



## LOWER PLATTE SOUTH natural resources district

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### Memorandum

**Date:** June 14, 2023  
**To:** Board of Directors  
**From:** Mike Murren Projects Coordinator *mm*  
**Subject:** Water Resources Subcommittee meeting minutes

The Water Resource Subcommittee met on Tuesday June 13, 2023, at NRD office, at 6:00 pm. Subcommittee members present included Larry Ruth, Melissia Baker, Luke Peterson, Gary Hellerich, Susan Seacrest, and Bob Andersen. Others present were Dick Ehrman and Mike Murren with the LPSNRD. There was one agenda item the Subcommittee acted on and three reports were given.

**Discussion and possible action on the purchase of AEM data using our current WSF Water Sustainability Fund grant.(Action)(Attachment)** Change Order #2 is for LRE to work with its subcontractor, AquaGeoFrameworks (AGF), to obtain existing AEM data (315-line km/196-line miles) in northern and western Cass County from Ash Grove Cement Company and integrate this data into the Three-Dimensional Hydrogeologic Framework project. This data was collected in 2020 and 2022 and will fill in several gaps in LPSNRD's data in that area. The cost is \$58,997.00, which staff estimates is approximately one half the cost of LPSNRD flying this area itself; this amount includes a 10% markup for LRE to handle the data. This amount is within the existing overall project budget, so it does not represent any additional costs for the overall project. **It was moved by Andersen, seconded by Hellerich to recommend that the Board of Directors authorize the General Manager to sign Change order #2 with LRE Water for \$58,997.00 to purchase additional AEM data for the Three-Dimensional Hydrogeologic Framework Project. pending legal counsel review.**

### **Weather Precipitation outlook(Attachment)**

Dick Ehrman gave his annual weather/precipitation outlook for the 2023 growing season for the Lower Platte South Natural Resource District. This is the sixth issue which is generally released in early June. The report is attached and may be updated throughout the growing season if needed.

## **NDEE/319 Drinking Water Specialist Position**

The deadline to accept applications for the NDEE/319 Drinking Water Specialist was June 5, 2023. Dick Ehman reported we received 47 applications for the position. Staff has reviewed the applications and interviews have been set up for the week of June 19<sup>th</sup>.

## **Piening Dam Update**

Murren reported that Schemer continues to work on the design of the Piening Dam. Draft design documents have been given to DNR for a preliminary review, which should shorten the approval time once they receive the final design. HDR has completed the wetland assessment and is preparing to meet with the COE in the next month to discuss the 404 process and path forward.

With no further business the meeting was adjourned at 6:55pm.

Enc.

Cc: Steve Seglin

Corey Wasserburger

Dave Landis



June 7, 2023

Dick Ehrman, Water Resources Coordinator  
Lower Platte South Natural Resources District  
P.O. Box 83581  
Lincoln, NE 68501-3581

RE: Change Order Request #2 – Aqua Geo Frameworks’ (AGF) Ash Grove AEM Data  
3D Hydrogeologic Framework Project

Dear Dick:

This correspondence provides the Lower Platte South Natural Resources District (LPSNRD) with LRE Water’s (LRE) Change Order #2 (CO #2) request for the additional AEM data on LPSNRD’s 3D Hydrogeologic Framework (Project). The contract for the Project between LRE and LPSNRD is dated June 30, 2022.

CO #2 is for LRE’s subcontractor, AGF, to sell to LPSNRD the existing AEM data (315 line-km) that was collected in 2020 and 2022 in Cass County for the Ash Grove Cement Company, in addition to the data inversions produced AGF. The additional cost and updated Project budget are as follows:

Original LRE Budget	\$ 296,000.00
CO#1 Cost (includes 10% LRE markup)	\$ 8,415.00
Revised LRE Budget with CO#1	\$ 304,415.00
CO#2 Cost (includes 10% LRE markup)	\$ 58,997.00
<b>New LRE Budget with CO#1 and CO#2</b>	<b>\$ 363,392.00</b>

Acceptance of CO #2 can be indicated by signing below and returning it to my attention. If you have any questions please call me at 612-805-0919.

