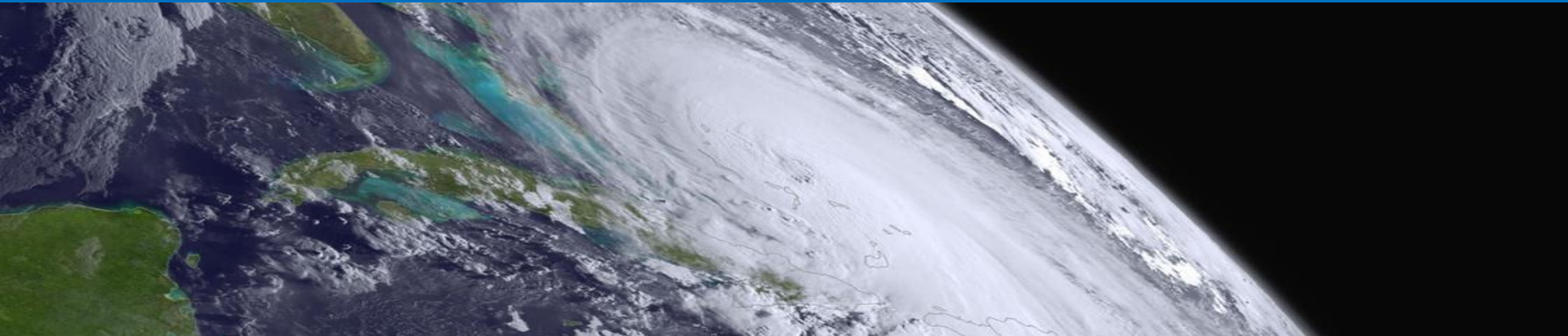


NOAA

Kim Valentine
NOAA Geospatial Information
Officer (GIO)

NOAA's Digital Data Landscape - Transforming Data into Actionable Information

**Hydrographic Services Review Panel (HSRP)
Digital Twin Panel Session
September 27, 2023**



Today's Topics

Federal Open Data Requirements

NOAA's Data Governance Framework

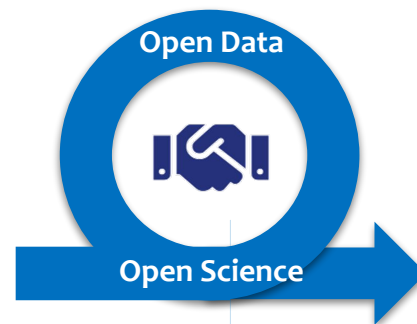
Geospatial Data & Mission Support

- Data Challenges

NOAA Open Data Dissemination

Key Takeaways

Maximizing the value of NOAA data



FAIR principles



Federal Landscape on Open Data

- M-13-13: Open Data Policy
- Foundations for Evidence-Based Policymaking Act
- Geospatial Data Act
- Federal Data Strategy
- **FAIR Principles** - Findable, Accessible, Interoperable, Reusable
- **Open Science / Open Data**
- Interagency Equitable Data Working Group
- Government Information Services - Freedom of Information Act (FOIA) and Information Quality Act (IQA)

Evidence Act Phase II - Open Data Access & Management

- Make each agency **data asset available in an open format;**
- Make public data assets available under an **open license;**
- Maintain a **comprehensive data inventory;** Federal Data Catalogue;
- Develop and maintain an **Open Data Plan;** and
- **Engage the public** in using publicly available data assets

NOAA Data Governance Implementation



NOAA Data **Governance** Committee

- Expanded data governance scope
- Data Licensing Task Team

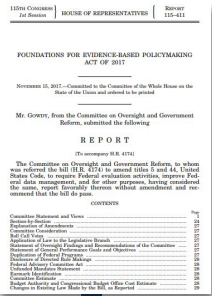
Assistant Chief Data Officers (ACDOs)

