

THE VISUALIZATION, EXPLORATION, AND DATA ANALYSIS (VEDA) PLATFORM: A MODULAR, OPEN PLATFORM LOWERING THE BARRIER TO ENTRY TO CLOUD COMPUTING



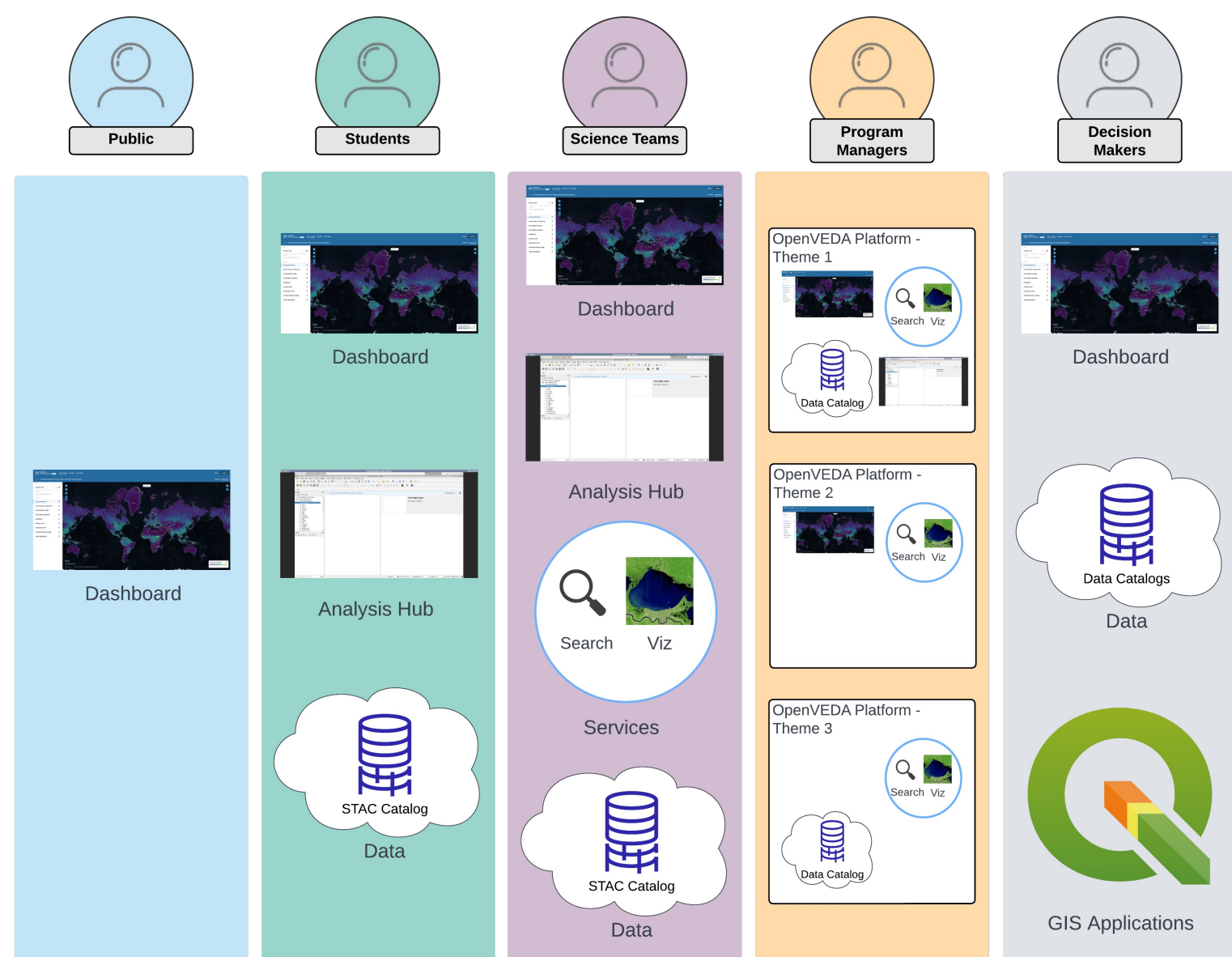
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What is VEDA

VEDA is an open platform that integrates existing technologies and expands capabilities for cloud-based computing. The platform consists of four major components that can be used interchangeably to satisfy application needs. The modular design of the VEDA platform enables rapid deployment of other high profile data information systems including the U.S. Greenhouse Gas Center and the virtual Earth Information Center data portals.

