Federated Giovanni: A Distributed Web Service for Analysis and Visualization of Remote Sensing Data

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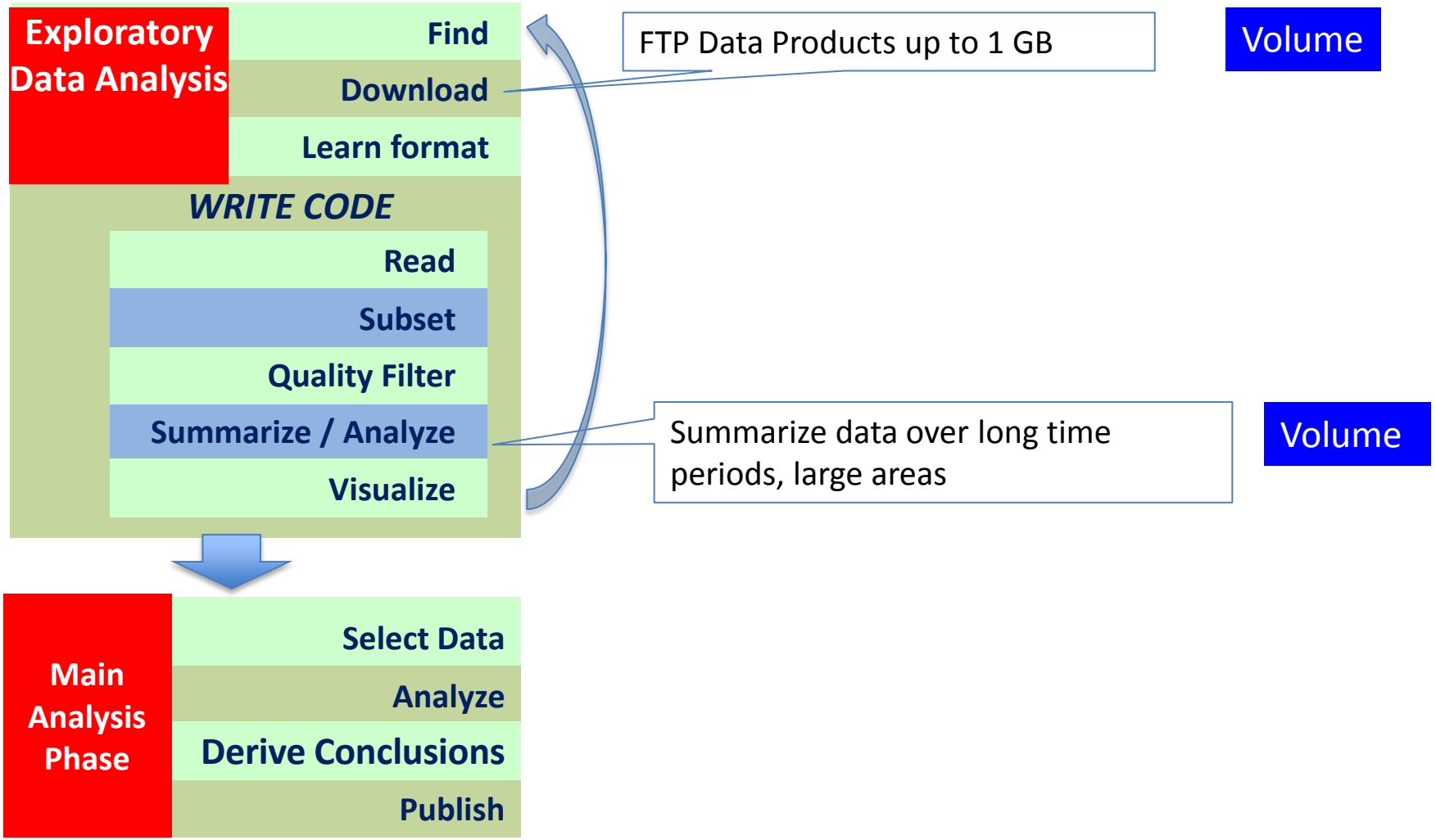
Outline

- Overview of Giovanni
- Federated Giovanni
- Current Status and Future Plans

Big Earth Science Data: Why So Difficult?