- Mission-Area data governance and management leads

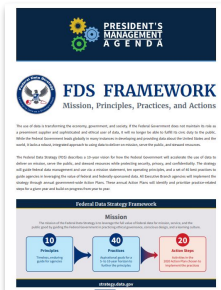
Data **Policy Framework**

- Substantial update to existing procedural directives and policies
- Open Data Licensing Policy

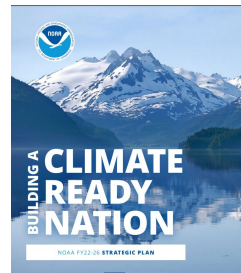
Blueprints for the NOAA Data Infrastructure (2018-22)



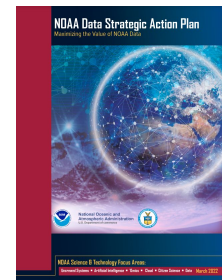
NOAA Data Strategy



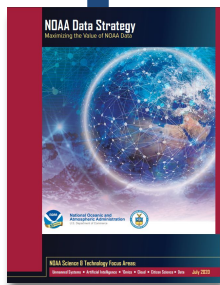
DOC Data Strategy



DOC Data Strategic Action Plan



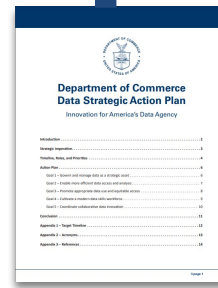
Evidence Act



Federal Data Strategy & Administration Priorities

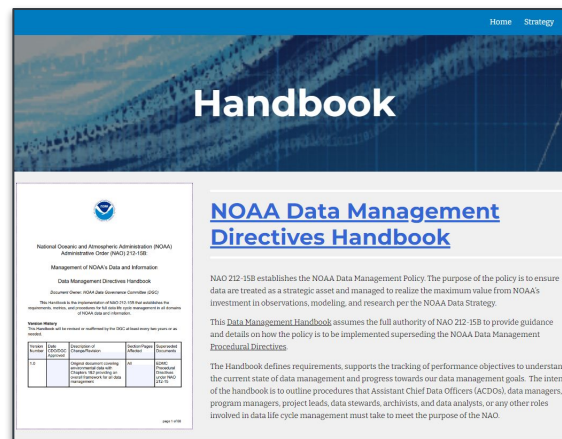


NOAA Strategic Plan



NOAA Data Strategic Action Plan

NOAA's Data Enterprise - Continued Growth & Progress (2023 >)



NOAA's Enterprise Data Community Site:
sites.google.com/noaa.gov/noaa-data



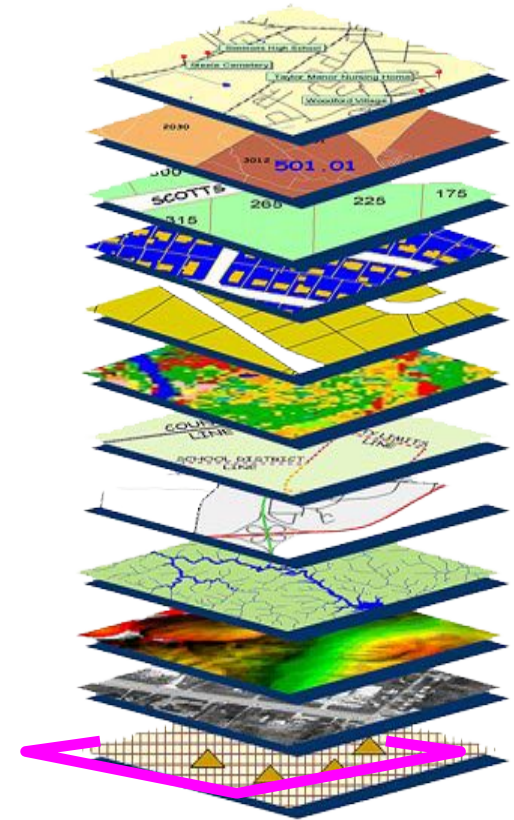
Geospatial is in our DNA



Geospatial data & technologies provide the framework to collect, store, analyze, and disseminate 'NOAA's Environmental Intelligence'