User Engagement



Dashboard: Map explore, Dynamic time-series analysis, Data Insights, Catalog Search Interface

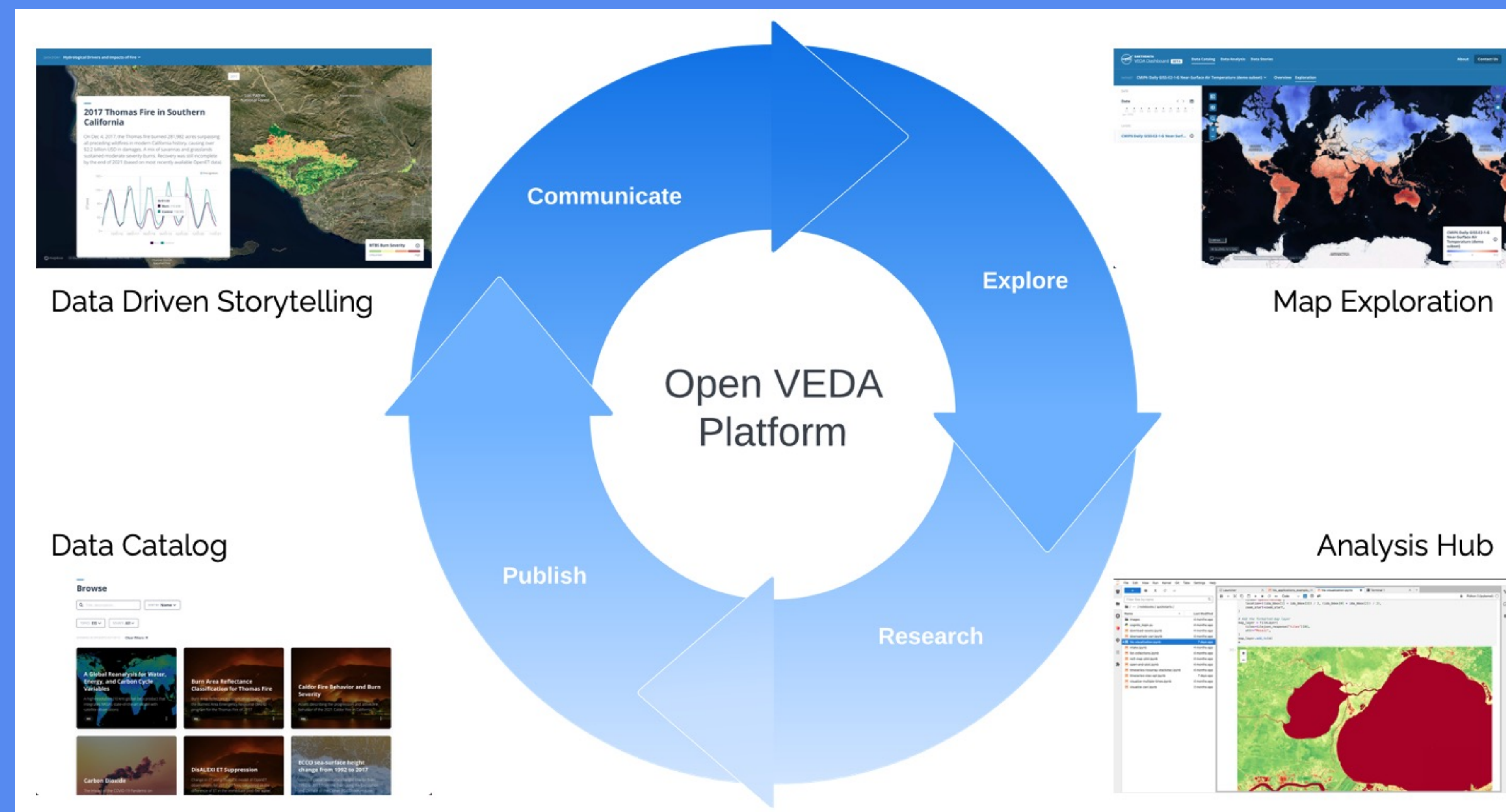
Analysis Hub: Jupyter Notebooks (Python, R, and Matlab) and QGIS

