

October 2014

Data Analysis Services Group - October 2014

News and Accomplishments

VAPOR Project

Project information is available at: <http://www.vapor.ucar.edu>

KISTI Award:

Alan implemented the Kisti requirement of providing multiple color bars in the scene. We shall support one color bar for each renderer that has a transfer function. This work is completed (as of 11/2).

Scott continued work on the GRIB data importer:

- Handled the four different orientations that GRIMs is able to store its data (regarding whether the data scans positively or negatively on the x and y axes).
- Learned GRADS commands to compare my data conversions to images that are known to be correct.
- Worked with JiWoo to produce sample GRIMs data for testing.
- Implemented support for the following map projections:
 - Polar Stereographic - Lambert Conformal - Mercator - Implemented
 - bilinear interpolation for gaussian grids.
- Began converting 2D gaussian variables, however ran into a problem with the way these specific files define their variables which I am currently working on resolving.
- Identified and resolved a memory leak existing in the grib_api using OSX's Instruments software package and Valgrind.
- Resolved a timestamp recording error in DCReaderGRIB.cpp
- Implemented two different ways of calculating the vertical coordinate in GRIMs and consulted with JiWoo about which one should be used (for now).
- Fixed segmentation fault occurring on Linux regarding a bad file handle.

2.x Development:

- Alan has been working with Miles on creating the Windows versions of our dependent libraries, to be used with our 2.4 release. Now (11/7) all of the new libraries are working properly.
- Alan fixed a number of the priority 6 bugs for 2.4
- John built the 3rd party libraries for the Mac

3.x Development:

Alan has been prototyping a new GUI design for 3.0, based on discussions with Scott and John. The new design will rearrange the tabs in a more natural layout, using multiple layers of tabs within tabs.

John continued working on the DataMgr, adding support for resampling of non-compressed data. Similarly, John also added support the the VDC to block data that is not compressed. Finally, The DataMgr method was extended to support user coordinate variables. At this point the DataMgr now supports sufficient baseline capability for integration into vaporgui.

Administrative:

John authored three sections of the CISLAR on E&O, VAPOR, and Big Data.

Education and Outreach:

Software Research Projects

Feature Tracking:

Climate data compression:

Production Visualization Services & Consulting

Scott created a visualization of Peter Sullivan's LES output for the submission to the Gallery of Fluid Motion, hosted by the American Physical Society. Revised it for use at SC2014.

Alan examined the 500m Hurricane Sandy data with Mel Shapiro. We found some unusual wind shear at the top of the boundary layer, which was previously not identified.

ASD Support

- xxx

Publications, Papers & Presentations

John performed "booth duty" for the 2014 board of trustees meeting.

Systems Projects

Data Services

- xxx

Accounting & Statistics

- xxx

Security & Administration

- xxx

System Monitoring

- xxx

System Support

ML - Data Analysis & Visualization Clusters

- xxx

GLADE Storage Cluster

- xxx

Data Transfer Cluster

- xxx

Experimental Clusters

- xxx

Test Clusters

Storage Usage Statistics

[NWSC+GLADE+Usage+Report](#)

Other

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