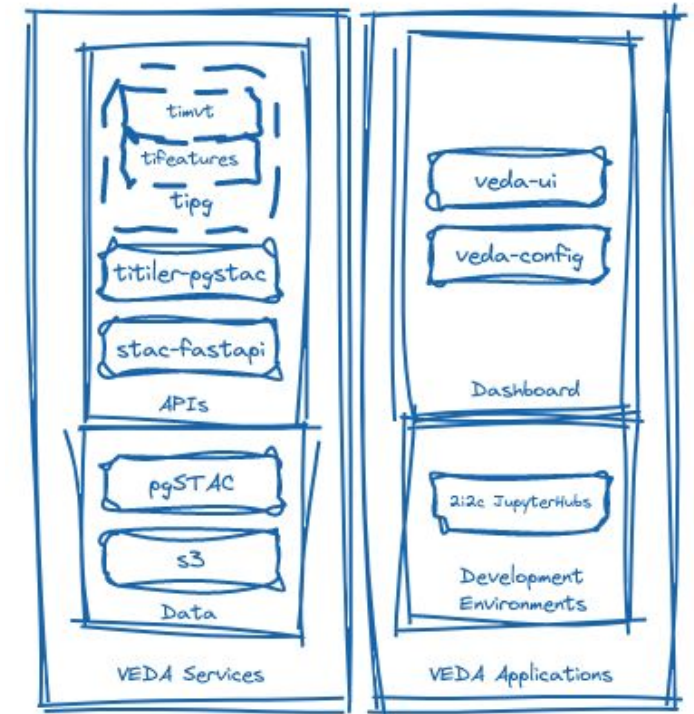
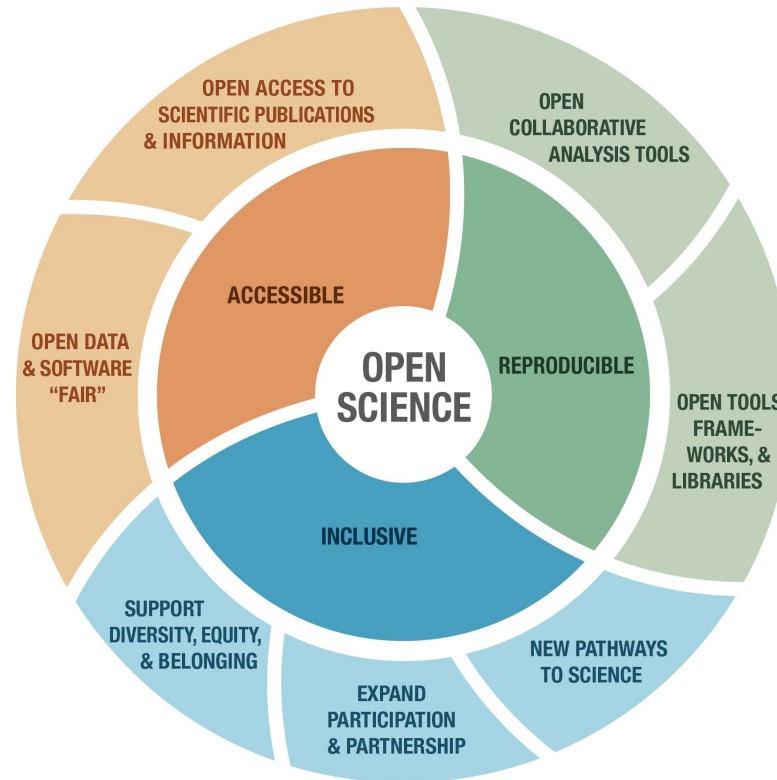
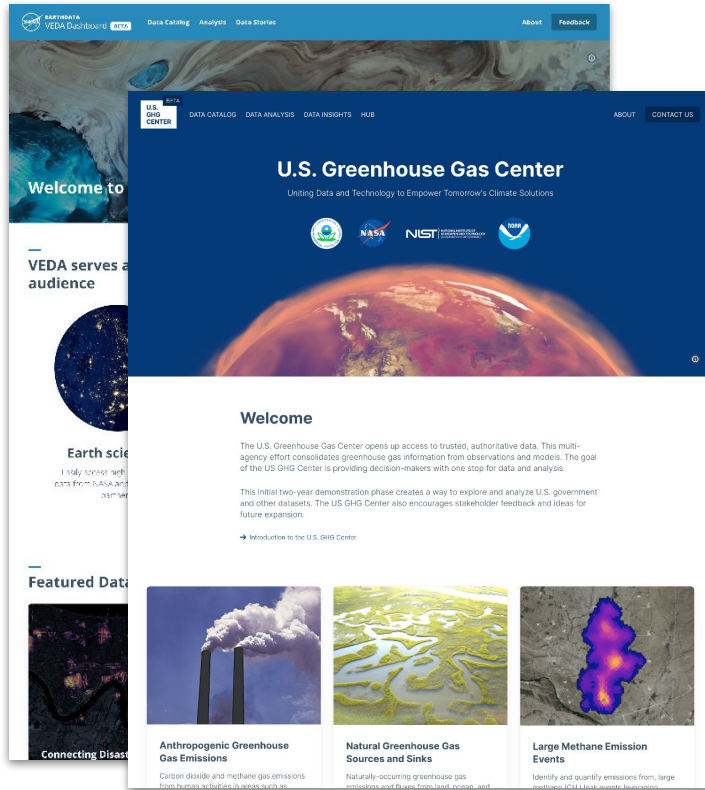


NASA's Open Science Platform VEDA

Visualization, Exploration and Data Analytics



Are you...



Doing science with **Earth data**?