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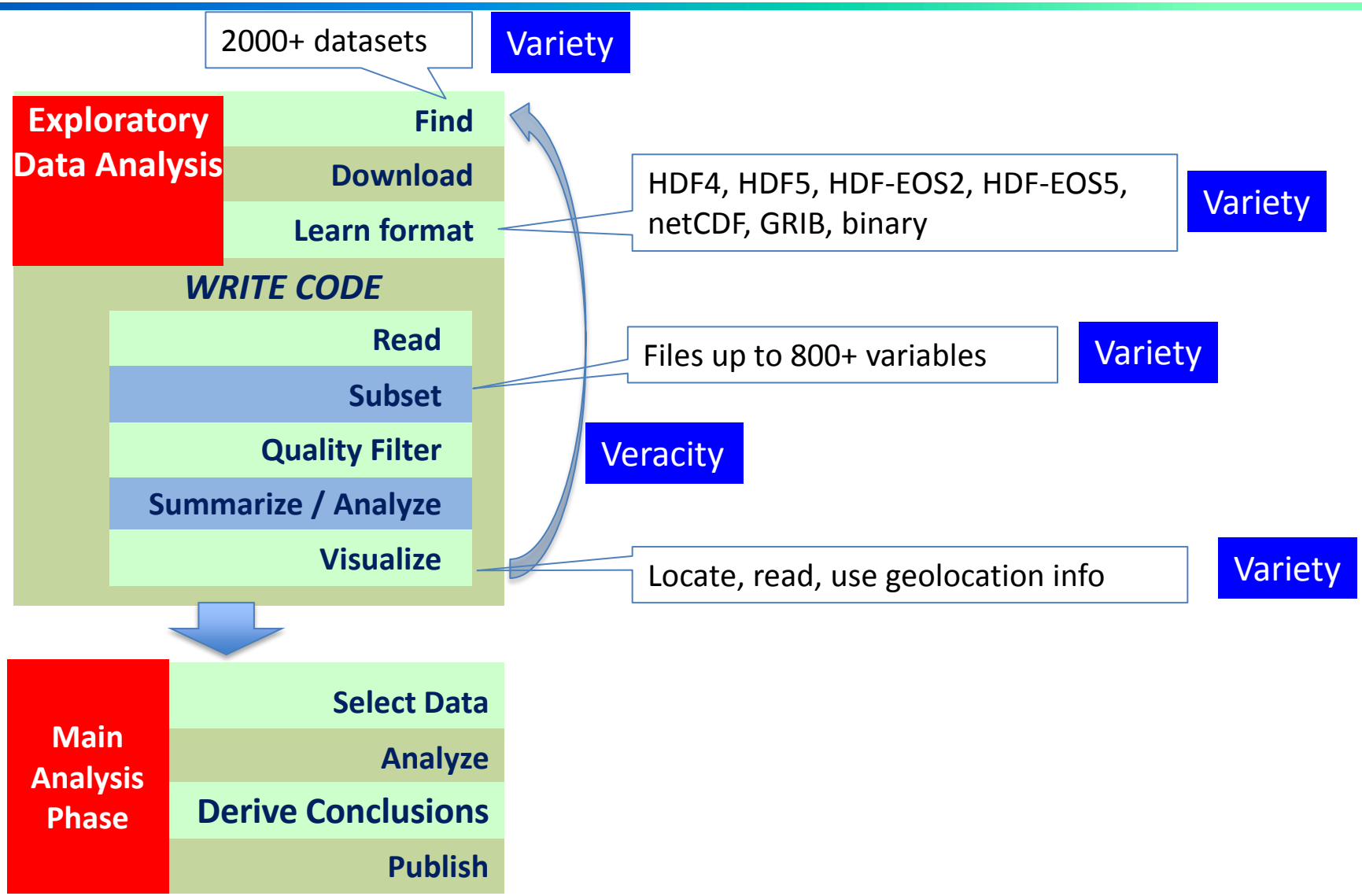


