*HPRCC Director Rezaul Mahmood opens the workshop.*

On March 25, the High Plains Regional Climate Center (HPRCC) hosted a workshop on accessing climate data using THREDDS Data Servers. Ten faculty, staff, and students from the University of Nebraska-Lincoln were in attendance and represented a wide variety of disciplines, including agriculture, climatology, and ecology. The workshop provided an opportunity for the participants to interact with data on a THREDDS Data Server and learn about netCDF data. For many, this was a brand new experience.

*The HPRCC THREDDS Data Server*

At the center of the workshop was the new HPRCC THREDDS Data Server, which was funded through a Unidata Equipment Grant last year. The HPRCC applied for the grant in order to help fill a gap in data usability, by specifically helping researchers and students access gridded versions of HPRCC climate products. Before the new THREDDS Data Server was provided by Unidata, researchers using HPRCC products had to use raw data or pre-rendered maps. The addition of netCDF data provides a new, efficient method of doing quantitative research with HPRCC products.

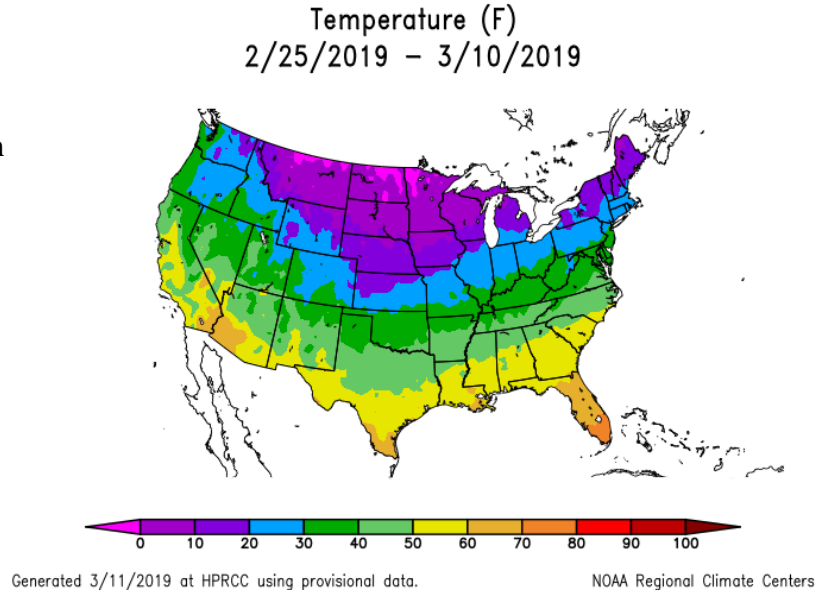
At the workshop, HPRCC staff provided an overview of the netCDF file format by discussing its advantages, looking at how the headers are formatted, and showing how the data are packaged. The new THREDDS Data Server was introduced by first showing examples from various institutions to demonstrate the variety of datasets that are available. For example, the THREDDS Data Server at UCAR was shown as an example of a server that contains complex datasets. Participants were then shown how to browse the server and make various data requests.

Once the overview was complete, the hands-on portion of the workshop could begin. The Unidata Integrated Data Viewer (IDV) was used to show how applications can query a THREDDS instance. Participants were given a step-by-step walkthrough of the various IDV features, and were then able to explore the HPRCC THREDDS datasets. Panoply was also briefly demonstrated as another application that can interact with a THREDDS Data Server. Right now, the HPRCC has netCDF versions of its Applied Climate Information System (ACIS) Climate Summary Maps, and the THREDDS Data Server can be explored at https://hprcc.unl.edu/thredds.

At the end of the workshop, a Jupyter notebook was displayed that briefly demonstrated how Python can easily create ACIS queries through libraries like Siphon. More information on Siphon's ACIS interface can be found here (https://unidata.github.io/siphon/latest/api/simplewebservice.html#module-siphon.simplewebservice.acis), and ACIS Web Services here (http://www.rcc-acis.org/docs_webservices.html).

*Participants use IDV to explore netCDF data available on the HPRCC THREDDS Data Server.*

While this workshop was meant to provide a basic introduction to THREDDS Data Servers and the netCDF file format, many participants indicated that a more advanced workshop focused on using Python to access THREDDS Data Servers would be beneficial in the future. The HPRCC is hoping to put a workshop together in the future that addresses these needs. Additionally, several instructors at the University of Nebraska-Lincoln indicated that they would begin looking into integrating the data provided by the THREDDS Data Server into their coursework. The new netCDF data will provide a way for instructors to help students gain a deeper understanding of the data, while also learning valuable skills for their future careers. The HPRCC has also fielded questions from researchers seeking gridded data and were able to point them to the THREDDS Data Server. From the perspective of research and teaching, it seems like this new THREDDS Data Server is just starting to make its splash in the community.




*The netCDF files are based on the ACIS Climate Summary maps that HPRCC has been making since 2003.*