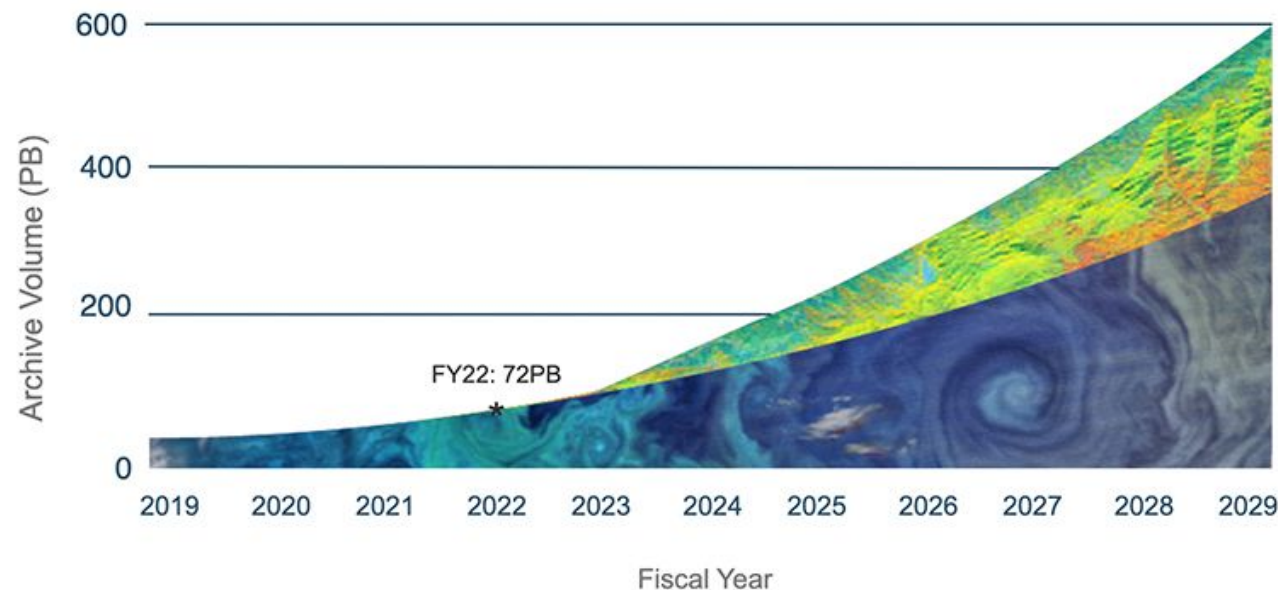
Wanting to widen **participation** in your science?

Looking for examples and **open-source software** to get started?

Yet Another Platform (YAP)?

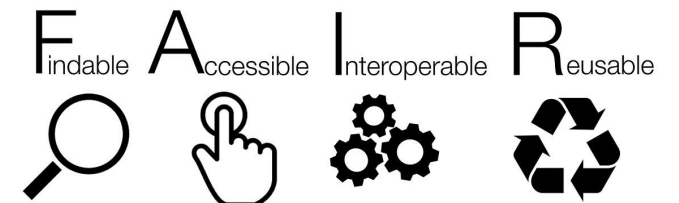
Do we need platforms? - Yes!

Earth Science Data Archive Growth Projection



12 new missions to be added

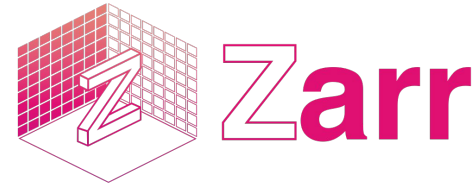
Current archive holdings continue to grow (~95 missions)



Cloud-scale data archives require platforms for open science participation

Do we need to invent new platforms? - **No!**

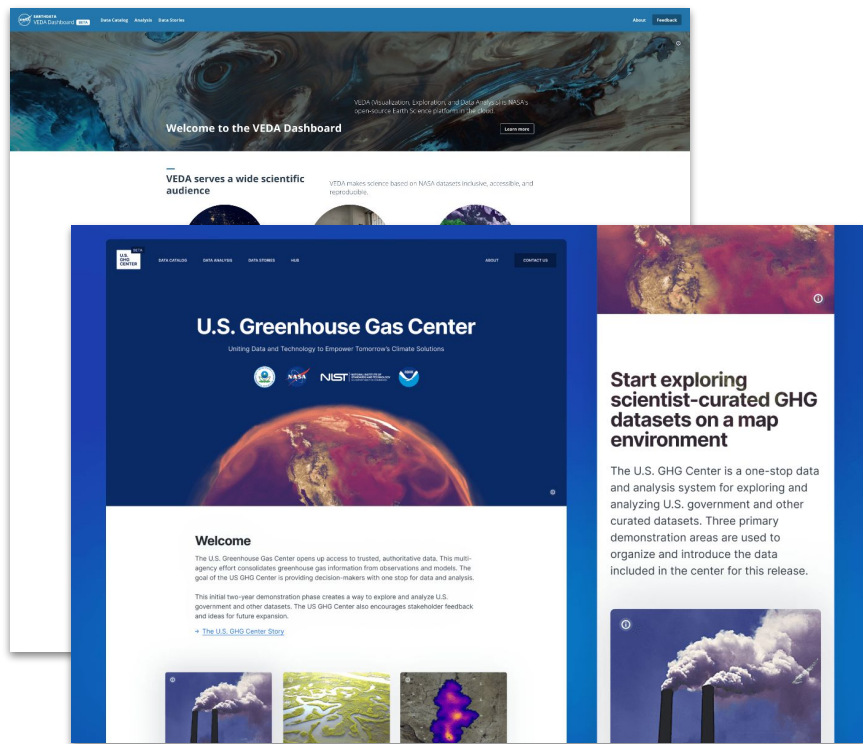
The community is **converging** on cloud-native data formats and tools