Giovanni provides (relatively) rapid exploration of datasets

Exploratory Data Analysis

- Find
- Download
- Learn format

WRITE CODE

- Read
- Subset
- Quality Filter
- Summarize / Analyze
- Visualize

Main Analysis Phase

- Select Data
- Analyze
- Derive Conclusions
- Publish

Giovanni provides *Server-Side, Quick-Start Exploratory Data Analysis:*

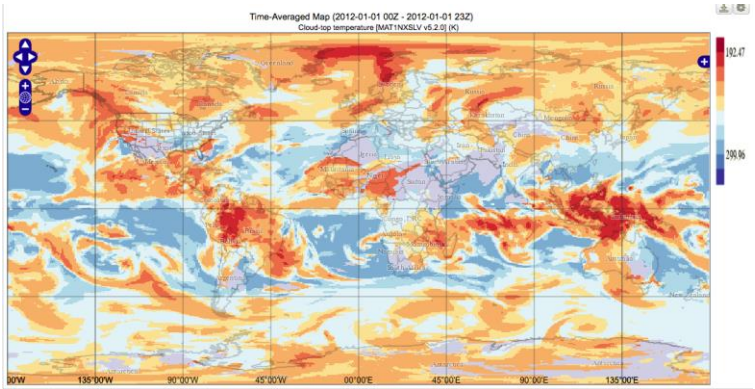
no coding necessary

no downloads necessary

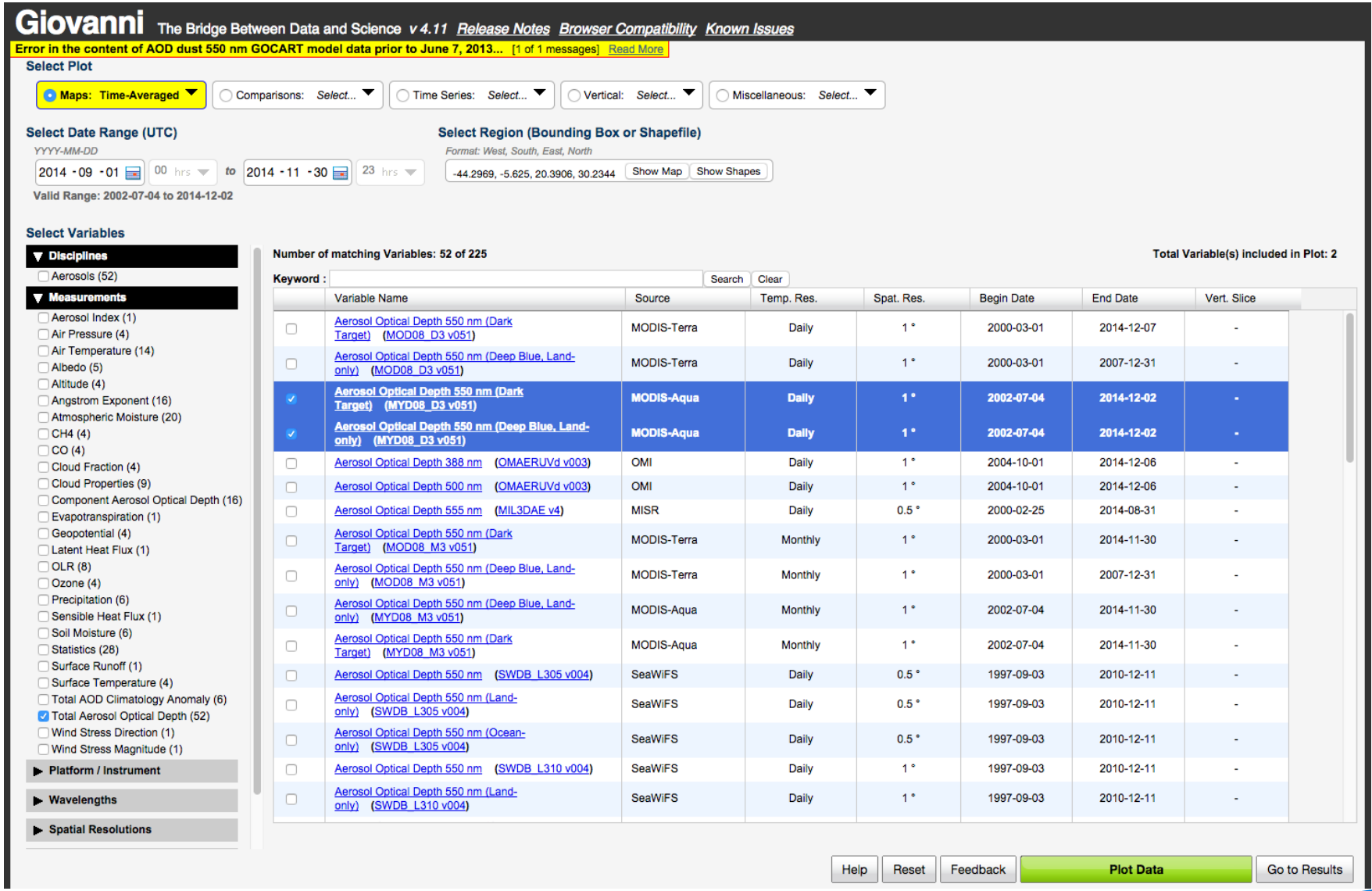
Web-based Services

Giovanni

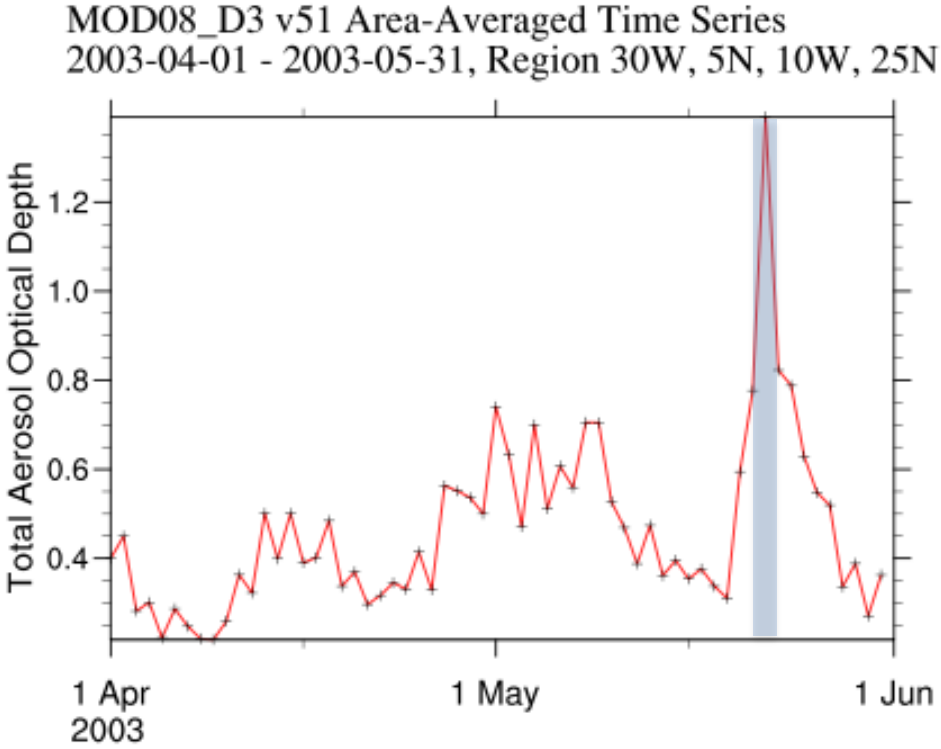
- Find
- Fetch
- Reformat
- Filter
- Regrid
- Summarize
- Visualize