Services: Search and Ingestion APIs, Raster APIs including statistics endpoint, and Features API
- all APIs built to OGC standards for interoperability

Data: Managed catalogs of user-contributed cloud-optimized data
- VEDA-managed catalogs are built to STAC specifications for efficient data access

OpenVEDA Platform: Dashboard + Analysis Hub + Services + Data

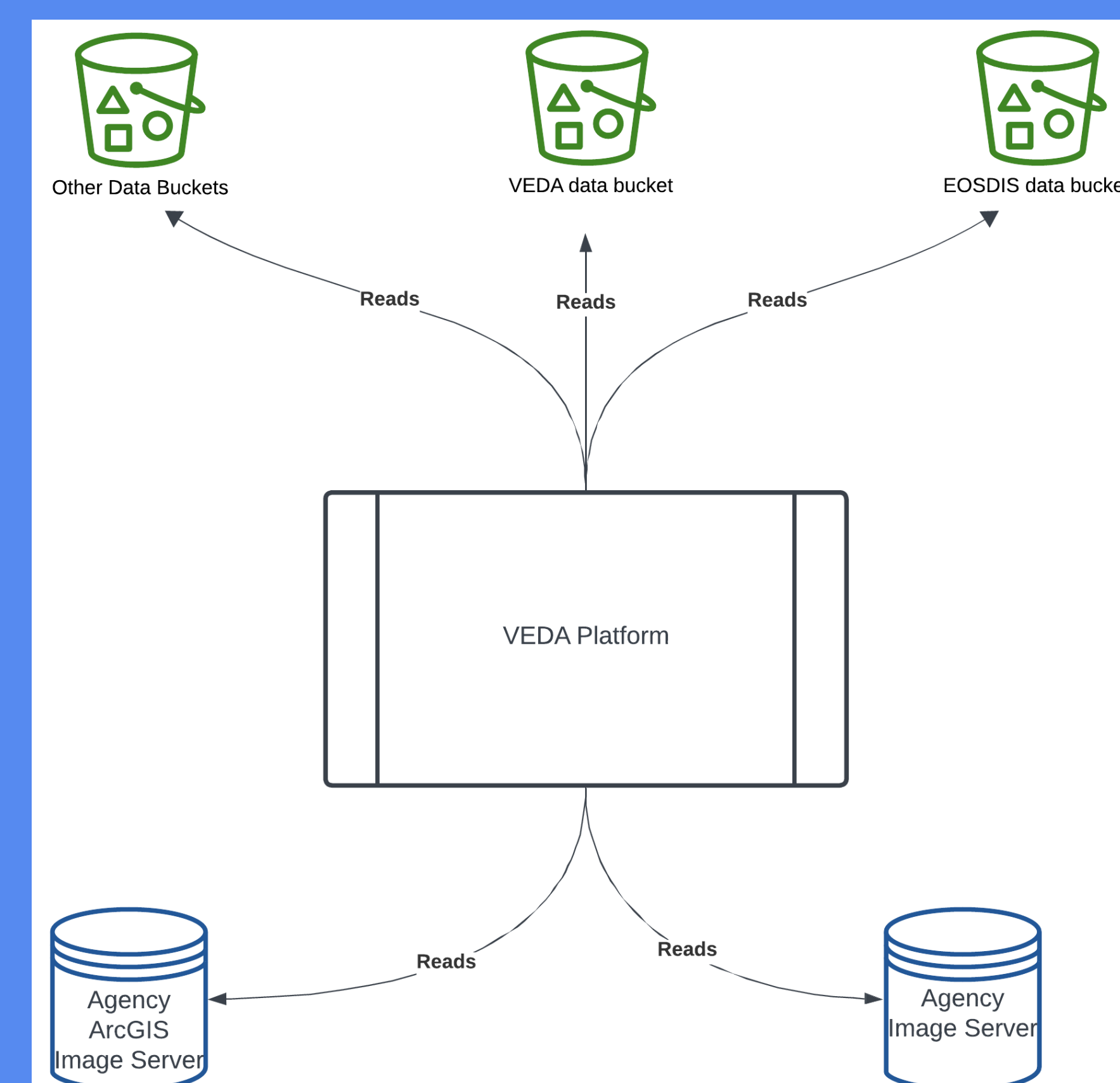
VEDA Lifecycle



Data Integration

Data from disparate sources can be easily integrated into the VEDA dashboard and backend services when built to community-backed standards.