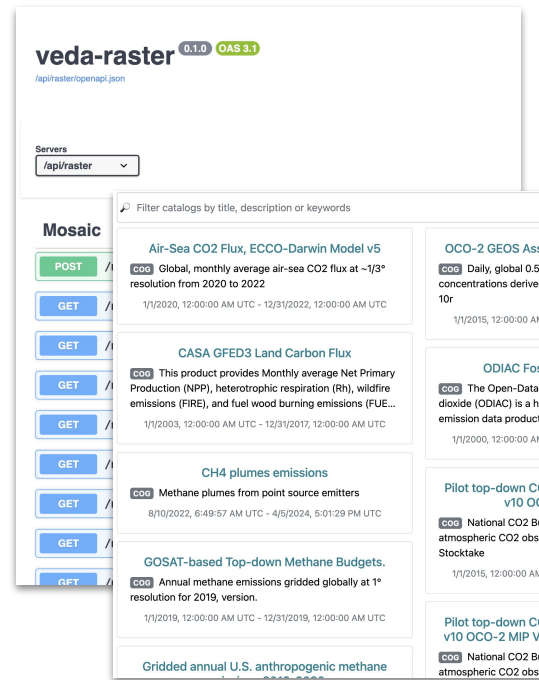
Open
Geospatial
Consortium



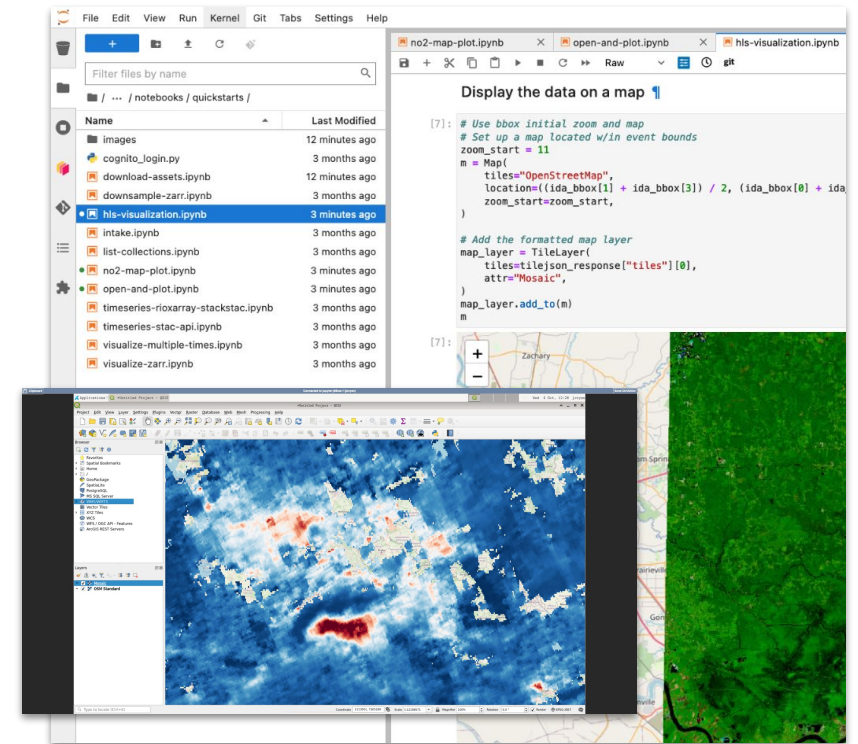
VEDA integrates existing community standards for tool-agnostic human and machine friendly Earth data science



Science stories, catalog, data browsing



Cloud storage (S3), STAC and OGC APIs



JupyterHub and cloud computing resources

VEDA integrates existing community standards for tool-agnostic human and machine friendly Earth data science

Platform software

1. All open-source at github.com/NASA-IMPACT/VEDA
2. Batteries included - Infrastructure as Code for AWS CloudFormation (AWS) or Kubernetes (anywhere)

Platform instances (beta)

