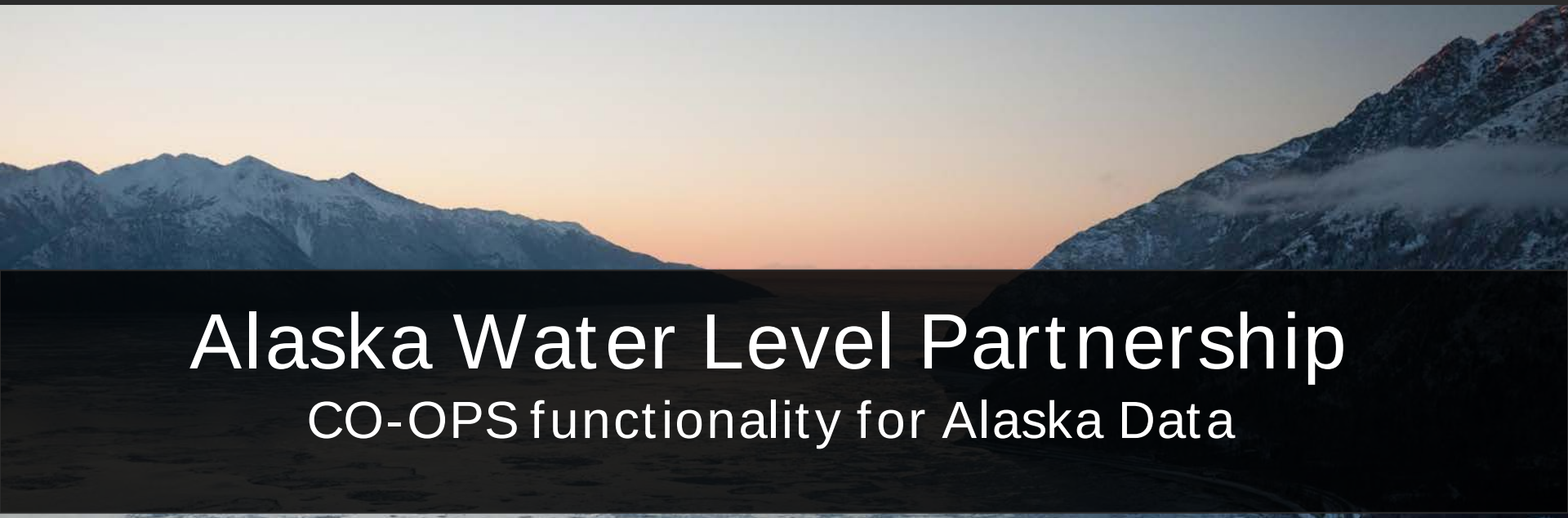

Alaska Water Level Partnership

CO-OPS functionality for Alaska Data

Will Koeppen (Axiom)
Nic Kinsman (NOAA)
Laura Rear McLaughlin (NOAA)

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AOOS Alaska Ocean Observing System

NOAA National Oceanic and Atmospheric Administration U.S. Department of Commerce

WL Data Management & Public Interface

NOAA CO-OPS

- Focus is on stringent NWLON WL data products

- Mission to maintain authoritative WL observations
  - → Accurate and reliable WL observations = backbone network
  - → Legal requirements to support navigation and engineering
  - → Official Datums (land ownership & maritime boundaries)
  - → Long-term relative sea level trends

- Dedicated to enabling supplemental instrument operation where NWLON operation is not needed or not possible
  - → *Policy for Management and Dissemination of External Source Water Level Data – December 2015 (AKA "Tiered Data Policy")*

AOOS/CO-OPS WL Partnership

- Leverage partners and external data providers to formally supplement NWLON in Alaska

- A region-led implementation of the Tiered Data Policy

  ⟶ 3 Tiers based on accuracy, vertical control, and application

PRODUCTS	A: NWLON	B: ~IHO Standard	C: Other Partner
Real-Time Water Levels	✓ verified	✓ as possible	✓ >24 hr. latency
Harmonic Constants & Predictions	✓ official	✓ unofficial	✗
Bench Mark Sheets	✓ official	✓ unofficial	✗
Datums	✓ official	✓ unofficial	✗
Sea Level Trends	✓ official	✗	✗
	CO-OPS Data	*iGages, GNSS reflectometry, seasonal pressure sensors, WL buoys, etc.*	*rapid response tools, high water marks, tide staffs, etc.*

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Win-Win!