Sincerely,

LRE WATER

David Hume, PG  
VP of Midwest Operations

For: \_\_\_\_\_  
LPSNRD

By: \_\_\_\_\_  
Authorized Signature/Title

Date: \_\_\_\_\_

Attachment



Jared D. Abraham, PG  
Member LLC  
Aqua Geo Frameworks, LLC  
10848 Ridge Road  
Fort Laramie, WY 82212-7614  
303-905-6240  
[jabraham@aquageoframeworks.com](mailto:jabraham@aquageoframeworks.com)

Dave Hume, PG  
Sr. Project Manager & VP Midwest Operations  
LRE Water  
1221 Auraria Parkway  
Denver, CO 80204  
612-805-0919  
[Dave.Hume@LREwater.com](mailto:Dave.Hume@LREwater.com)

**For the use in the preparation of a Work Order Change to the following:  
"Lower Platte South NRD 3-D Hydrogeologic Framework." Project Number: 5041LPS02**

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#### AGF DATA SALE

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AGF is selling 315 line-km of Airborne Electromagnetic (AEM) data that were collected in 2020 and 2022 in Cass County, Nebraska utilizing the SkyTEM 304M and the SkyTEM304 HR75 systems respectfully. (Figure 1)

The sale includes the rights to all the data including the original data from SkyTEM and the inversions that AGF produced. Inversions and data descriptions will be delivered as well as Nebraska GeoCloud compatible files. A short letter report will be delivered on data processing, system description, and final inversion settings.

Upon payment the full rights of the data are transferred from AGF to Lower Platte South Natural Resources District.

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#### COST AND SCHEDULE

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Cost	315 line-km Inverted AEM data	<b>\$53,615.00</b>
Schedule	Upon Payment	

