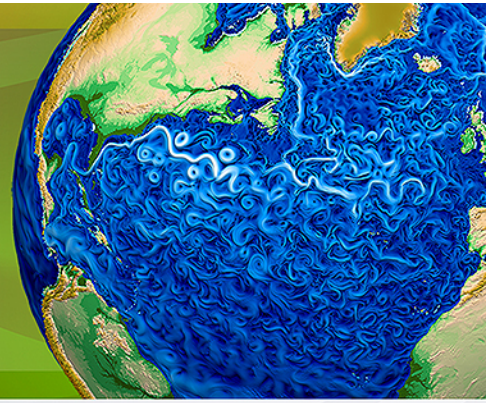


Workflow Progress Summary

Ben Mayer, Sasha Ames, Rachana Ananthakrishnan, Raju Bibi, John Harney, Charles Doutriaux, Aashish Chaudhary, Jeff Painter, Brian Smith, James McEnerney, Charlie Zender, Jerry Potter

ACME Workflow Team Leads

Dean N. Williams and Valentine Anantharaj

ACME Workflow Group Leads

Rockville, MD

June7-9, 2016

Workflow new features

Process Flow

- The Pegasus workflow manager is being tested at OLCF and NERSC
- The ACME configure, build, and run process under Pegasus is working at OLCF and NERSC
- The HPSS storage wrapping software is completed and being tested
- Service with REST API for programmatic access
- Web front-end for users to browses and prepare and review models
- Review and create visualizations with CDATWeb
- Refining technical requirements for ACME Workflow Integration Framework

Data Management

- Set up additional ACME ESGF nodes and work environment:
  - LLNL
- Publish additional data from model runs
- Track a few outstanding issues or limitations, such as:
  - Need additional storage from the ONRL's CADES storage infrastructure
- Work with publication team to allow individual ACME scientist to publish data to the ACME archive
- Testing HPSS within the ESGF infrastructure

Publication

- Moved authentication from Globus Nexus to Globus Authentication
- Improvements to user interface, e.g.,
  - remembering last selected facet
  - rearranged widgets, etc.
- Globus endpoints
  - Users can authenticate to ORNL/OLCF Rhea and Titan Globus endpoints using OSG certificates (instead of only PIN +SecureRSA) what makes scripting data transfer from/to Rhea and Titan possible now.
- Webinar tutorials

NCO

- Works uniformly on all ACME, CESM, and observation components
- More accurate and Parallel mode ~25x faster than AMWG
- Remapper and grid/map-generator ncremap:
  - Infers grids from SCRUD (Swath, Curvilinear, Rectangular, Unstructured Data), or creates rectangular grids *de novo,* and remaps data in parallel
  - Generates weights with *ESMF_RegridWeightGen* or *TempestRemap*

Workflow new features cont.

UV-CDAT

- Anaconda build
- Linux, OSX
- Comes with: Matplotlib, VCS, CDMS2, cdtime, NumPy, iPython, etc.
- Interactive point selection
- Continue work on cleaner API
- UV-CDAT new user's documentation

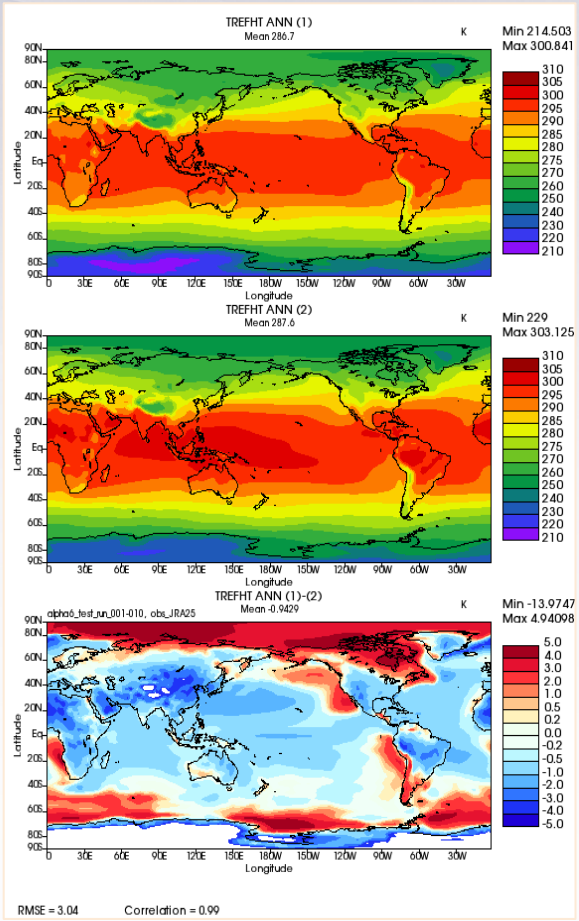
UVCmetrics

- AMWG reproduction
- Output customizable for ACME needs
- Generates own "climo" files or uses those generated by NCO
- Diags.py
- Metadiags.py
- Built-in Viewer
- MPI testing (mcenerney paper)
- Vector (.svg) and Raster (.png) graphical output
- ACME model variable name on plots

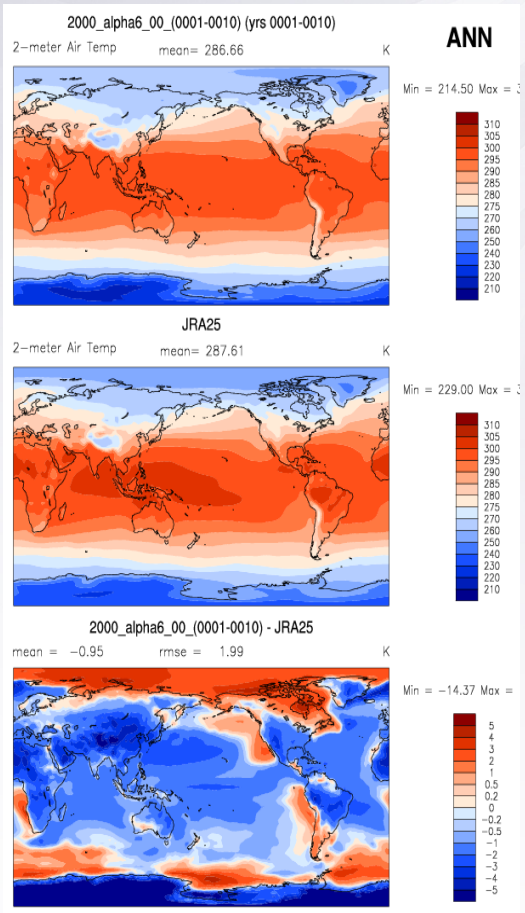
Test suite

- Continuous integration and code testing using CMake/CDash (https://cmake.org) and Buildbot (http://buildbot.net)
- Increased overall code coverage and new tests

DIAGS



AMWG




ACME
Accelerated Climate Modeling
for Energy