CO-OPS Upside

- Expands IOOS/CO-OPS relationship
- Enhances IOOS contributions to blue economy by densifying WL observations beyond NWLON backbone
- Pilots regional implementation of CO-OPS Tiered Data Policy vision
- Encourages use/development of new products and services that put WL evaluation in hands of users (e.g. tidal datum calculators)

Alaska WL Stakeholder Upside

- Public access to additional WL stations in Alaska
- Increased consistency in format and delivery of WL records from a mix of sensors
- Enhanced data discoverability with centralized metadata
- Calculation of unofficial tidal datums

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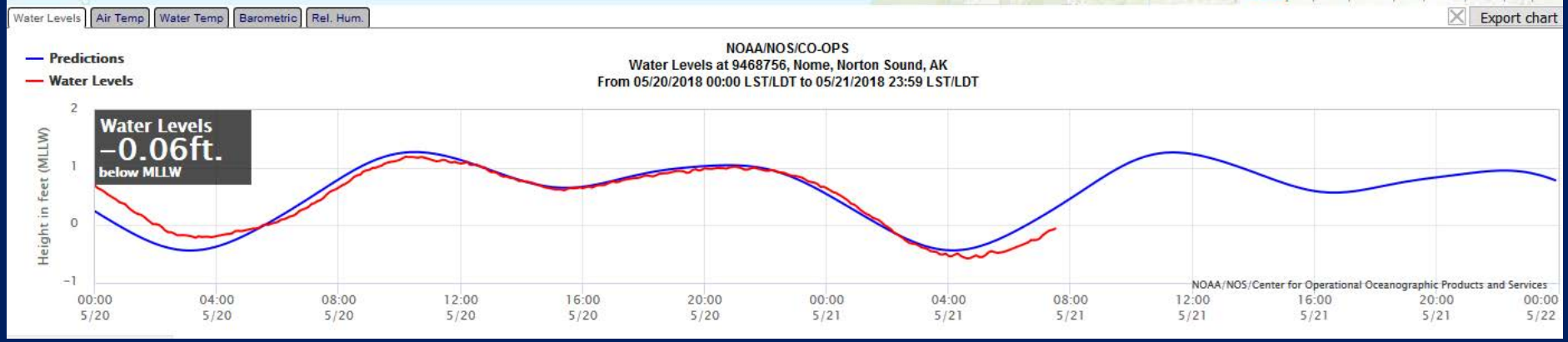
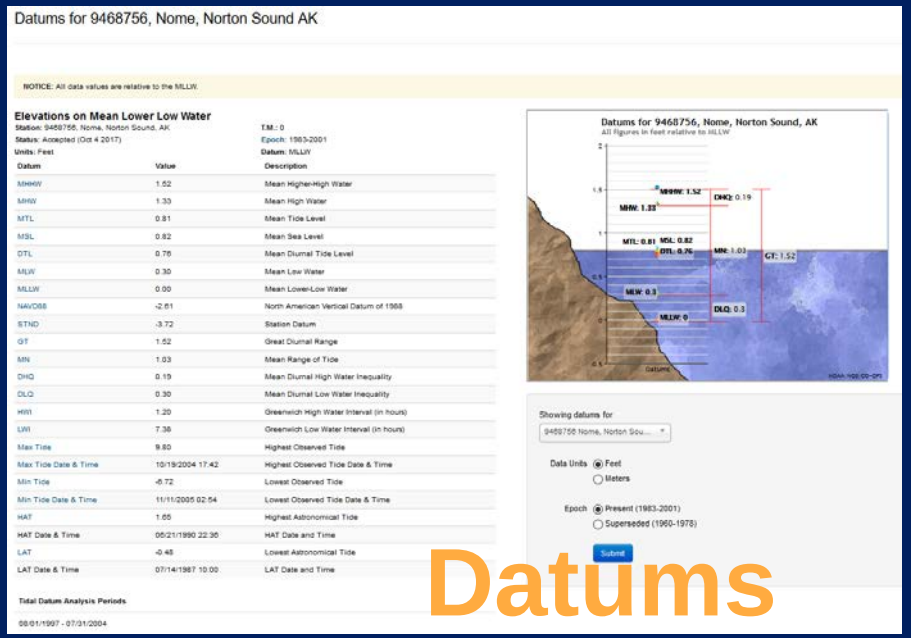
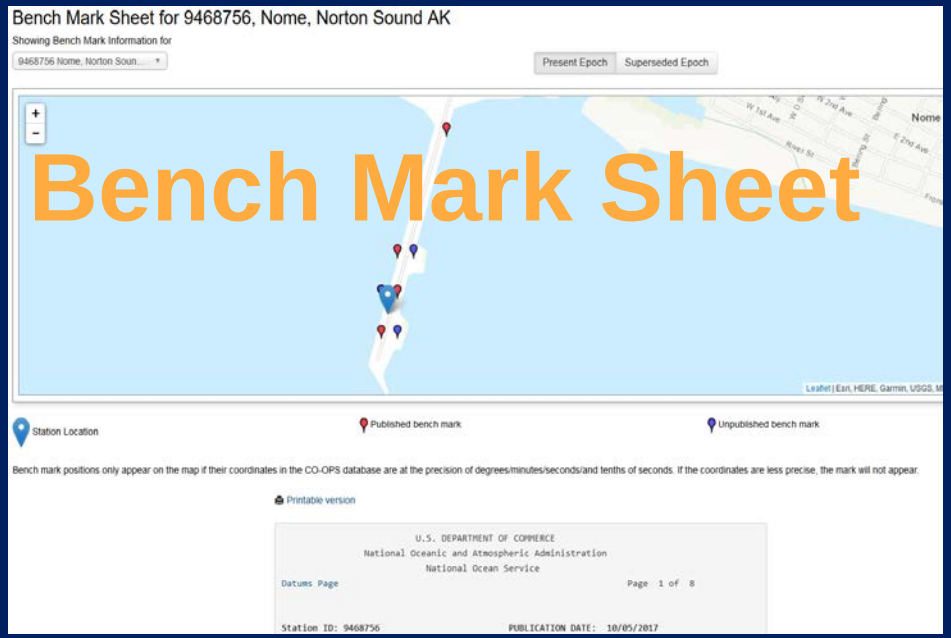
CO-OPS Tools for Water Level Stations (ODIN map)

