08/05 12:14:32	40.90939	-105.228	788.77	1438	1550.352	0.041	0.069
2022/08/05 12:15:32	40.90939	-105.228	788.695	1493	1608.72	0.031	0.053
2022/08/05 12:16:32	40.90939	-105.228	788.695	1405	1513.9	0.047	0.081
2022/08/05 12:17:32	40.90939	-105.228	788.75	1520	1638.507	0.027	0.046
2022/08/05 12:18:32	40.91023	-105.229	788.7	1454	1566.758	0.038	0.065
2022/08/05 12:19:32	40.91251	-105.23	788.01	1443	1546.665	0.041	0.071
2022/08/05 12:20:32	40.9148	-105.23	786.955	1481	1574.552	0.037	0.063
2022/08/05 12:21:32	40.91706	-105.231	787.04	1489	1584.094	0.035	0.060
2022/08/05 12:22:32	40.91821	-105.234	787.67	1344	1436.787	0.063	0.108
2022/08/05 12:23:32	40.9185	-105.237	787.915	1394	1493.053	0.051	0.087
2022/08/05 12:24:32	40.91792	-105.241	788.8	1378	1486.008	0.053	0.090
2022/08/05 12:25:32	40.91708	-105.242	788.925	1510	1629.922	0.028	0.048
2022/08/05 12:26:32	40.91704	-105.242	788.915	1411	1522.942	0.046	0.078
2022/08/05 12:27:32	40.91602	-105.243	789.695	1464	1589.666	0.034	0.058
2022/08/05 12:28:32	40.91389	-105.245	791.245	1407	1546.116	0.042	0.071
2022/08/05 12:29:32	40.91144	-105.247	793.055	1441	1605.702	0.032	0.054
2022/08/05 12:30:32	40.90928	-105.249	794.36	1443	1624.169	0.029	0.049
2022/08/05 12:31:32	40.90687	-105.25	795.4	1460	1656.516	0.024	0.042
2022/08/05 12:32:32	40.90472	-105.25	797.68	1469	1696.247	0.019	0.033
2022/08/05 12:33:32	40.9041	-105.248	798.605	1288	1497.878	0.050	0.086
2022/08/05 12:34:32	40.90488	-105.25	797.545	1340	1545.683	0.042	0.071
2022/08/05 12:35:32	40.90534	-105.252	796.925	1366	1568.17	0.038	0.064
2022/08/05 12:36:32	40.90534	-105.252	796.935	1268	1455.778	0.059	0.100
2022/08/05 12:37:32	40.90534	-105.252	796.9	1354	1554.095	0.040	0.068
2022/08/05 12:38:32	40.90534	-105.252	796.89	1327	1522.987	0.046	0.078
2022/08/05 12:39:32	40.90534	-105.252	796.91	1323	1518.63	0.047	0.079
2022/08/05 12:40:32	40.90534	-105.252	796.895	1263	1449.591	0.060	0.103
2022/08/05 12:41:32	40.90534	-105.252	796.82	1347	1545.108	0.042	0.071
2022/08/05 12:42:32	40.90534	-105.252	796.765	1317	1510.056	0.048	0.082
2022/08/05 12:43:32	40.90534	-105.252	796.515	1266	1448.789	0.061	0.103
2022/08/05 12:44:32	40.90533	-105.252	796.735	1327	1521.171	0.046	0.078
2022/08/05 12:45:32	40.90533	-105.252	796.805	1390	1594.248	0.034	0.057
2022/08/05 12:46:32	40.90533	-105.252	796.895	1307	1500.091	0.050	0.085
2022/08/05 12:47:32	40.90533	-105.252	796.925	1370	1572.762	0.037	0.063