National Spatial Reference System (NSRS)

- Accurate maps begin with accurate coordinates!
- **Geodetic Control (NSRS)** is the foundation layer for all geospatial products.
- Without a geodetic control “base map” layer, GIS applications will not align properly.
- Geodetic control needs to be more accurate than any survey or map which builds upon it.
- NOAA’s geospatial data must be tied to the new NSRS Framework



NOAA's Geospatial Data > National Framework

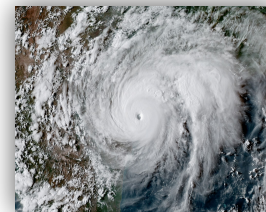
Weather and Climate



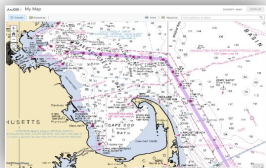
NOAA Data Strategy

Environmental data is the foundation of NOAA's mission. Through optimizing the availability and use of operational, research, and administrative data, NOAA is positioned to increase the value of data as a strategic asset in all facets of the organization. The overarching goal of the NOAA Data Strategy is to achieve readiness for tomorrow's data landscape.

Imagery and Satellites



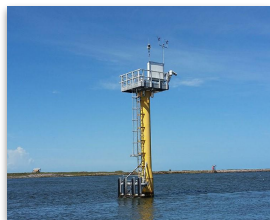
Nautical Charts and Shoreline



Coastal Ecosystems



Tides & Currents



