

# August 2013

## Data Analysis Services Group - August 2013

### News and Accomplishments

#### VAPOR Project

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

##### XD Vis Award:

##### KISTI Award:

Jin-Hee Yuk, a visitor from Kisti, is working with us to generate visualizations using VAPOR from MOM, ROMS, and GRIMs model output. This has been a valuable effort because she identified a number of bugs that we were able to fix in the 2.2.4 release. These efforts have also exposed numerous limitations in the current VAPOR design that we are attempting to address in our VAPOR 3.0 refactoring efforts.

Jin-Hee and John completed a first draft of a paper on VAPOR to be submitted to the Korean Journal of Supercomputing Information.

Scott continues to make progress on the VAPOR data set translation GUI:

- **UI design:** The UI is nearing completion, barring minor changes that may be requested. Recent updates include:
  1.
    - a. Using more intuitive default values in the user forms (the value -1 probably wouldn't make sense to the user).
    - b. Tweaking of some of the form labels ("Start Time Step" instead of "Start Time", among others).
    - c. Launch program on "Next" or "Save and Exit" buttons that are contained in the QWizard, instead of the "GO" button which was contained by the respective QWizardPages.
    - d. Addition of tooltips for advanced options.
- **UI functionality:**
  1.
    - a. Retrieval and display of \*vdfcreate and \*2vdf variables.
    - b. Add new variable option for \*vdfcreate now works.
    - c. Wrote appropriate logic for advanced option dialogs (several dialogs were implemented as a smoke-and-mirrors proof of concept, and did not work previously).
    - d. Warn user if their selected .vdf file did not have the .vdf file extension for \*vdfcreate.
- **Data Converter bug-fixes:**
  1.
    - a. "Select All" and "Clear All" now apply checkmarks to newly created variables in \*vdfcreate.
    - b. Vdf file selection now updates its value when a user enters text. Previously, vdf files would only register if chosen through Qt's file browser interface. Now users can type file names/paths as well.
    - c. Compression-ratios and Block-storage-factor are no longer omitted command options.

##### 2.x Development:

Version 2.2.4 of VAPOR was released in August, our second bug fix release for VAPOR 2.2. The entire team was involved in release preparation with bug fixes, regression tests, installer building and testing, and platform ports.

##### 3.0 Development:

John and Alan developed a plan for refactoring the VAPOR code base, with the goal of providing a more flexible architecture in a future VAPOR release. We are moving forward with implementing a prototype to validate this architecture.

John continues working on a prototype implementation of the VDC 3.0 API. Support for nearly all metadata functions has been implemented. A toy metadata translator is being implemented to exercise the prototype API.

The entire team continued work on defining the first phase of the Control Executive: the class object that provides separation between the user interface and data management and rendering capabilities of vaporgui.

##### Administrative:

John reviewed the last draft of the research section for the CISL strategic plan.

John continued to explore and review grant solicitations appropriate to fund further VAPOR development activities.

##### Education and Outreach:

### Software Research Projects

Alan and Rick Brownrigg presented the NCL/Google Earth capabilities (developed by our SiParcs intern Mohammad Abouali) to the NCL team on 8/6. We had a discussion about how best to roll out these features. Rick is planning to make sure these features get in the next NCL release.

Alan and Rick Brownrigg presented the Google Earth capabilities to the WRF-CHEM group on 8/29. The audience was very enthusiastic; they would like to use it immediately. Rick is putting together a pre-release of NCL (with Mohammad Abouili's GE features) for them.

## Production Visualization Services & Consulting

- Alan worked with Perry Domingo to make a couple of stereo movies of hurricane Sandy that will be shown in the vis lab.
- Perry Domingo helped edit our hurricane Sandy videos into a video we submitted to the SC2013 visualization showcase.
- Mel Shapiro presented several Sandy animations (created in VAPOR, working with Alan) at an AMS Mesoscale Workshop where he was the featured speaker.
- The newest, 500m hurricane Sandy videos are posted in our gallery at <http://www.vapor.ucar.edu/gallery/hurricane-sandy/hi-res>

## ASD Support

- John and Cornell's Peter Ireland produced an animation of Peter's turbulence data and submitted it to the SC13 Visualization Showcase. The submission is available from: [https://www.vapor.ucar.edu/sites/default/files/movies/Ireland\\_2.mp4](https://www.vapor.ucar.edu/sites/default/files/movies/Ireland_2.mp4)
- John also provided Peter with python utilities to facilitate displaying particle positions in VAPOR

## Publications, Papers & Presentations

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## Systems Projects

### *Data Services*

- xxx

### *Accounting & Statistics*

- xxx

### *Security & Administration*

- xxx

### *System Monitoring*

- xxx

## System Support

### *ML - Data Analysis & Visualization Clusters*

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### *GLADE Storage Cluster*

- xxx

### *Data Transfer Cluster*

- xxx

### *Experimental Clusters*

- xxx

### *Test Clusters*

## Storage Usage Statistics

Other

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