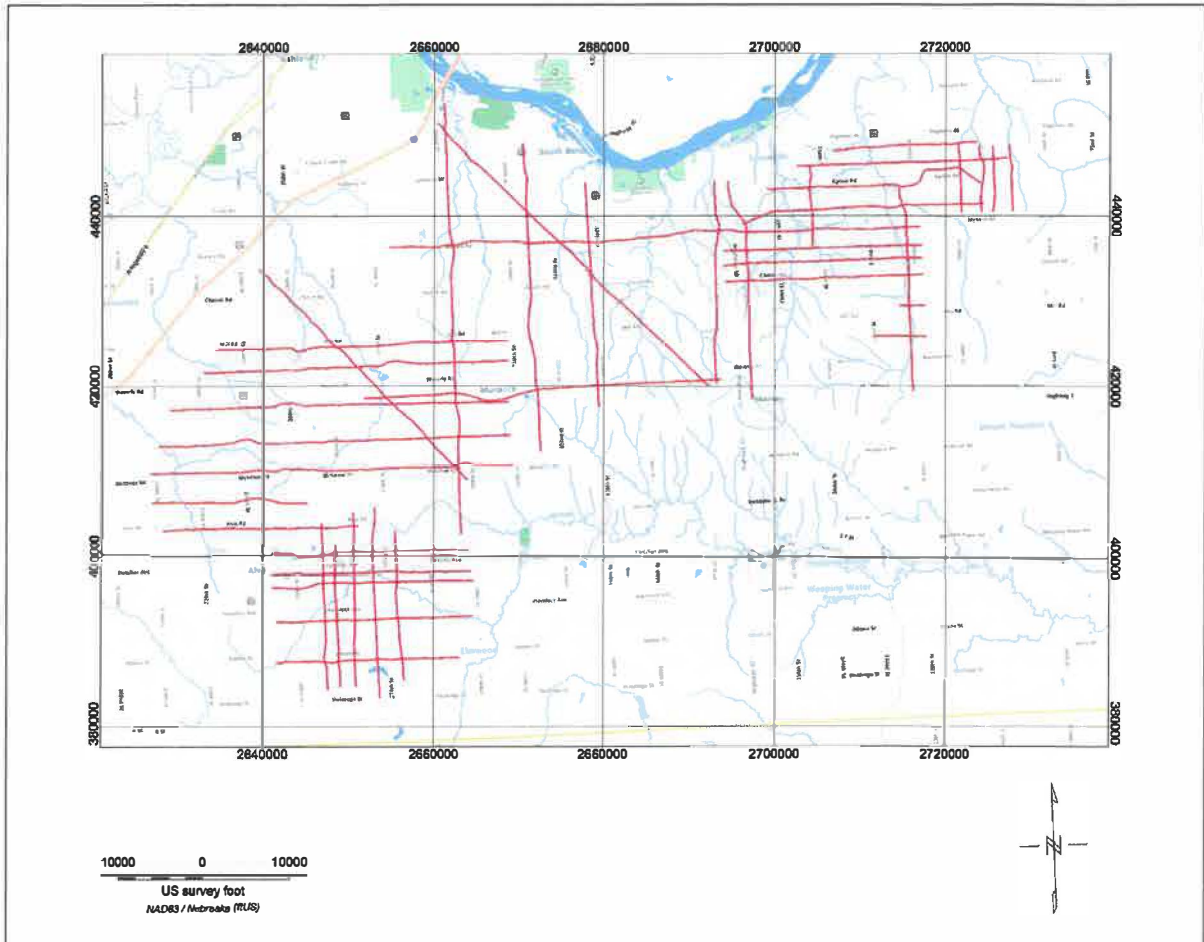


Figure 1 Location of the AEM data in Cass County, Nebraska



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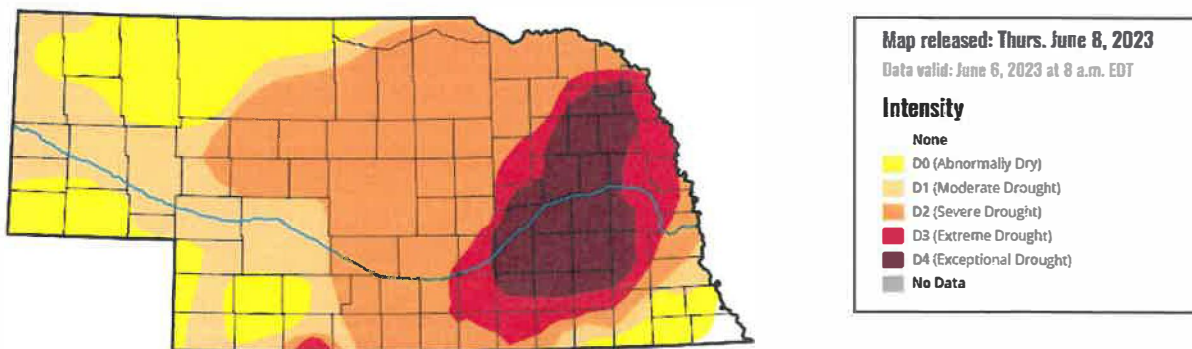
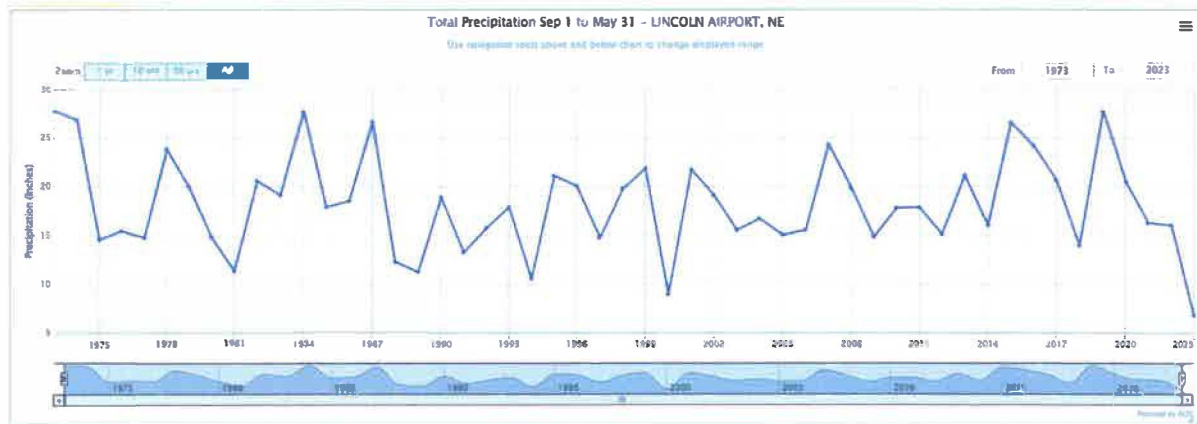
## WEATHER/PRECIPITATION OUTLOOK 2023 GROWING SEASON ISSUE #6—June, 2023

### Background

This is the sixth in an annual series of outlooks for weather/precipitation for the Lower Platte South Natural Resources District and surrounding area. These outlooks will be produced at least annually, usually in May or June, and will be updated throughout the growing season (i.e., May through September) as warranted.

### Current Conditions as of June, 2023

The graph below shows precipitation from September through May since 1973 as a general indicator of moisture conditions entering the growing season. From September 2022 through May 2023, Lincoln received a total of 6.82 inches of precipitation, compared to the 1973-2023 average of 13.76 inches for that same time period, and compared to 15.96 inches for 2021-2022. This total of 6.82 inches is the lowest total for that time period back to 1973. As a result, the Drought Monitor for June 8, 2023 (see below) shows the entire LPSNRD is in varying stages of drought from D1 (Moderate Drought) in the east to D4 (Exceptional Drought) in the northwest.

