

The Live Access Server and the Ferret-THREDDS Data Server: The visualization and analysis engine behind the Earth System Grid Center for Enabling Technologies

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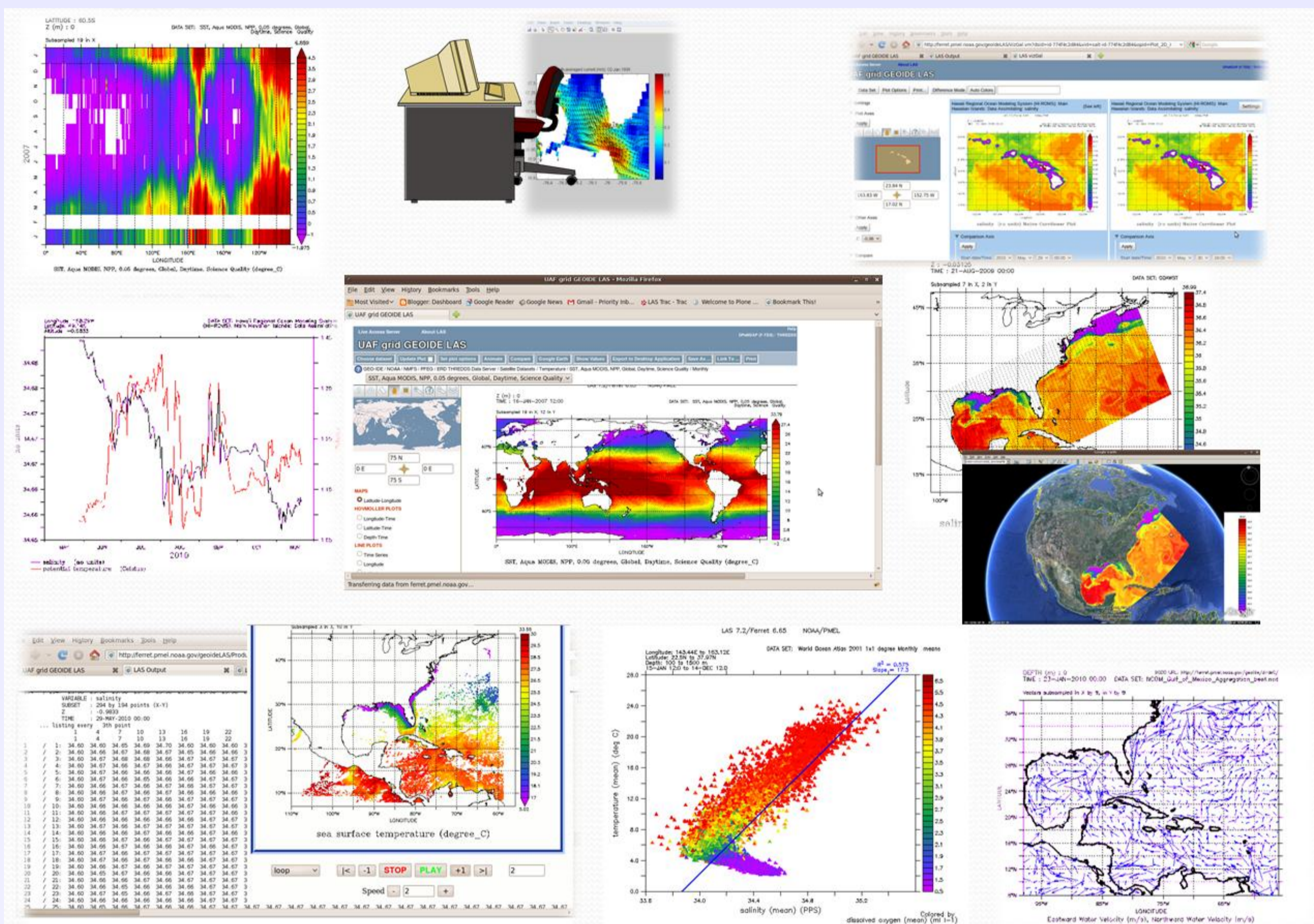
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ESG-CET OVERVIEW

- The ESG-CET enables users to access, analyze and visualize data from a globally federated collection of cooperating nodes.
- ESG-CET now serves the most comprehensive multi-model climate data sets in the world.
- Currently over 25,000 users access more than half a petabyte of climate data (from models and from observations) enabling over 1,000 scientific publications.

LAS AND F-TDS ARE THE ENGINES BEHIND THE ANALYSIS AND VISUALIZATION

LIVE ACCESS SERVER (LAS)



FERRET-THREDDS DATA SERVER (F-TDS)

- F-TDS takes advantage of several characteristics of Ferret.
- New "virtual" data variables can be defined on the server or on-the-fly
 - Can build the metadata (netCDF header described by dimensions, coordinate variables and the structure of data variables) without performing any heavy calculations for both data read from files and "virtual" data variables
 - Only performs calculations when the data are requested
 - Only calculates the minimal set needed to fulfill the current request
 - LAS uses F-TDS to re-grid data onto a common grid to allow direct comparisons

The ESG-CET User Workflow

- Access to products via the ESG-CET LAS is protected by the same security filters as the data download interface.
- All of the LAS servers in the system are federated. Each can request products from all the others to ensure products are generated "close" to the data.
- Installing and configuring LAS for ESG has been automated as part of the ESGF node installation script.

Users register at one of the nodes and begin their data discovery.

Multiple Interfaces to the data search are available.

Selecting the Visualize and Analyze link starts the LAS UI.

LAS includes a specialized UI interface for comparison.

LAS allows installers to "plug-in" their own software for making plots and other products (NCL in this case).

LAS includes specialized UI for animations.