1. Station Info
2. Data Inventory
3. Water Levels
4. Datums
5. Bench Mark Sheets
6. Harmonic Constituents



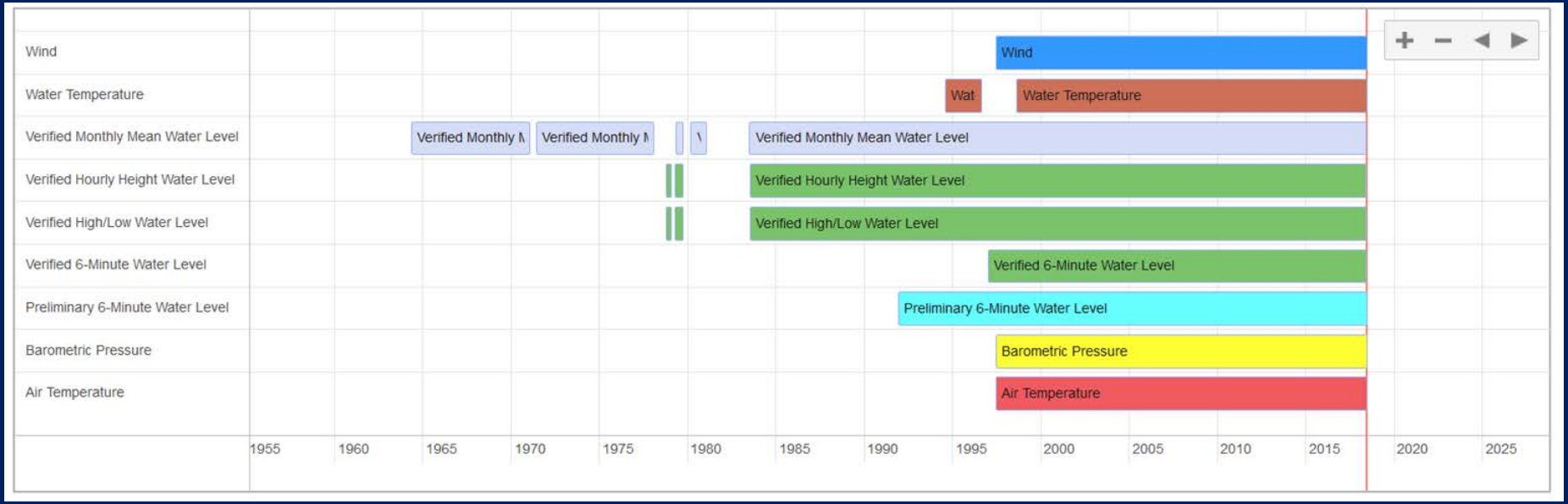