1. earthdata.nasa.gov/dashboard
2. earth.gov/ghgcenter and earth.gov

Let's Talk! - PICO 4.6

earthdata.nasa.gov/dashboard

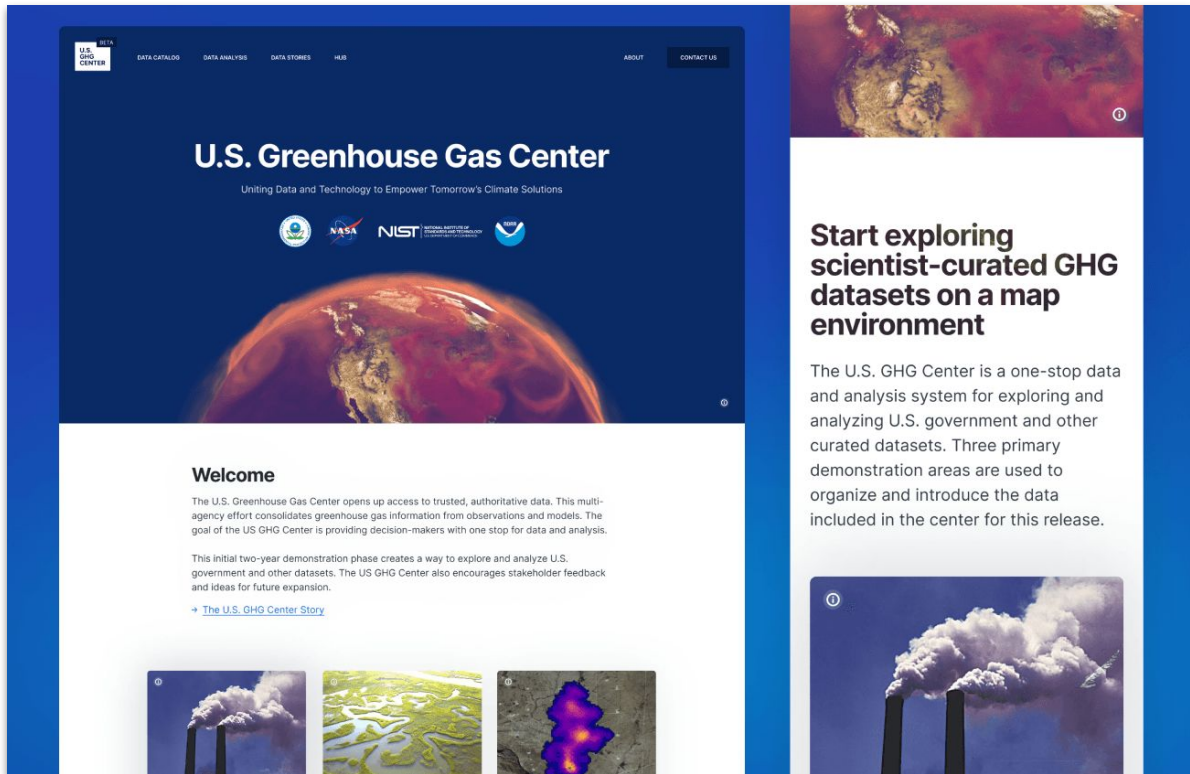
github.com/NASA-IMPACT/VEDA

jonas@developmentseed.org

Btw, we're hiring software engineers! (Lisbon, DC, remote)