2022/08/05 12:48:32	40.90533	-105.252	796.89	1346	1544.793	0.042	0.071
2022/08/05 12:49:32	40.90533	-105.252	796.935	1306	1499.405	0.050	0.085
2022/08/05 12:50:32	40.90533	-105.252	796.925	1313	1507.326	0.049	0.083
2022/08/05 12:51:32	40.90533	-105.252	796.98	1387	1592.952	0.034	0.057
2022/08/05 12:52:32	40.90533	-105.252	796.98	1312	1506.816	0.049	0.083
2022/08/05 12:53:32	40.90533	-105.252	796.98	1398	1605.586	0.032	0.054
2022/08/05 12:54:32	40.90533	-105.252	796.98	1298	1490.737	0.052	0.088
2022/08/05 12:55:32	40.90533	-105.252	796.98	1360	1561.943	0.039	0.066
2022/08/05 12:56:32	40.90533	-105.252	796.975	1338	1536.617	0.043	0.074
2022/08/05 12:57:32	40.90533	-105.252	796.995	1252	1438.073	0.063	0.107
2022/08/05 12:58:32	40.90533	-105.252	796.97	1273	1461.912	0.058	0.098
2022/08/05 12:59:32	40.90533	-105.252	796.965	1348	1547.983	0.041	0.070
2022/08/05 13:00:32	40.90533	-105.252	797.015	1413	1623.25	0.029	0.050
2022/08/05 13:01:32	40.90533	-105.252	796.955	1328	1524.898	0.045	0.077
2022/08/05 13:02:32	40.90534	-105.252	796.96	1390	1596.152	0.033	0.057
2022/08/05 13:03:32	40.90534	-105.252	797.005	1373	1577.177	0.036	0.062
2022/08/05 13:04:32	40.90534	-105.252	797.015	1335	1533.644	0.044	0.074
2022/08/05 13:05:32	40.90533	-105.252	796.995	1343	1542.597	0.042	0.072
2022/08/05 13:06:32	40.90533	-105.252	797.005	1344	1543.865	0.042	0.071
2022/08/05 13:07:32	40.90533	-105.252	797.005	1344	1543.865	0.042	0.071
2022/08/05 13:08:32	40.90533	-105.252	796.935	1330	1526.959	0.045	0.076
2022/08/05 13:09:32	40.90533	-105.252	796.96	1262	1449.168	0.061	0.103
2022/08/05 13:10:32	40.90533	-105.252	796.925	1296	1487.81	0.052	0.089
2022/08/05 13:11:32	40.90533	-105.252	796.91	1353	1553.066	0.040	0.069
2022/08/05 13:12:32	40.90533	-105.252	796.905	1336	1533.494	0.044	0.074
2022/08/05 13:13:32	40.90533	-105.252	796.895	1358	1558.626	0.039	0.067
2022/08/05 13:14:32	40.90533	-105.252	796.905	1319	1513.981	0.047	0.081
2022/08/05 13:15:32	40.90533	-105.252	796.9	1311	1504.74	0.049	0.084
2022/08/05 13:16:32	40.90533	-105.252	796.9	1322	1517.366	0.047	0.079
2022/08/05 13:17:32	40.90624	-105.254	797.025	1278	1468.276	0.056	0.096
2022/08/05 13:18:32	40.90797	-105.252	795.655	1380	1568.825	0.038	0.064
2022/08/05 13:19:32	40.90974	-105.25	794.355	1419	1597.094	0.033	0.056
2022/08/05 13:20:32	40.91166	-105.248	792.97	1335	1486.613	0.053	0.090
2022/08/05 13:21:32	40.91375	-105.246	791.695	1366	1506.273	0.049	0.083
2022/08/05 13:22:32	40.91389	-105.246	791.72	1346	1484.505	0.053	0.090
2022/08/05 13:23:32	40.91407	-105.246	791.35	1309	1439.59	0.063	0.106
2022/08/05 13:24:32	40.91569	-105.243	789.695	1403	1523.43	0.046	0.078
2022/08/05 13:25:32	40.91704	-105.242	788.665	1525	1642.821	0.026	0.045
2022/08/05 13:26:32	40.91708	-105.242	788.65	1469	1582.312	0.036	0.060
2022/08/05 13:27:32	40.91865	-105.24	787.875	1460	1563.261	0.039	0.066
2022/08/05 13:28:32	40.91951	-105.236	787.11	1383	1472.118	0.056	0.095
2022/08/05 13:29:32	40.92163	-105.234	786.7	1456	1544.937	0.042	0.071
2022/08/05 13:30:32	40.92469	-105.235	786.35	1426	1509.032	0.048	0.082
2022/08/05 13:31:32	40.92739	-105.236	785.695	1418	1493.017	0.051	0.087
2022/08/05 13:32:32	40.92925	-105.238	785.15	1446	1516.123	0.047	0.080