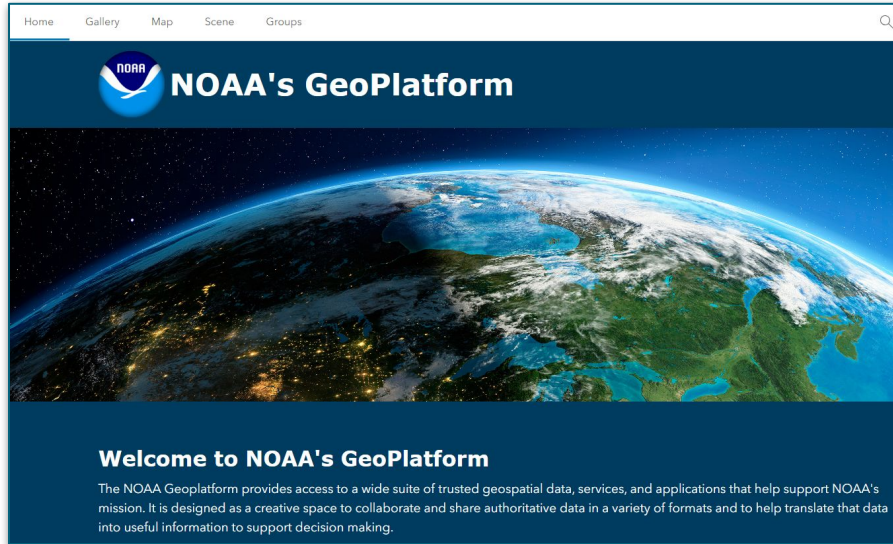
Geodetic Control



Bathymetry and Coastal Elevation



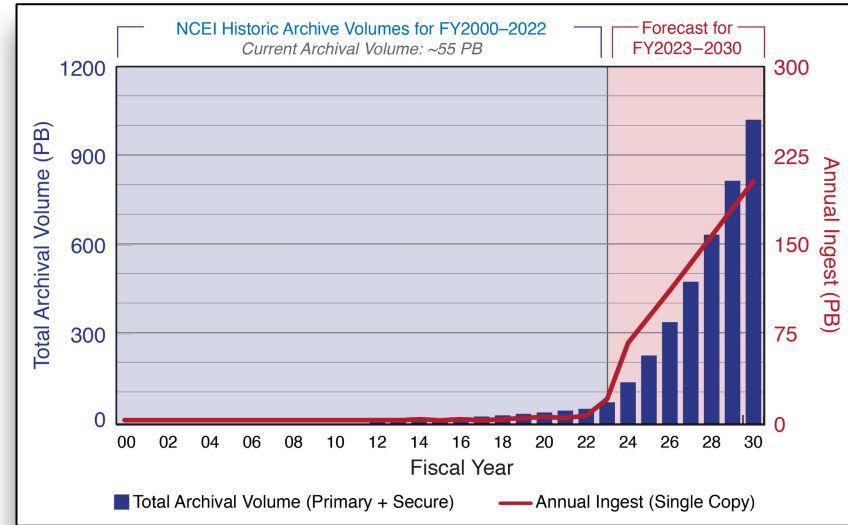
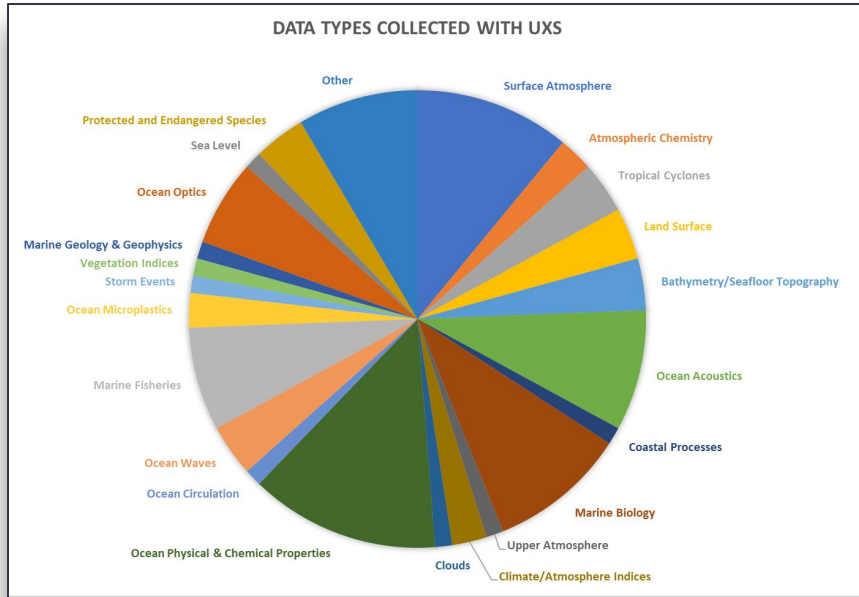
Enabling Access to Authoritative Geospatial Data



<https://noaa.maps.arcgis.com>

- *Real-time weather data*
- *Climate data*
- *Navigational charts*
- *Tides, currents, water-levels*
- *U.S. shoreline data*
- *NOAA satellite data*
- *Observational data*
- *Emergency response imagery*
- *More.....*

Data Challenges



New Data Collection Platforms & Technologies ...



Leads to Growing Data Volumes



Open Data Dissemination



- Moving data to the cloud is one of the top requests we have from our users
- Goal is to remove obstacles to accessing NOAA data and keep up with increasing demand
- NOAA has an 8-year partnership with Amazon, Google, and Microsoft to provide cloud hosted data that are
 - 1) Open
 - 2) No cost to download and
 - 3) Readily usable on (commercial) cloud platforms
- > 30Pb of data stored with the three CSPs
- Drives innovations and private sector opportunities