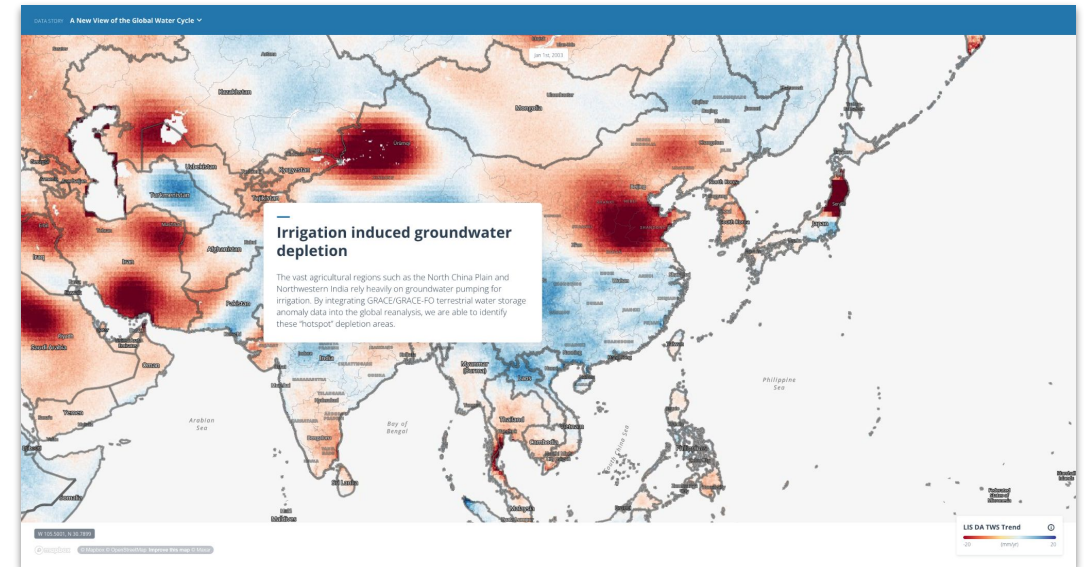


Programmatic science context for data discovery

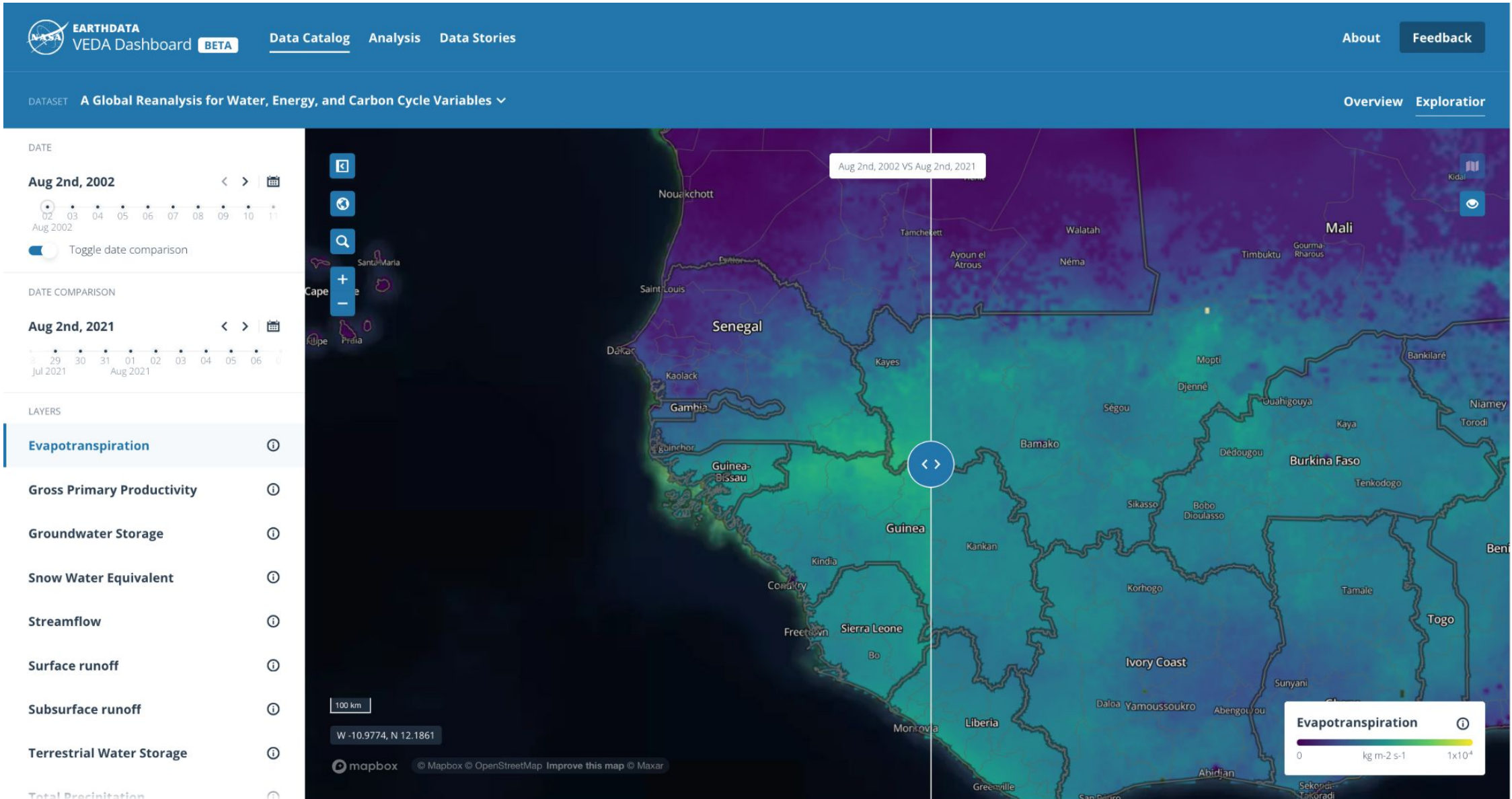


The screenshot shows the homepage of the U.S. Greenhouse Gas Center. The header includes navigation links for 'DATA CATALOGS', 'DATA ANALYSIS', 'DATA STORES', and 'HELP'. The main heading is 'U.S. Greenhouse Gas Center' with the tagline 'Uniting Data and Technology to Empower Tomorrow's Climate Solutions'. Below this are logos for NOAA, NASA, NIST, and the U.S. Department of Energy. A large image of Earth is featured. The 'Welcome' section states: 'The U.S. Greenhouse Gas Center opens up access to trusted, authoritative data. This multi-agency effort consolidates greenhouse gas information from observations and models. The goal of the US GHG Center is providing decision-makers with one stop for data and analysis. This initial two-year demonstration phase creates a way to explore and analyze U.S. government and other datasets. The US GHG Center also encourages stakeholder feedback and ideas for future expansion.' A link for 'The U.S. GHG Center Story' is provided. At the bottom, there are three small images: a factory emitting smoke, a satellite view of a coastal area, and a heatmap of a region.

earth.gov



earthdata.nasa.gov/dashboard



Project Edit View Layer Settings Plugins Vectr Raster Database Web Mesh Processing Help