CO-OPS Water Level Station Dashboards





RSL Trends not shown

CO-OPS Water Level Station Data Inventory

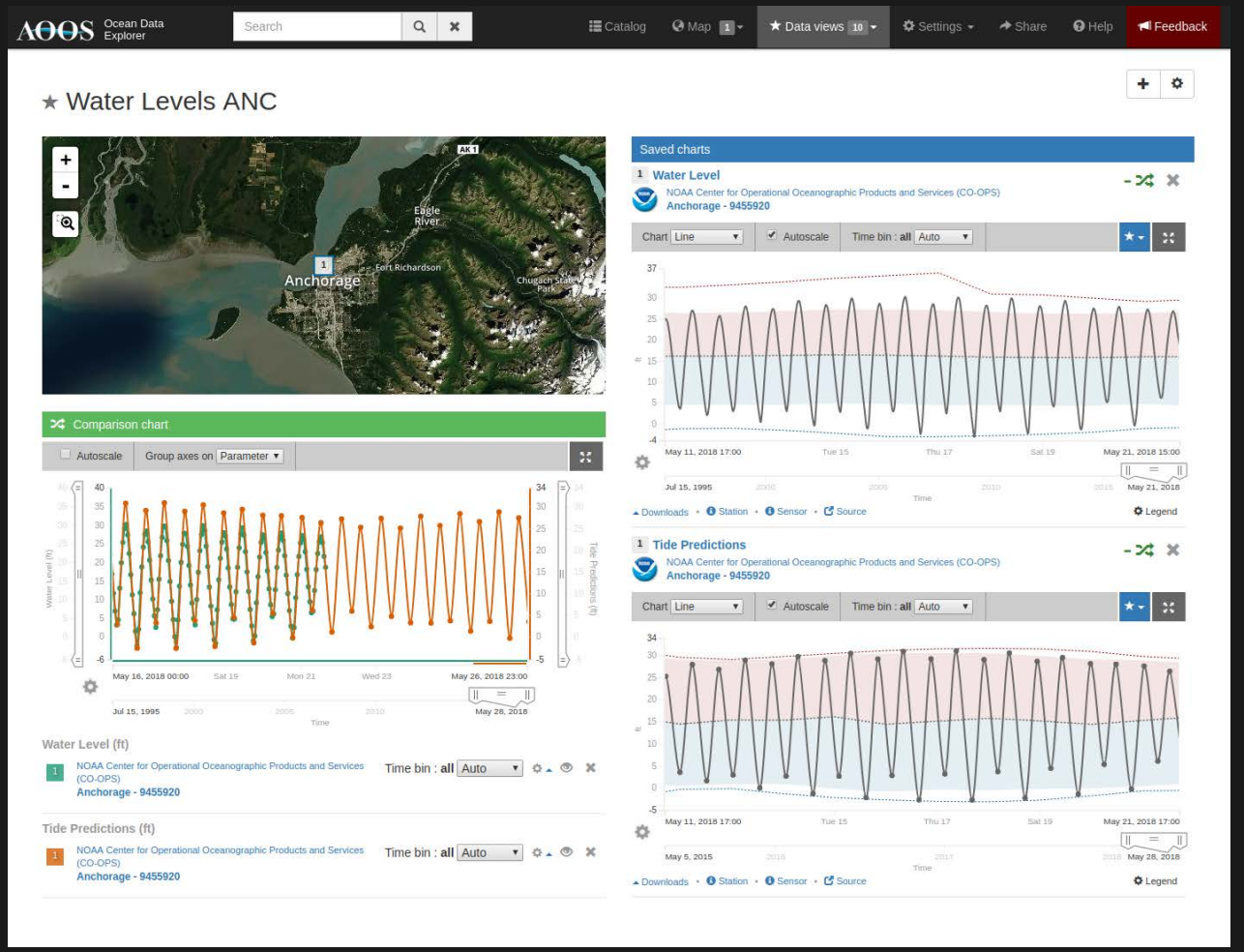


Data Access Tools:

- Tides & Currents Dashboard/Map
- IOOS Data Portal
- GIS Data Portal
- Data API

AOOS Tools for Water Level Stations

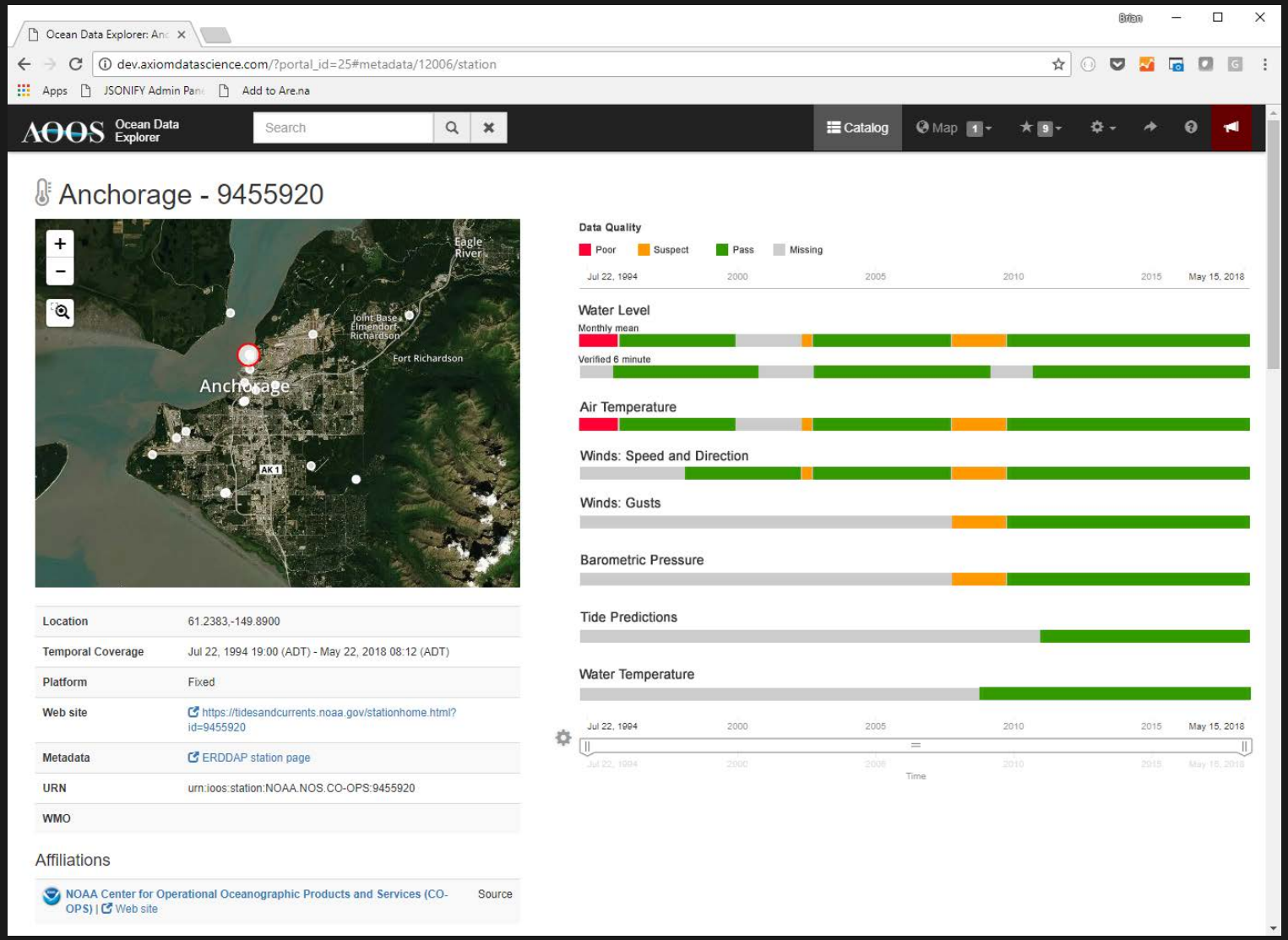
- Interactive graphs
- Interannual statistics
- Anomaly plots
- Data Views



