Environmental Sensor Map

Environmental Sensor Map update

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- Developed by Axiom
- Built upon the broker/scalability experiment success
- Integration of regional, national, global real-time data sources
- Provides analytics, summaries, visualizations of real-time data

Demonstration of RA infrastructure, capabilities!

- Retrieves real-time data directly from RA SOS

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Environmental Sensor Map

sensors.ioos.us

As of 5/24/2016:
8,434 stations, 119,515 sensors
116 national sensor networks
71 unique parameters
53,047,221 sensor observations weekly
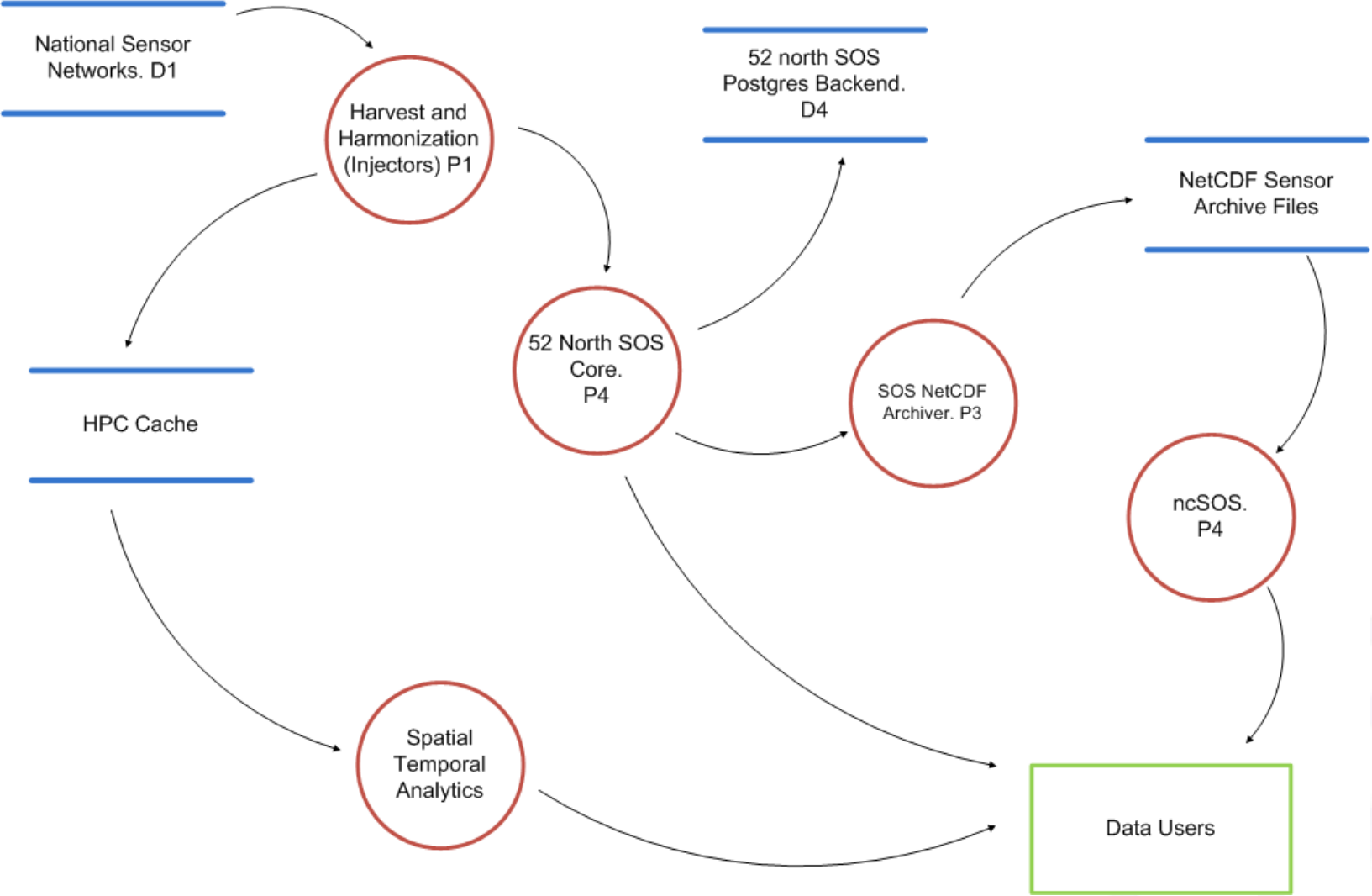
Released June 1!

- The map will host a **new/cleaner user interface** with additional features
- The long-term time series information will be **"binned"** into smaller time increments to ease the display.
- **More than one variable** can be displayed onto the same graph. Further graphs may have y-y axes for different metrics. This feature will ease comparison across different data sets.
- A **filter** will be added to the portal to allow for data discovery by depth.
- The search interface will be much **more responsive** to ease browsing of data in the map.

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- Opportunity for RAs assets to populate a national map
    - Requires fully operational SOS services
    - Axiom is documenting endpoints that are not responding/returning real-time data
- Opportunity to define best practices

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- Inconsistent/incomplete sensor metadata fields in the SOS database
  - Some common issues seen: incomplete/ missing fields, standardization of parameters
- SOS endpoint harvest failures
- SOS post-harvest endpoint errors
  - The service is not at the provided URL.
  - The service times out intermittently.
  - The data in the SOS is not current.
- Sensor duplication from RA re-serving data (mostly fed)
  - Consider not re-serving federal data through SOS
- IOOS Data Catalog errors
- RA assets not being served through 52N/SOS

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Scalability Pilot Architecture

Level 1 (1.0) Data Flow Diagram
Complete System

Environmental Sensor Map Architecture

National Sensor Networks. D1

Harvest and Harmonization (Injectors) P1

HPC Cache NetCDF Archiver. P3

NetCDF Sensor Archive Files

HPC Cache

52 North SOS Core. P4

Spatial Temporal Analytics

ncSOS. P4

52 north SOS Postgres Backend.

Data Users and Consumers

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