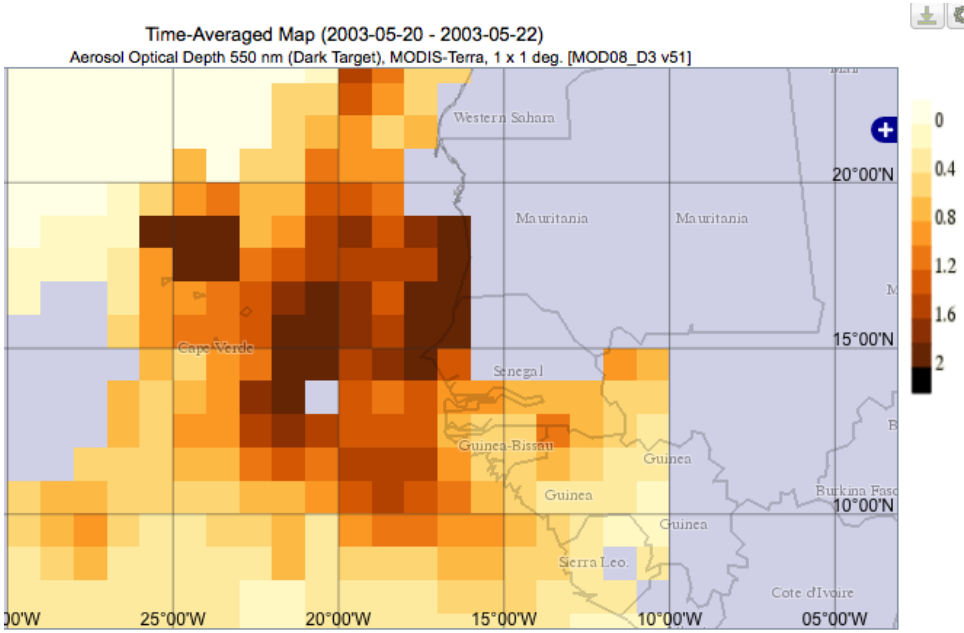
Giovanni User Interface



Example: Exploring in Time and Space

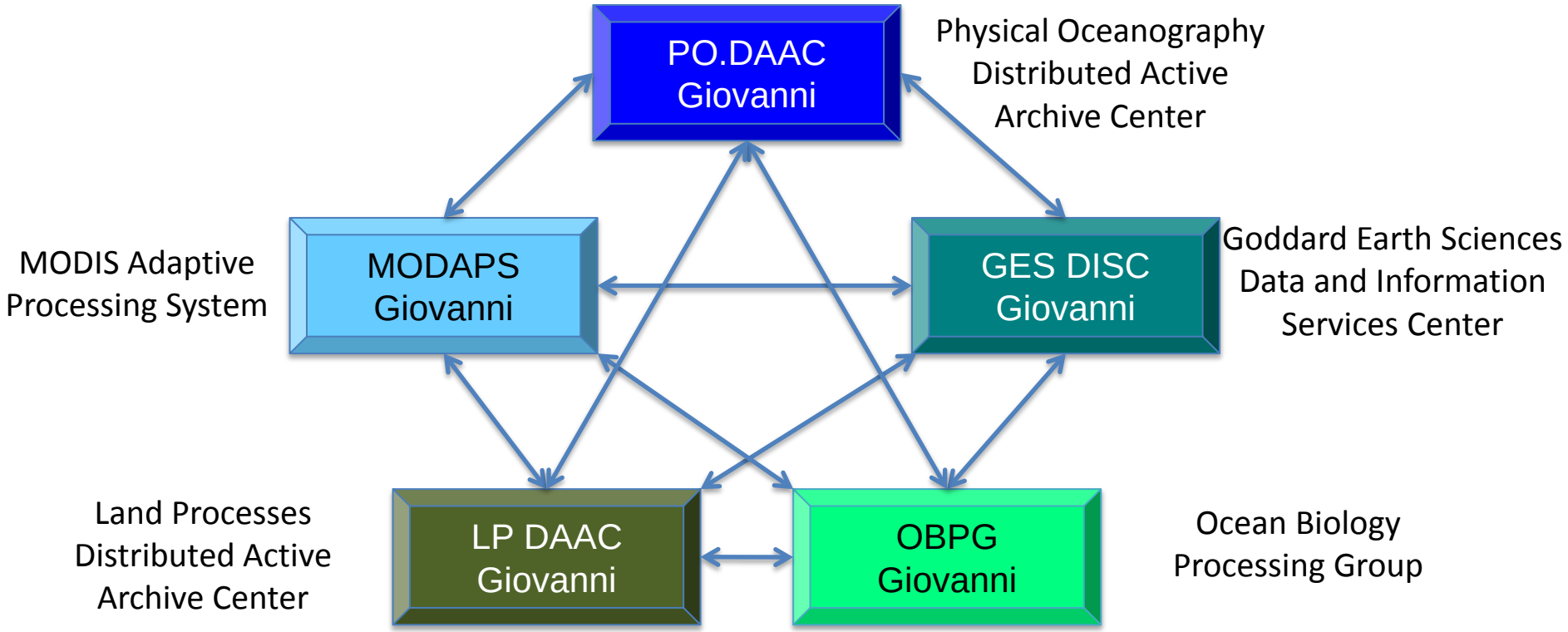


Time Averaged Map 20-22 May

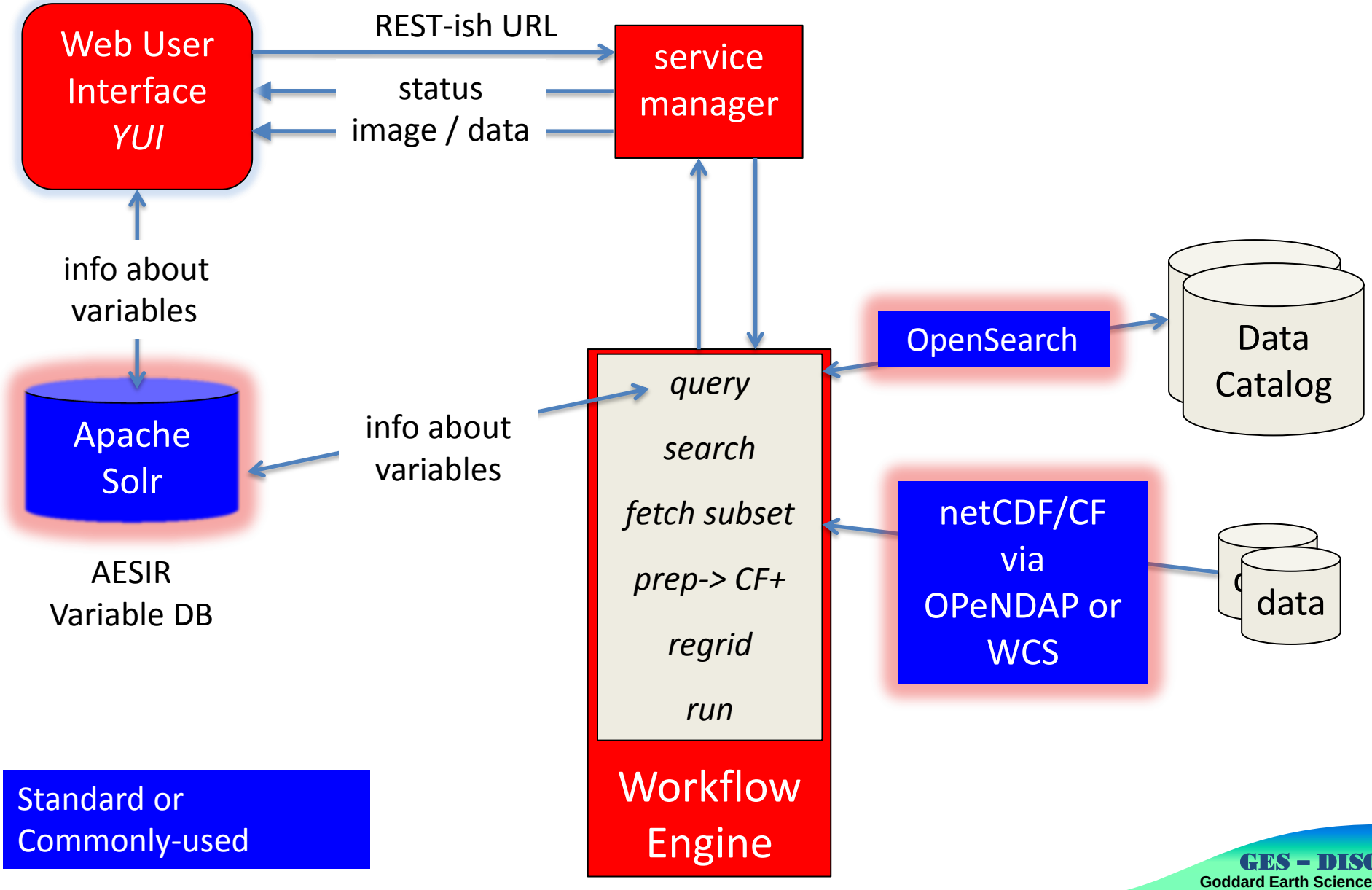


Federated Giovanni will increase the availability of data in Giovanni