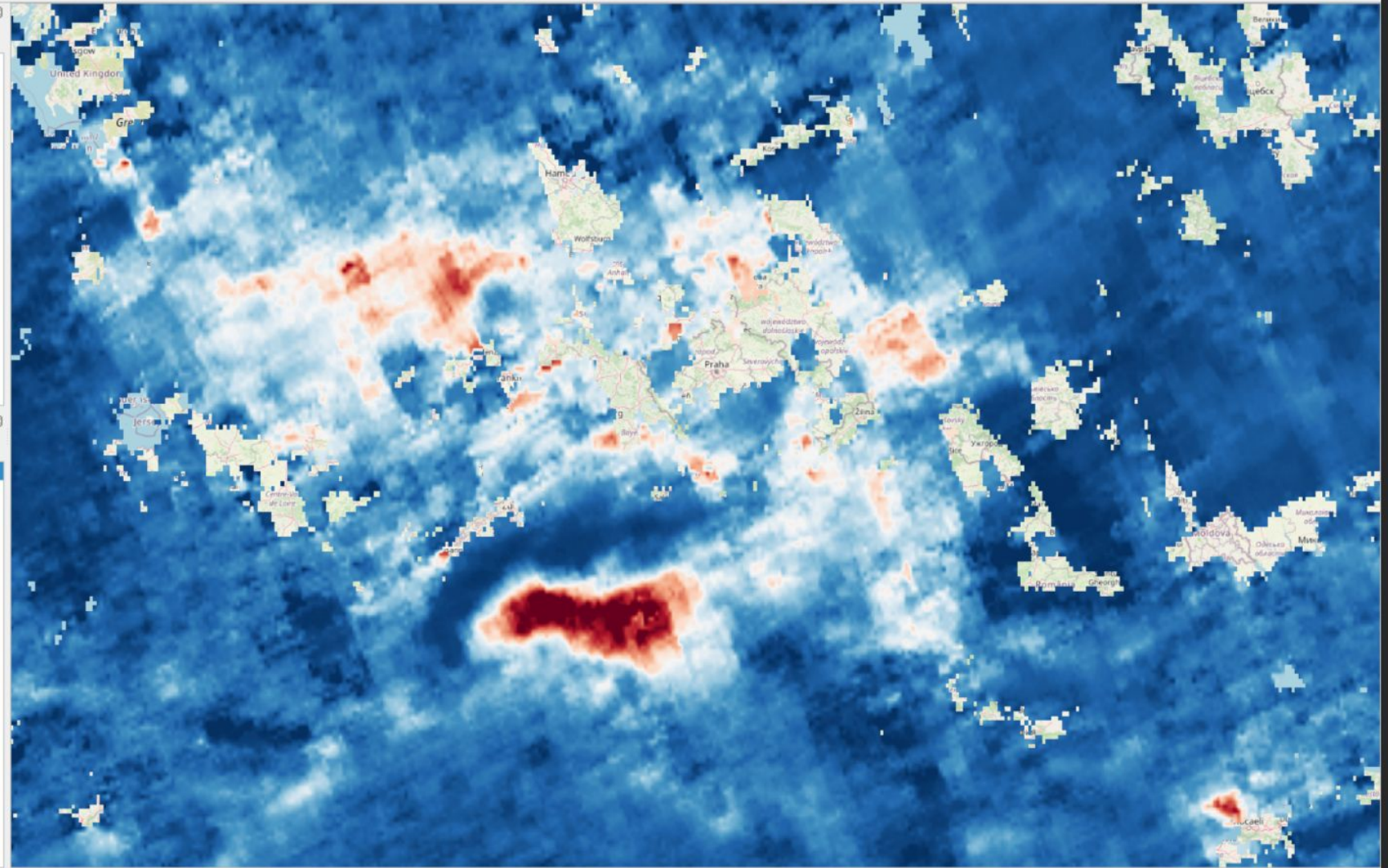


Browser

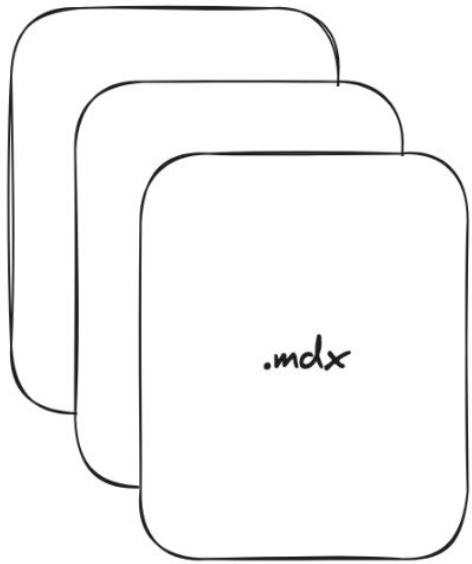
- ★ Favorites
- 📁 Spatial Bookmarks
- 🏠 Home
- /
- 📦 GeoPackage
- 🗺️ SpatiaLite
- 🗄️ PostgreSQL
- 🗄️ MS SQL Server
- 🌐 WMS/AWMTS
- 🗺️ Vector Tiles
- 🗺️ XYZ Tiles
- 🌐 WCS
- 🌐 WFS / OGC API - Features
- 🌐 ArcGIS REST Servers

Layers

- 🗺️ Mosaic
- 🗺️ OSM Standard



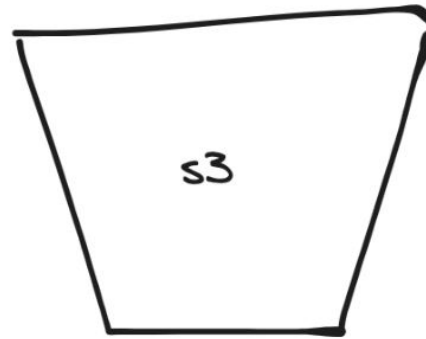
How VEDA UI works



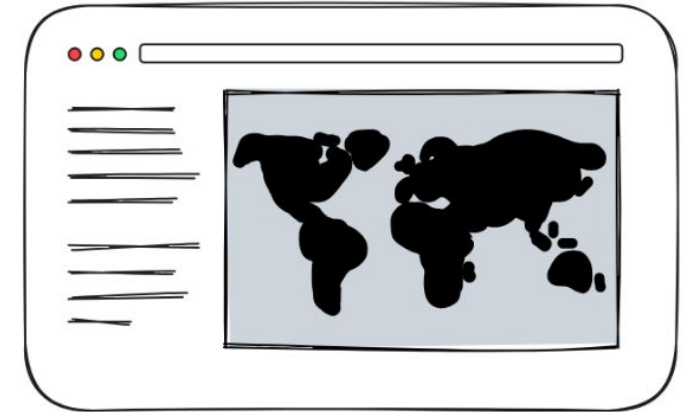
veda-config



veda-ui



compilation to JS + bundling



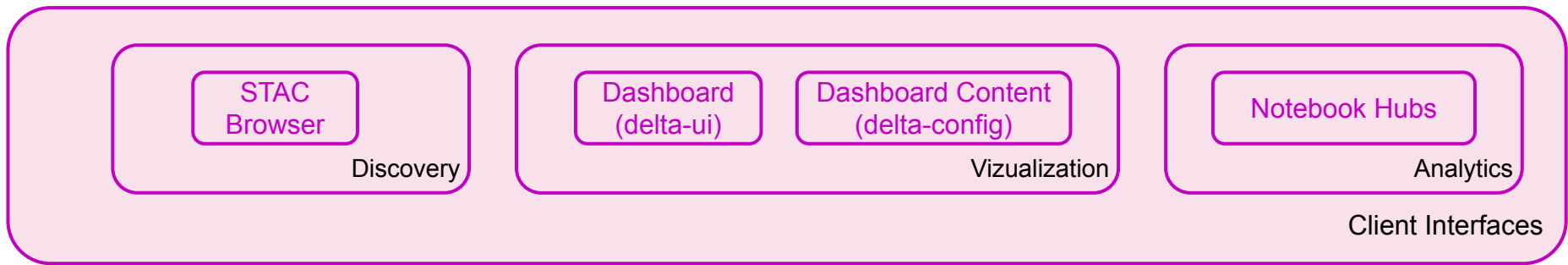
earthdata.nasa.gov/dashboard!