NOAA Datasets Accessible via NODD

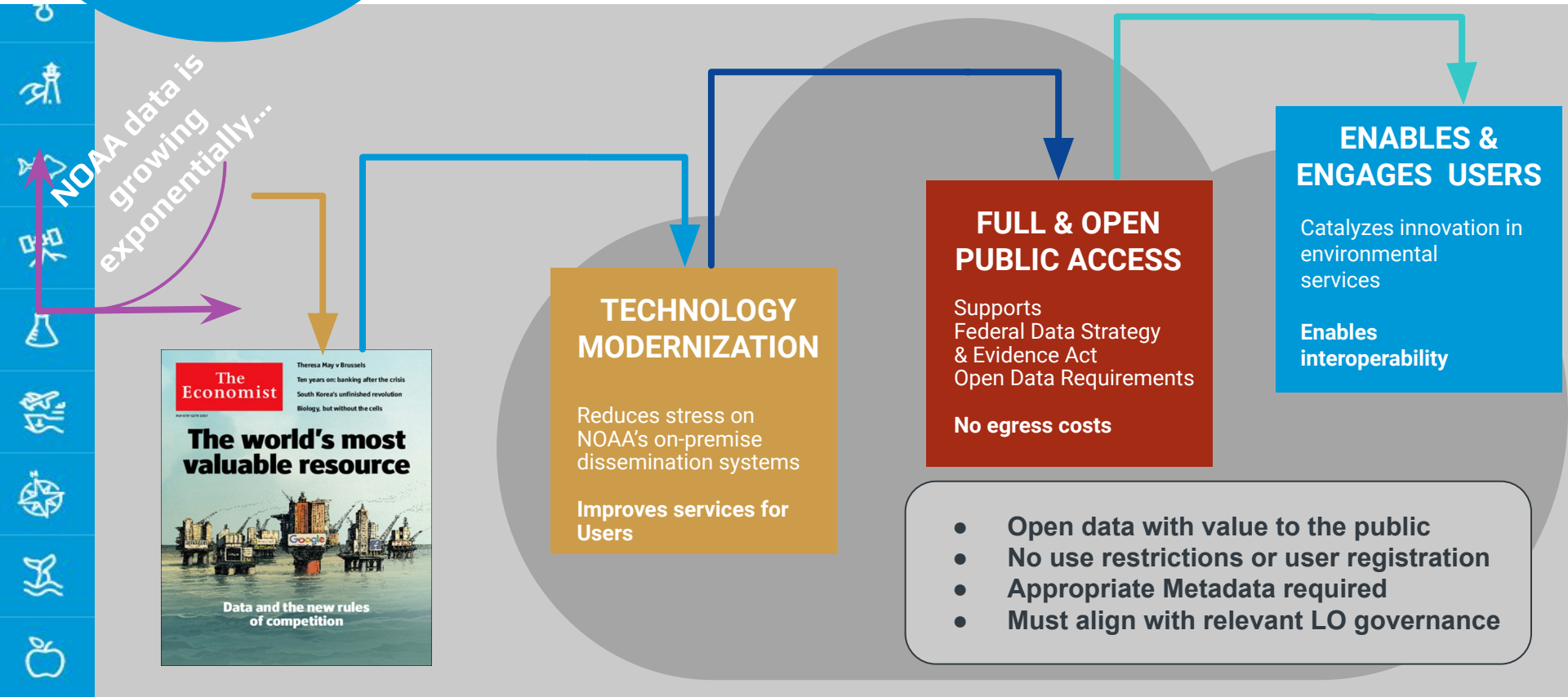


- Atmospheric
- Oceanic
- Fisheries
- Weather
- Climate
- Near Real-Time
- Period of Record
- Forecasting products
- Emergency Response Imagery
- Surface Observations
- Model Data