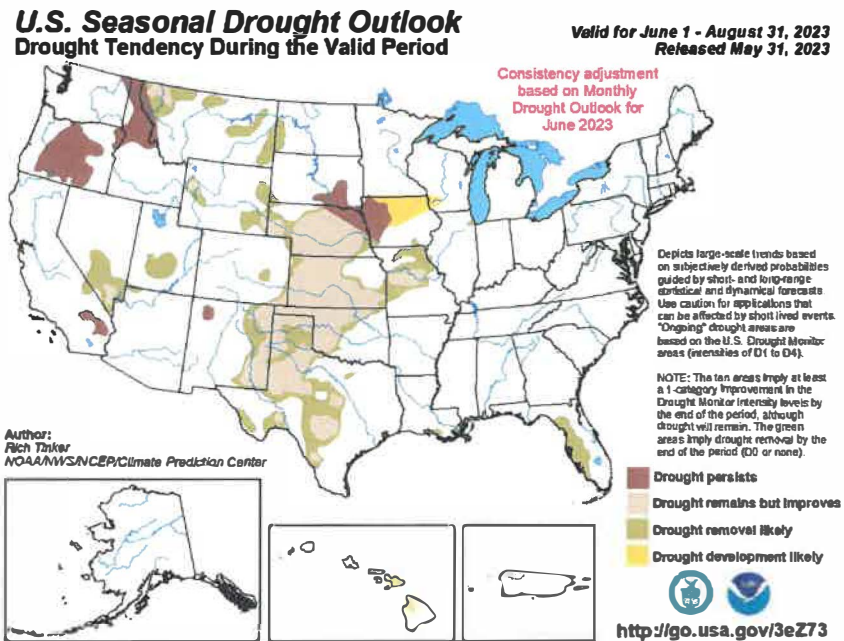


### Outlook

Based on the sources cited below, a general precipitation outlook for the LPSNRD and vicinity for the remainder of the growing season of 2023 is **BELOW NORMAL TO NORMAL**. As noted above, all of LPSNRD is currently in varying stages of drought due to abnormally low precipitation, and field observations indicate that in some parts of the District irrigation is already underway due to extremely dry soil conditions. However, the current Seasonal Drought Outlook from June through August (see



below) illustrates the possibility that drought conditions, while persisting, may ease somewhat throughout the growing season due to indications of more normal precipitation through the summer. Regardless, the early part of the summer of 2023 is extremely dry across LPSNRD, and so farmers, property owners, and all water users are encouraged to conserve water to help prevent conditions from worsening, especially if the predictions for easing of the drought do not materialize. Of course, conditions can change rapidly, and should the conditions described above change significantly during the season, LPSNRD will issue an update(s) to this outlook.



#### For Further Information:

- National Weather Service—Climate Prediction Center: <http://www.cpc.ncep.noaa.gov/>
- National Weather Service—Missouri River Basin Water Supply Statement: [https://www.weather.gov/mbrfc/water\\_supply](https://www.weather.gov/mbrfc/water_supply)
- National Weather Service—Missouri Basin River Forecast Center Ensemble Streamflow Outlook: <https://www.weather.gov/mbrfc/ensemble>
- National Drought Mitigation Center: <http://drought.unl.edu/>
- National Integrated Drought Information System: <http://www.drought.gov>
- United States Drought Monitor: <http://droughtmonitor.unl.edu>
- CLIMOD (temperature and precipitation data): <http://climod.unl.edu/>
- High Plains Regional Climate Center: <https://hprcc.unl.edu/>

#### Specific Questions?

- Climate Science, Drought, Research:
  - Martha Durr, State Climatologist  
Nebraska State Climate Office  
402-472-6711; [mshulski3@unl.edu](mailto:mshulski3@unl.edu)
- Lower Platte South NRD Programs; Questions on This Publication:
  - Dick Ehrman, Water Resources Coordinator  
Lower Platte South Natural Resources District  
402-476-2729; [dehrman@lpsnrd.org](mailto:dehrman@lpsnrd.org)

**Additional Information:**

These outlooks will be generated with input from the following entities:

- High Plains Regional Climate Center
- National Drought Mitigation Center
- Nebraska State Climate Office
- University of Nebraska Extension
- University of Nebraska School of Natural Resources

Going forward, additional entities with relevant information for the region will also be consulted as necessary for these outlooks.

In generating this outlook, the team assembled by LPSNRD utilized the following resources:

- Short- and long-term outlooks from the National Weather Service Climate Prediction Center (CPC)
- Short- and long-term precipitation analyses
- Palmer Drought Severity Indices
- Soil Moisture Indices
- United States Drought Monitor
- National Integrated Drought Information System (NIDIS); most relevant information for the LPSNRD area can be found in the Missouri River Basin Quarterly Climate Impacts and Outlook as well as the section on Nebraska.