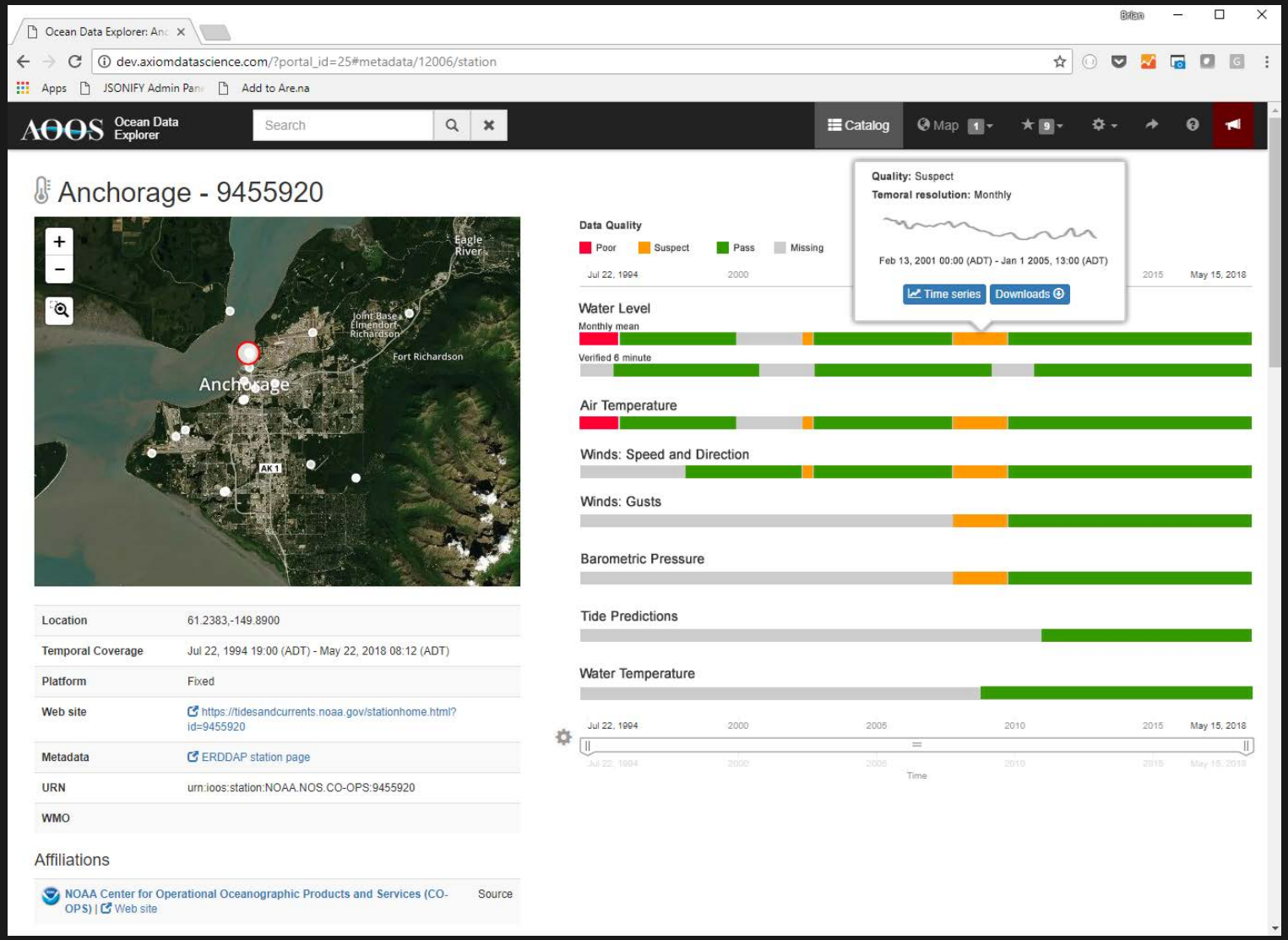
What we have so far

- AOOS has cyberinfrastructure
- And data
- Serving mechanisms through ERDDAP, THREDDS, OPeNDAP, etc.
- QARTOD for quality checks including gap tests
- AOOS API calls already include *Time Strata* fields