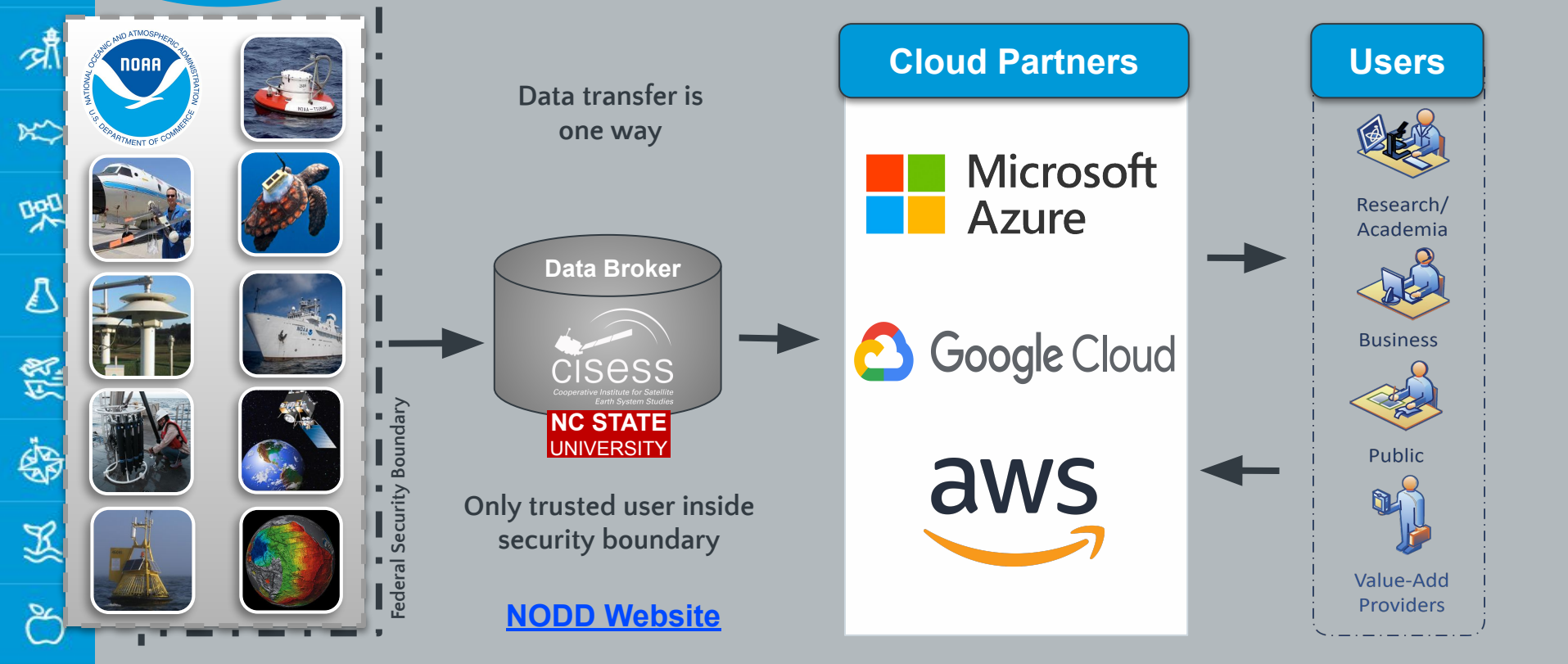
NOAA Open Data Dissemination
www.noaa.gov/nodd





Architecture

NODD Accelerates Access to NOAA Open Data for the Public



Key Takeaways

- NOAA provides the critical foundational and authoritative geospatial data that supports the National Spatial Data Infrastructure, the public and our partners.
 - *We are committed to ensuring all NOAA's geospatial data supports the new modernized National Spatial Reference System (NSRS) framework.*
- NOAA's data management framework is evolving and maturing to support the FAIR principles, but is currently under resourced.
 - *Additional attention, focus and resources across the organization must be dedicated to proper data management moving forward.*
- Potential and future of Digital Twins is exciting, but without accurate and quality data and information, the Digital Twin concept is useless.





NOAA

Thank You!

**Kim Valentine,
NOAA Geospatial Information Officer (GIO)**