Ongoing now: Funded by NASA-ACCESS: 2014-2016

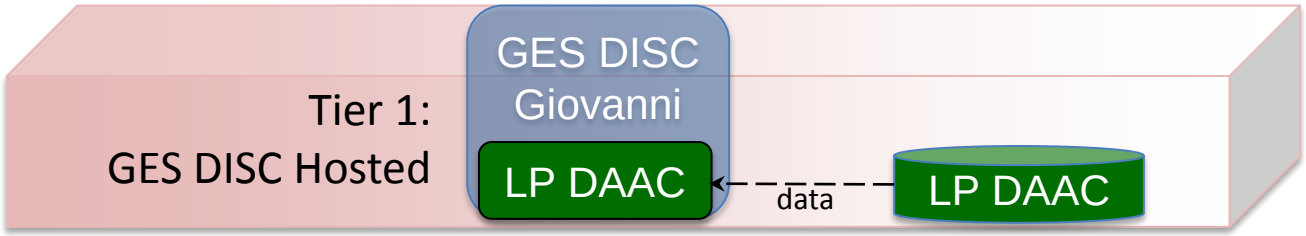


Giovanni-4 Architecture



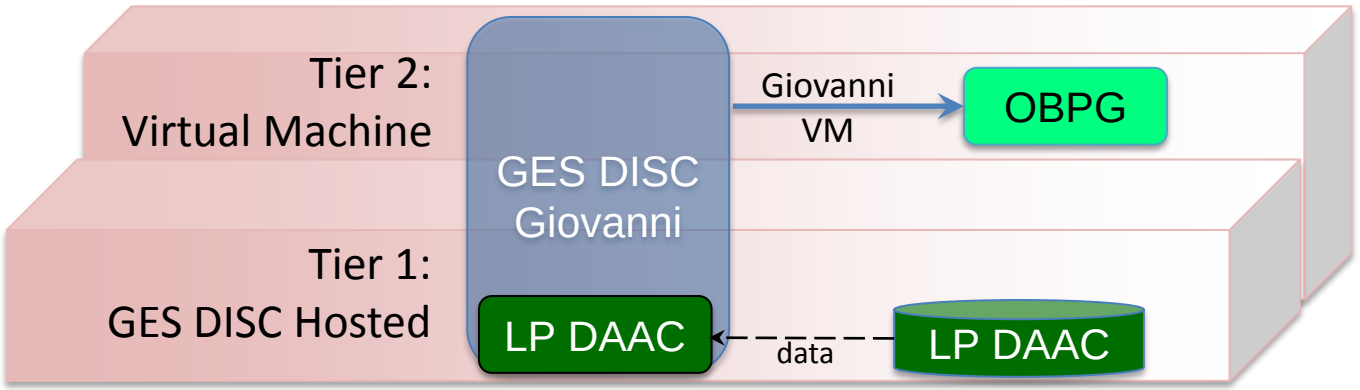
3 Tiers of Federation

Giovanni will be sharable as a “Hosted Service” (Tier 1)