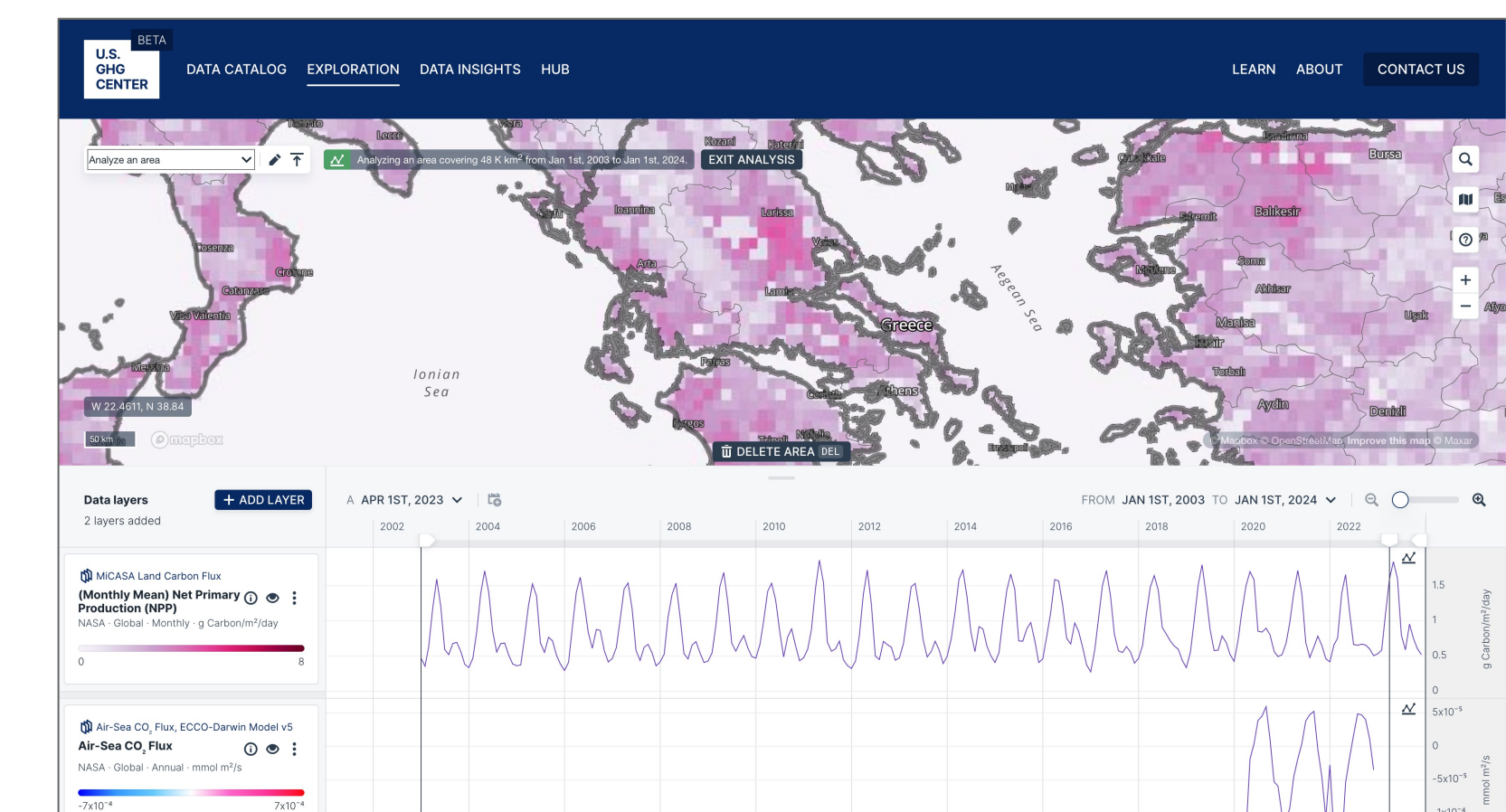
- Data hosted within an S3 bucket can be read in place with appropriate STAC metadata.
- ArcGIS servers with standards-based services can seamlessly be viewed and analyzed with cloud-hosted data.
- Data managed within the VEDA catalog is easily integrated with other web mapping and data analysis environments including ArcGIS.