Systems Architecture

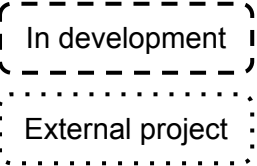
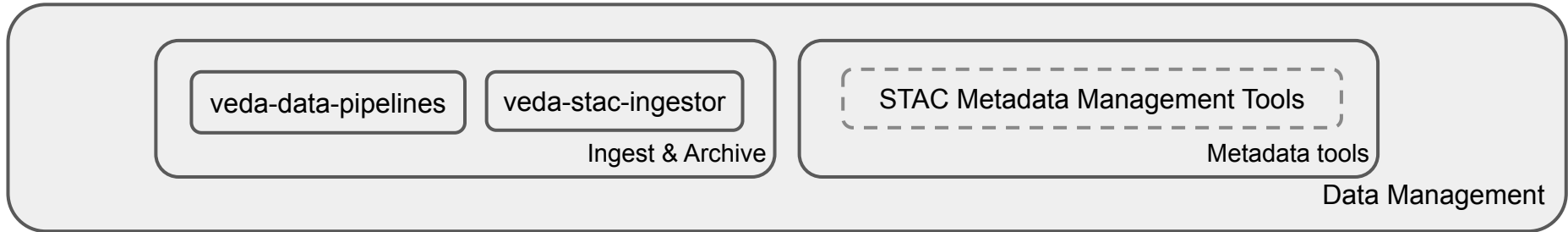
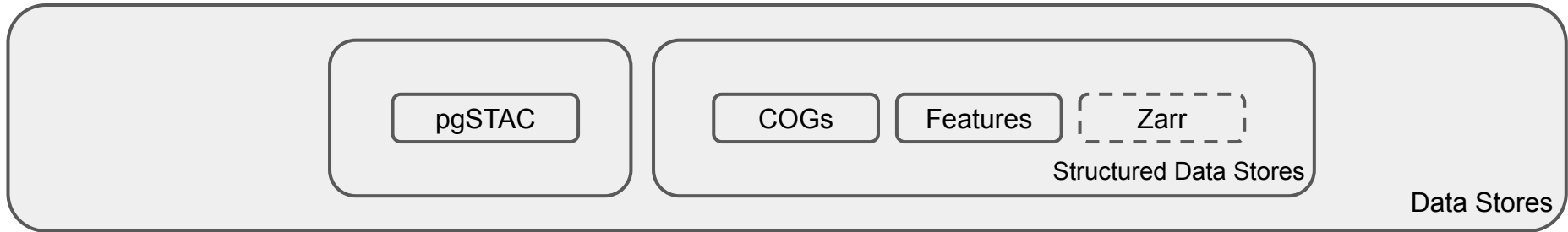
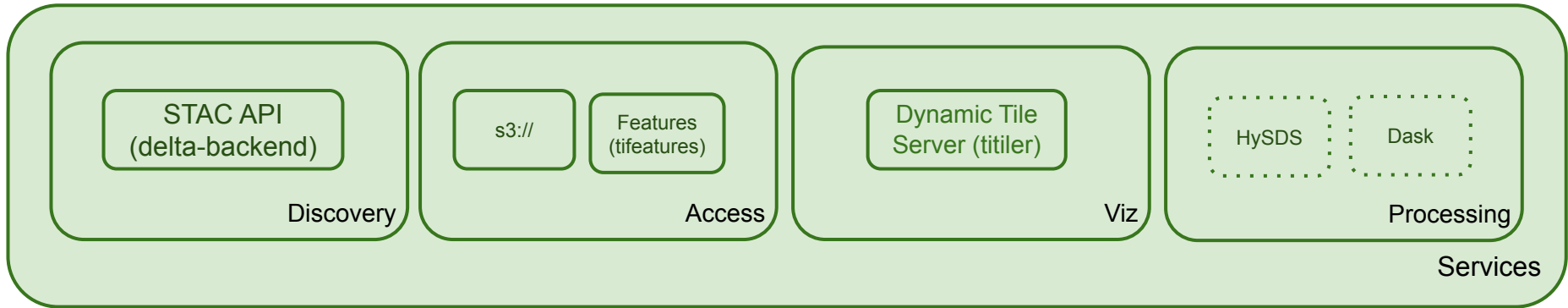
Identity and Access Management