2022/08/05 13:33:32	40.93118	-105.241	784.83	1415	1479.968	0.054	0.092
2022/08/05 13:34:32	40.93128	-105.241	784.825	1453	1519.654	0.046	0.079
2022/08/05 13:35:32	40.93207	-105.241	784.58	1444	1507.395	0.049	0.083
2022/08/05 13:36:32	40.93464	-105.242	783.535	1486	1538.807	0.043	0.073
2022/08/05 13:37:32	40.93687	-105.243	782.79	1463	1506.324	0.049	0.083
2022/08/05 13:38:32	40.93822	-105.245	781.775	1502	1534.439	0.044	0.074
2022/08/05 13:39:32	40.94099	-105.245	781.875	1546	1580.606	0.036	0.061
2022/08/05 13:40:32	40.94321	-105.243	782.37	1514	1553.801	0.040	0.068
2022/08/05 13:41:32	40.94506	-105.24	782.61	1503	1545.365	0.042	0.071
2022/08/05 13:42:32	40.94696	-105.238	784.02	1407	1462.451	0.058	0.098
2022/08/05 13:43:32	40.94888	-105.238	785.125	1404	1471.802	0.056	0.095
2022/08/05 13:44:32	40.95019	-105.239	784.15	1474	1533.626	0.044	0.074
2022/08/05 13:45:32	40.95027	-105.239	784.19	1473	1533.058	0.044	0.075
2022/08/05 13:46:32	40.95067	-105.241	783.925	1418	1472.807	0.055	0.094
2022/08/05 13:47:32	40.9512	-105.243	782.31	1470	1507.947	0.049	0.082
2022/08/05 13:48:32	40.95126	-105.247	781.495	1594	1624.919	0.029	0.049
2022/08/05 13:49:32	40.95163	-105.25	781.02	1461	1483.902	0.053	0.090

## APPENDIX D. EMT+VS PARAMETERS

Table D-1 shows the coarse resolution soil moisture inputs for each sampling dates. Coarse inputs are derived from spatial averages of each date’s CRNR survey. Table D-2 shows the parameters used in the EMT+VS model to predict soil moisture for the Maxwell Ranch area. Parameters were calibrated by comparing EMT+VS results to in-situ soil moisture measurements.

Table D-1: Coarse resolution EMT+VS inputs derived from cosmic ray neutron rover (CRNR) surveys.

Date	Rover Average
<b>5/27/2022</b>	0.118
<b>6/2/2022</b>	0.185
<b>6/10/2022</b>	0.094
<b>6/15/2022</b>	0.049
<b>6/23/2022</b>	0.037
<b>7/5/2022</b>	0.042
<b>7/26/2022</b>	0.099
<b>7/29/2022</b>	0.183
<b>8/2/2022</b>	0.113
<b>8/5/2022</b>	0.075

Table D-2: Calibrated EMT+VS parameters for the Maxwell Ranch area.

	<i>Parameters</i>			
	lower	optimized	upper	
$V$	gridded	gridded	gridded	Nomalized NDVI <sup>2</sup> , Sentinel-2 5/26
$\phi$	0.2	0.3288	0.45	Posority
$\gamma_h$	1	1.2912	36	Horizontal pore disconnectedness
$\gamma_v$	6	13.8041	36	Vertical pore disconnectedness
$\beta_r$	0.1	1.7344	5	Radiative ET exponent
$\beta_a$	0.1	0.1243	5	Aerodynamic ET exponent
$\alpha$	0.1	0.1	0.4	Priestley-Taylor coefficient
$\epsilon$	1	1.1367	3	Relation of hydraulic to topographic gradient
$\eta$	0	0.4670	1	Portion of transpiration from soil layer
$K_s$	1	3476.27	6000	Veritcal saturated hydraulic conductivity

$\iota$	1	600	600	Anisotropy of saturated hydraulic conductivity
$\delta_o$		0.05		Soil depth where topographic curvature is zero
$\kappa_o$	-999999	-9568.82	-0.3609	Minimum topographic curvature with soil
$\lambda$	0	0.999	0.999	Interception efficiency
$\mu$	1	6.2439	10	Shading effect on soil evaporation
$PET$	3	3	8	Potential evapotranspiration
$\omega$	-0.0015	-0.000395	0.0015	PET elevation dependence
<b>Veg-Adj</b>	0	0.5	0.5	Vegetation-adjustment factor for porosity
		NSCE	0.6930	
		RMSE	0.0774	