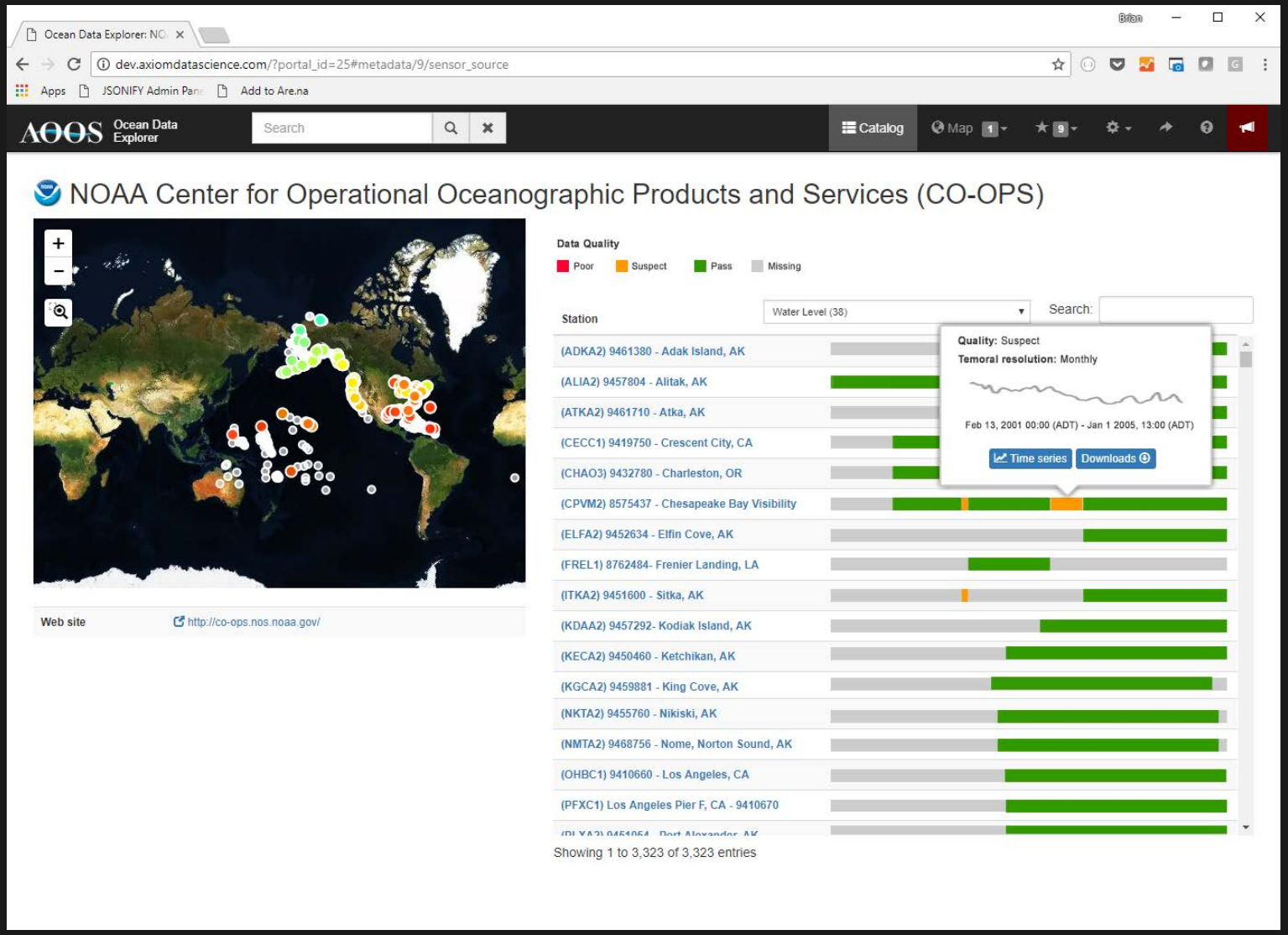
What things might look like



What things might look like



What things might look like



Looking for Feedback

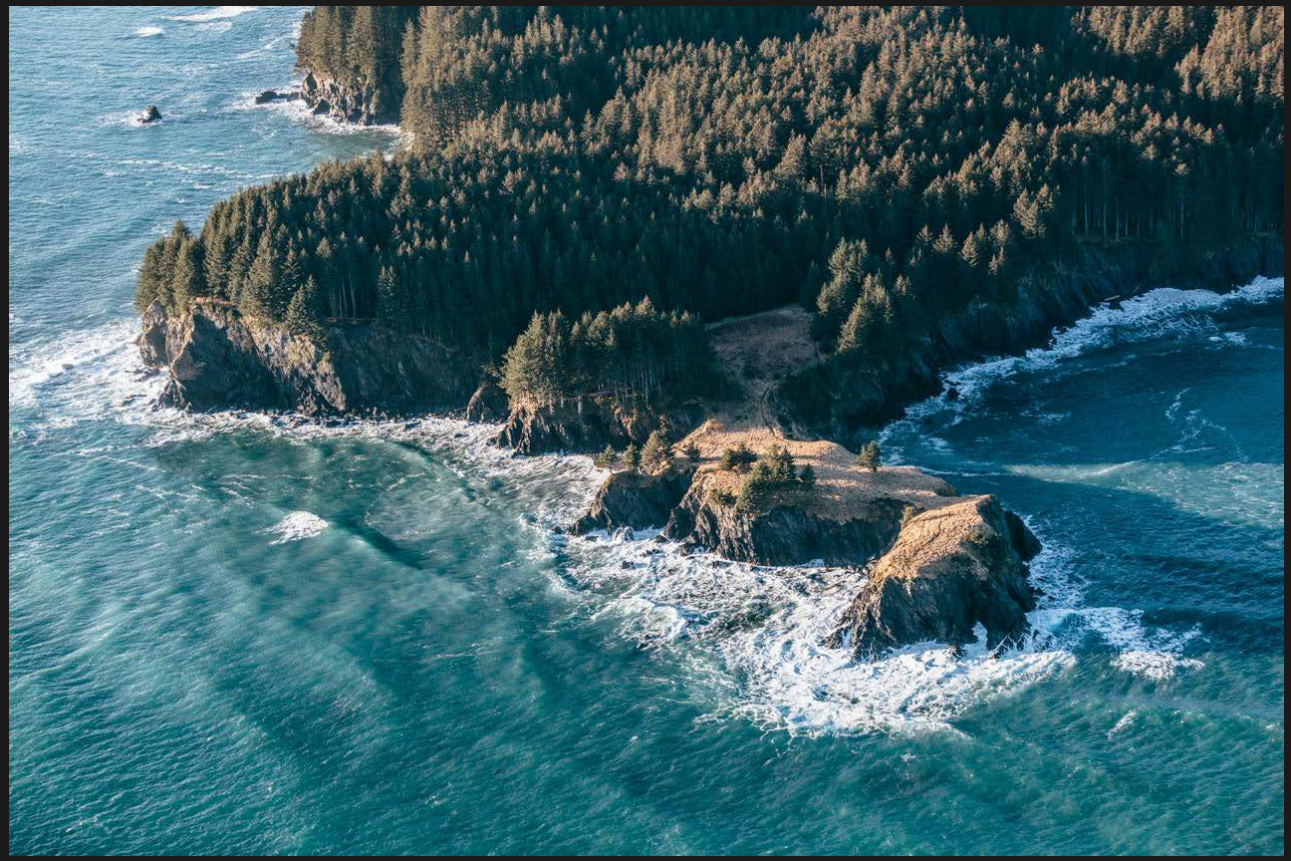
- Is API access to AOOS water level data inventories useful?
- Is seeing inventories across sources or regions helpful?
- Are QARTOD results useful to data creators or users or do most users just use station-reported accuracy values?
  - Water level QARTOD tests: timing/gap, gross range, climatology

Questions for us?

LINKS

http://portal.aoos.org

http://erddap.aoos.org
http://thredds.aoos.org



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