**UV-CDAT**

UV-CDAT is a powerful and complete front-end to a rich set of visual-data exploration and analysis capabilities well suited for climate-data analysis problems. UV-CDAT builds on the following key technologies:

1. The Climate Data Analysis Tools (CDAT) framework developed at LLNL for the analysis, visualization, and management of large-scale distributed climate data;
2. ParaView: an open-source, multi-platform, parallel-capable visualization tool with recently added capabilities to better support specific needs of the climate-science community;
3. VisTrails, an open-source scientific workflow and provenance management system that supports data exploration and visualization;
4. VisIt: an open-source, parallel-capable, visual-data exploration and analysis tool that is capable of running on a diverse set of platforms, ranging from laptops to the Department of Energy's largest supercomputers.

These combined tools, along with others such as the R open-source statistical analysis and plotting software and custom packages (e.g. vtDV3D), form UV-CDAT and provide a synergistic approach to climate modeling, allowing researchers to advance scientific visualization of large-scale climate data sets. The UV-CDAT framework couples powerful software infrastructures through two primary means:

1. Tightly coupled integration of the CDAT Core with the VTK/ParaView infrastructure to provide high-performance, parallel-streaming data analysis and visualization of massive climate-data sets (other tightly coupled tools include VCS, VisTrails, DV3D, and ESMF/ESMP);
2. Loosely coupled integration to provide the flexibility of using tools quickly in the infrastructure such as ViSUS, VisIt, R, and MatLab for data analysis and visualization as well as to apply customized data analysis applications within an integrated environment.

Within both paradigms, UV-CDAT will provide data-provenance capture and mechanisms to support data analysis via the VisTrails infrastructure.

**Usage**

To use UV-CDAT on raijin load the appropriate module, e.g.

```bash
module load uvcdat/2.4.1
```

See [more info on module command](#). UV-CDAT is then invoked by typing

```bash
uvcdat
```

from an X-window console or a terminal console with X-tunneling. See our F.A.Q. section on how to open new windows.