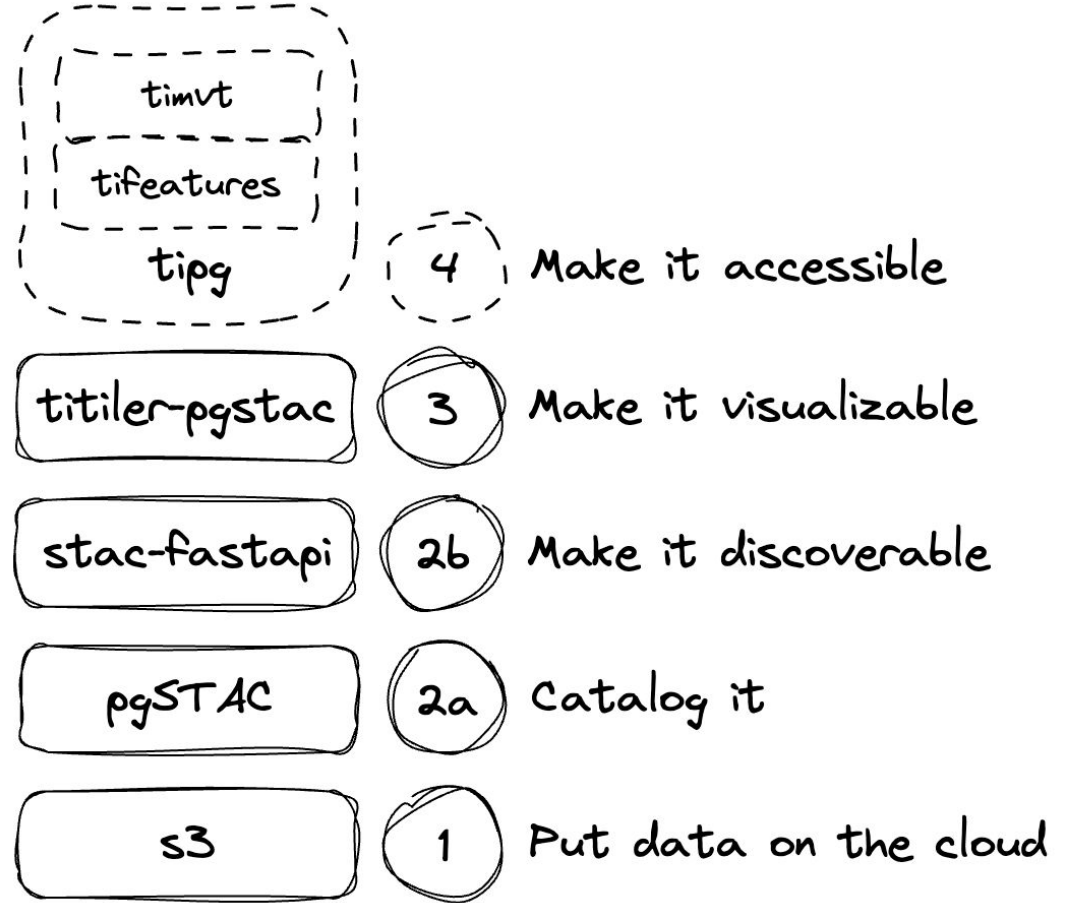


Platform Tier

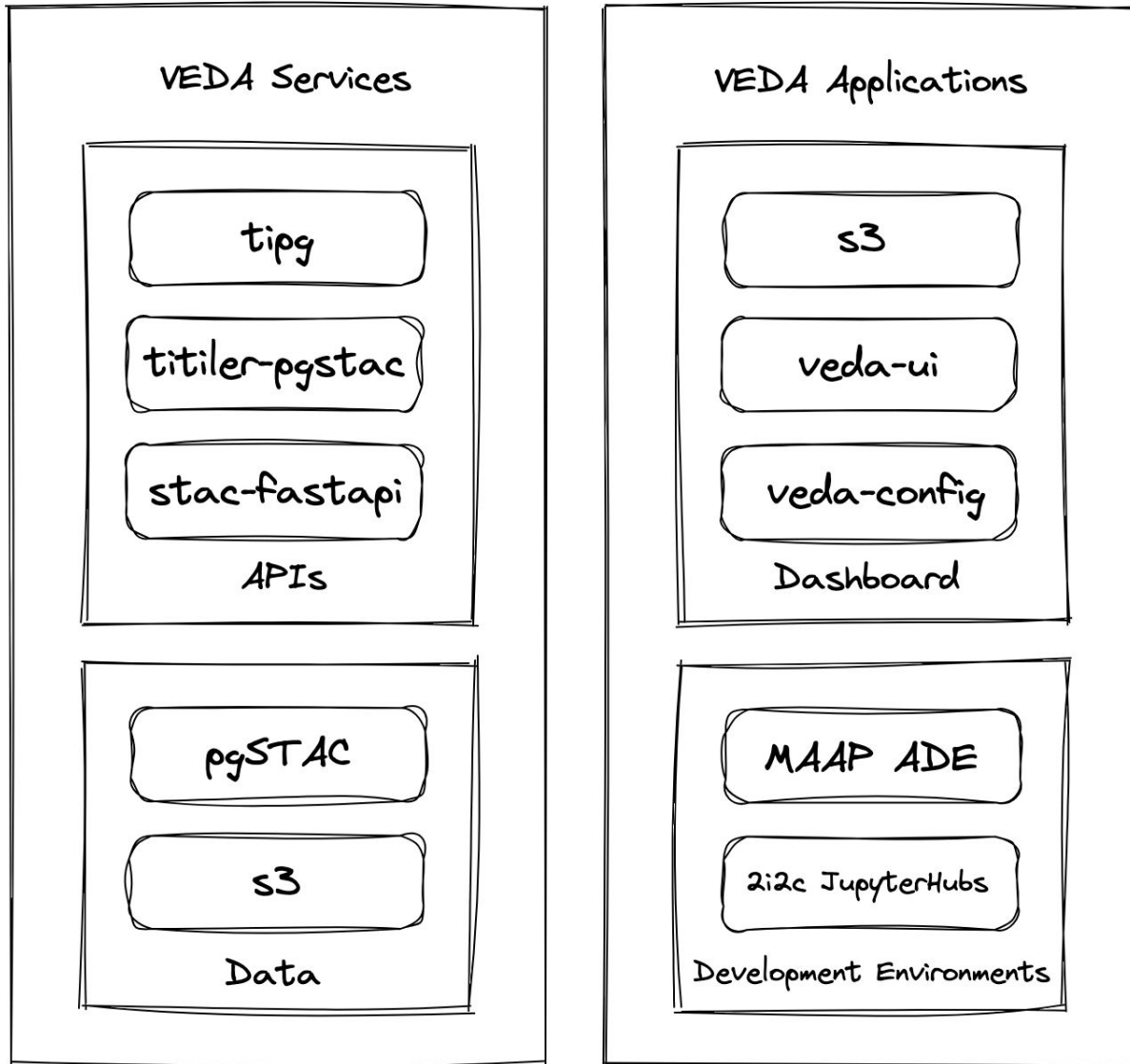


Resource Tier

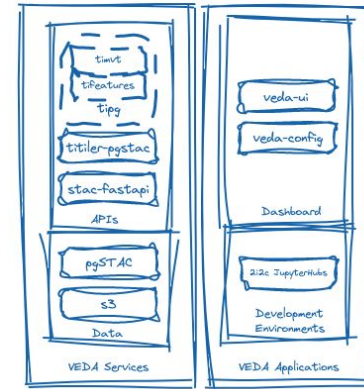




Reusable in part or in whole



VEDA Dashboard
earthdata.nasa.gov/dashboard



MAAP STAC Catalog



U.S. Greenhouse Gas Center (GHG) - July 2023

GIS/Worldview Tiler

FIRMS titiler