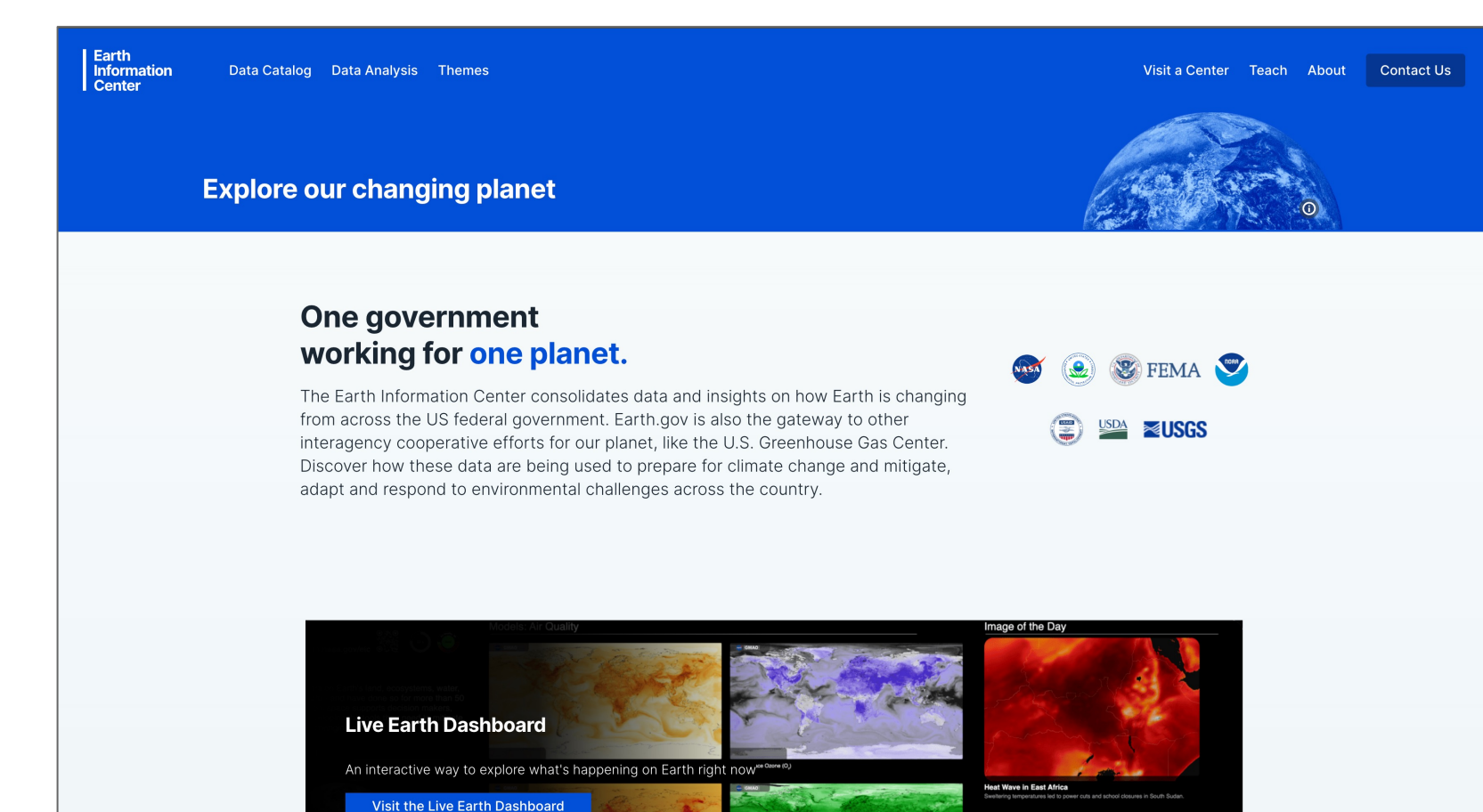
VEDA Successes

The modular design of the VEDA platform has enabled the deployment of multiple instances in part and in whole to support other NASA-led initiatives. Full platform deployments like the U.S. Greenhouse Gas Center use the entire VEDA platform where component deployments like the virtual Earth Information Center dashboard and IEEE GRSS JupyterHub use specific components of the VEDA infrastructure.

U.S. Greenhouse Gas Center



Virtual Earth Information Center



IEEE GRSS JupyterHub

