

## WSF 2019 Annual Report # 4164

**PROJECT:** Nebraska GeoCloud and Airborne Electromagnetic (AEM) Data Integration – WSF Application #4164 (awarded December 2016)

**DATE:** MARCH 29, 2019  
(ANNUAL REPORT DUE ON OR BEFORE APRIL 1, 2019)

### See Application 4164 Section D #2 For Project Scope Summary, Timeline and Acronyms

#### PROJECT PROGRESS APRIL 2018 TO APRIL 2019:

The Nebraska GeoCloud (NGC) consultant from Denmark (I-GIS) worked in close cooperation with the lead project contact, University of Nebraska-Lincoln (UNL) Assistant Professor Jesse Korus, in the Conservation and Survey Division (CSD), part of the School of Natural Resources (SNR) to upscale and build-out the NGC. A two day NGC Workshop was presented in Gothenburg, Nebraska in August 2018 by Jesse Korus (with support from I-GIS and team members Chris Hobza lead hydrogeologist of the United States Geological Survey [USGS] Nebraska Water Science Center and Katie Cameron, the Eastern Nebraska Water Resources Assessment [ENWRA] coordinator) and covered the GeoScene 3D software, NGC platform and hypothetical groundwater quantity and quality management exercises using the datasets from the pilot project areas. The attendees primarily included Natural Resources District (NRD) water staff, state agencies, USGS, and consultants. Licensed copies of GeoScene 3D software, including a special Nebraska Viewer designed by I-GIS, have been provided by I-GIS and continue to be used by project members for testing and collaboration. I-GIS continued to advance the development of the NGC front and backend platforms so that the NGC can archive and accept uploads/downloads of Nebraska's Airborne Electromagnetic (AEM) survey data, borehole logs, groundwater data and provide different levels of user access.

**Follow this link for more information on Nebraska GeoCloud:** <https://go.unl.edu/nebraskageocloud>.

#### ANTICIPATED ACTIVITIES FROM NOW UNTIL NEXT ANNUAL REPORT DUE APRIL 1, 2020:

Borehole logs, groundwater data, and AEM data will continue to be combined, checked for quality, and interpreted by a team of geologists for the upscaled NGC. The continued advancement of the back end and front end of the NGC tailored to the unique characteristics of Nebraska data and the needs of stakeholders using I-GIS' extended development and software services is planned for the coming year. CSD and USGS will continue collaborations documenting recommended methods and procedures for hydrogeological mapping with AEM in Nebraska. Project leaders will continue populating the NGC with all available data in the upcoming year. A "KnowGeo" Workshop (NGC training with I-GIS, *initial session of an educational program offered by Conservation and Survey Division and Nebraska Extension aimed at providing geological knowledge, training, and technology to sustain and protect Nebraska's groundwater*) will be held at UNL east campus April 1 and 2, 2019. CSD and USGS geologists and I-GIS will continue to prepare for the upload/download and access to the resulting maps and models to the NGC for review and use by NRD staff. Workshops and training sessions along with project partner feedback will continue as requested/needed.

#### ANTICIPATED CASH FLOW FOR REMAINDER OF THE PROJECT:

Following Claims 1 through 5 previously submitted and received totaling **\$132,360.43** in WSF reimbursements, four further reimbursement claims (#6 to #9) are anticipated between April 1, 2019 and July 1, 2020 totaling an approximated **\$115,077.17** additional from WSF (60% of CSD and USGS invoices). The final set of claims anticipated before June 30, 2020 will satisfy the cash flow total up to the award total of \$247,437.60 from WSF (60% of the \$412,396 project expenses incurred not including USGS coop funds).

LIKELIHOOD THAT BENEFITS PROJECTED IN APPLICATION 4164 WILL BE REALIZED: Based on preliminary collaborations presented by I-GIS, CSD, and USGS, the project is on target for achieving the benefits as described in the application.