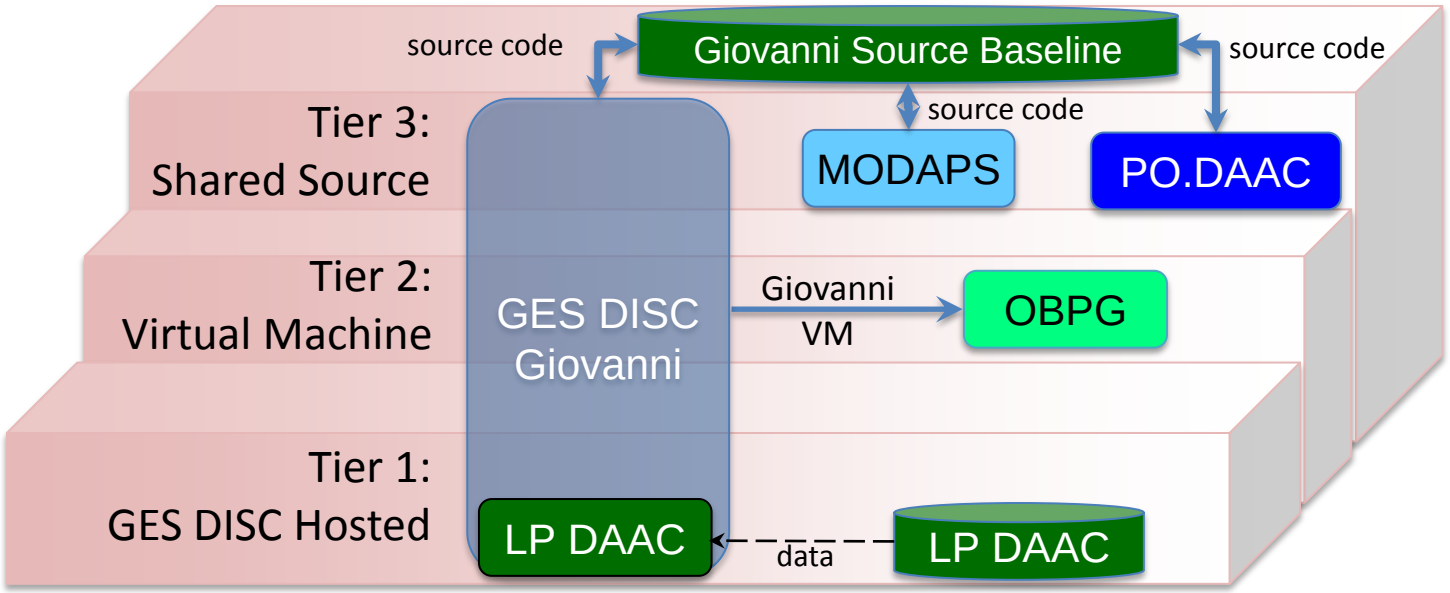


3 Tiers of Federation

Giovanni will be sharable as a Virtual Machine



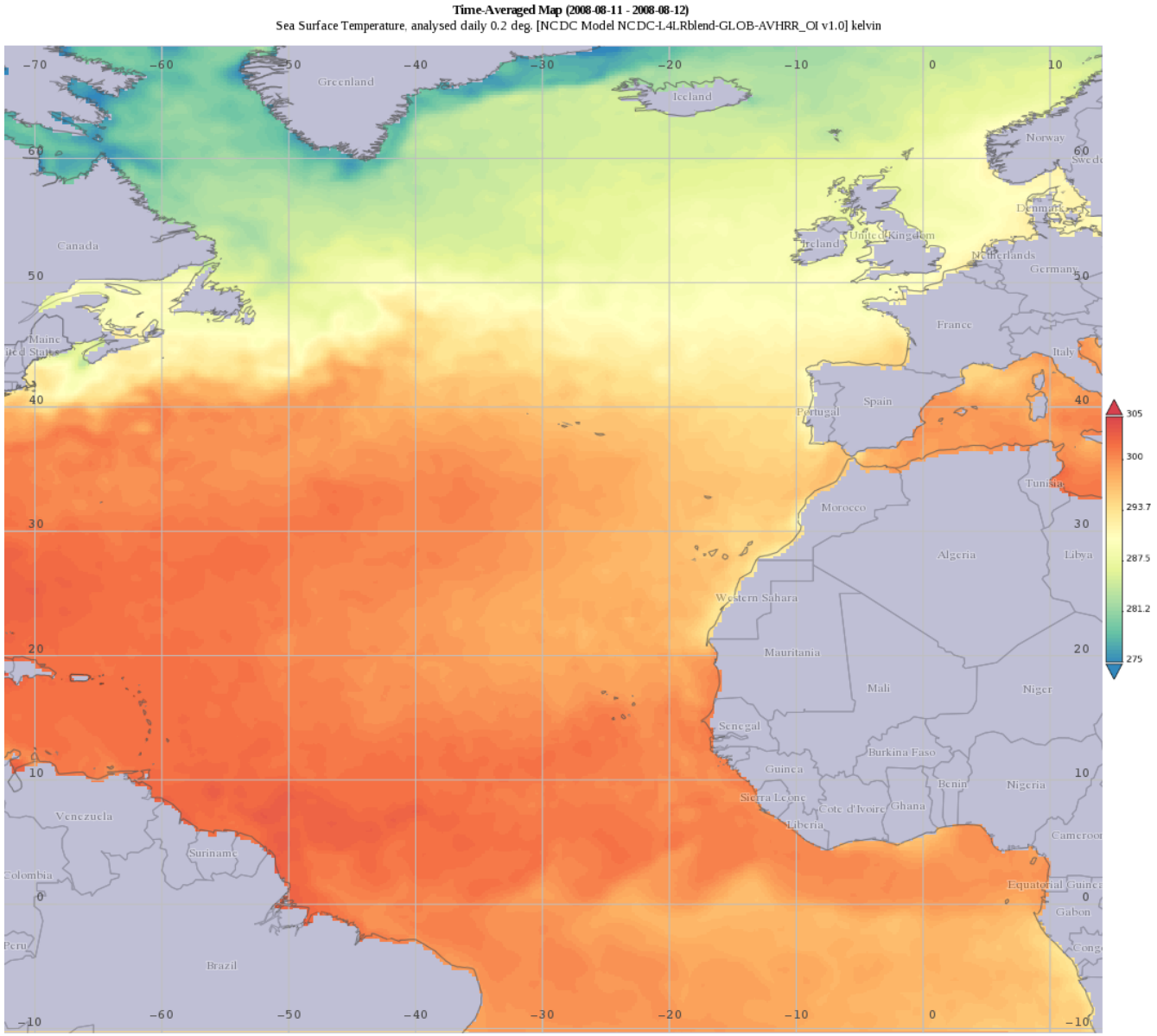
3 Tiers of Federation



Status and Future Plans

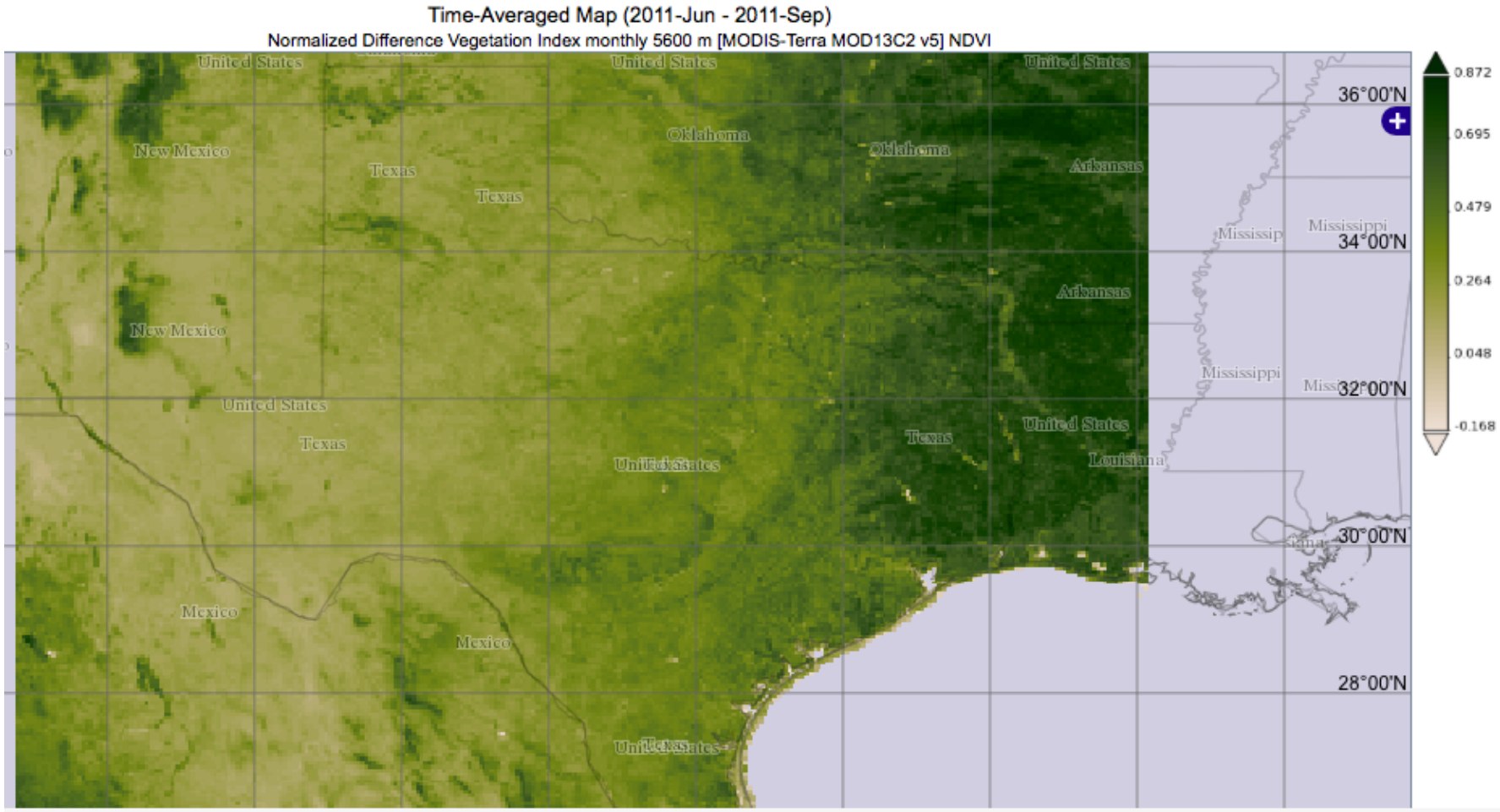
- Tier 1 (GES DISC Hosted) Prototyped

Sea Surface Temperature from Physical Oceanography DAAC



- Selected date range was 2008-08-12 - 2008-08-12. Title reflects the date range of the granules that went into making this result.

MODIS NDVI from Land Processes DAAC



Status and Future Plans

- Tier 1 (GES DISC Hosted) Prototyped
- Tier 2 Virtual Machine underway
  - Prototype expected in February 2015
- Open Source Release in 2015*