NOAA
Rolling Deck to Repository (R2R)

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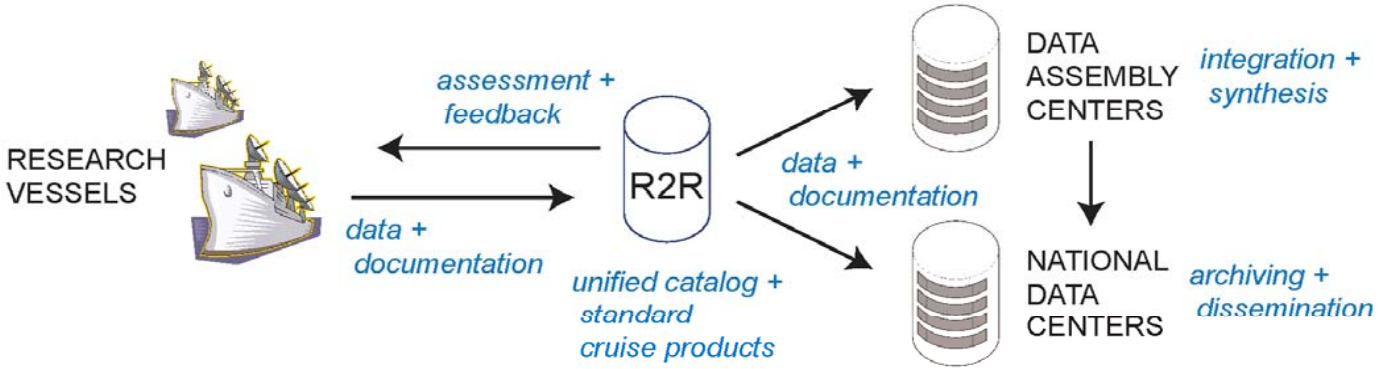
27 June 2012

Background

- Project Initiated in 2010:
  - Modeled after the UNOLS R2R project.
  - Project Lead: NOAA's Integrated Ocean and Coastal Mapping program.
- Goals:
  - Providing a “direct pipeline” for routine underway cruise data and documentation to a central repository.
  - Ensure that data collected about NOAA ships is documented, preserved, and available for access for the long-term.

UNOLS R2R

- System Model



  - Migrate all routine “underway” data to long-term repositories
  - Create catalog of cruises and standard products
  - Assess data quality and provide timely feedback to operators

Key Benefits

- 5 Standard Products
  - Cruise Metadata Record
  - Scientific Sampling Event Log
  - Quality-controlled Ship Track
  - Real-time quality-controlled MET and TSG data
  - Operations Report (Formatted document containing standard products & appendices)
- Data Documentation and Delivery
  - Data Catalog (dataset, and file level metadata)
  - Routine and consistent data delivery to NDCs
  - Accessibility for public reuse

Implementation Strategy

I. Understanding Current Status – almost complete

II. What Can Be Done With Existing Resources – in progress

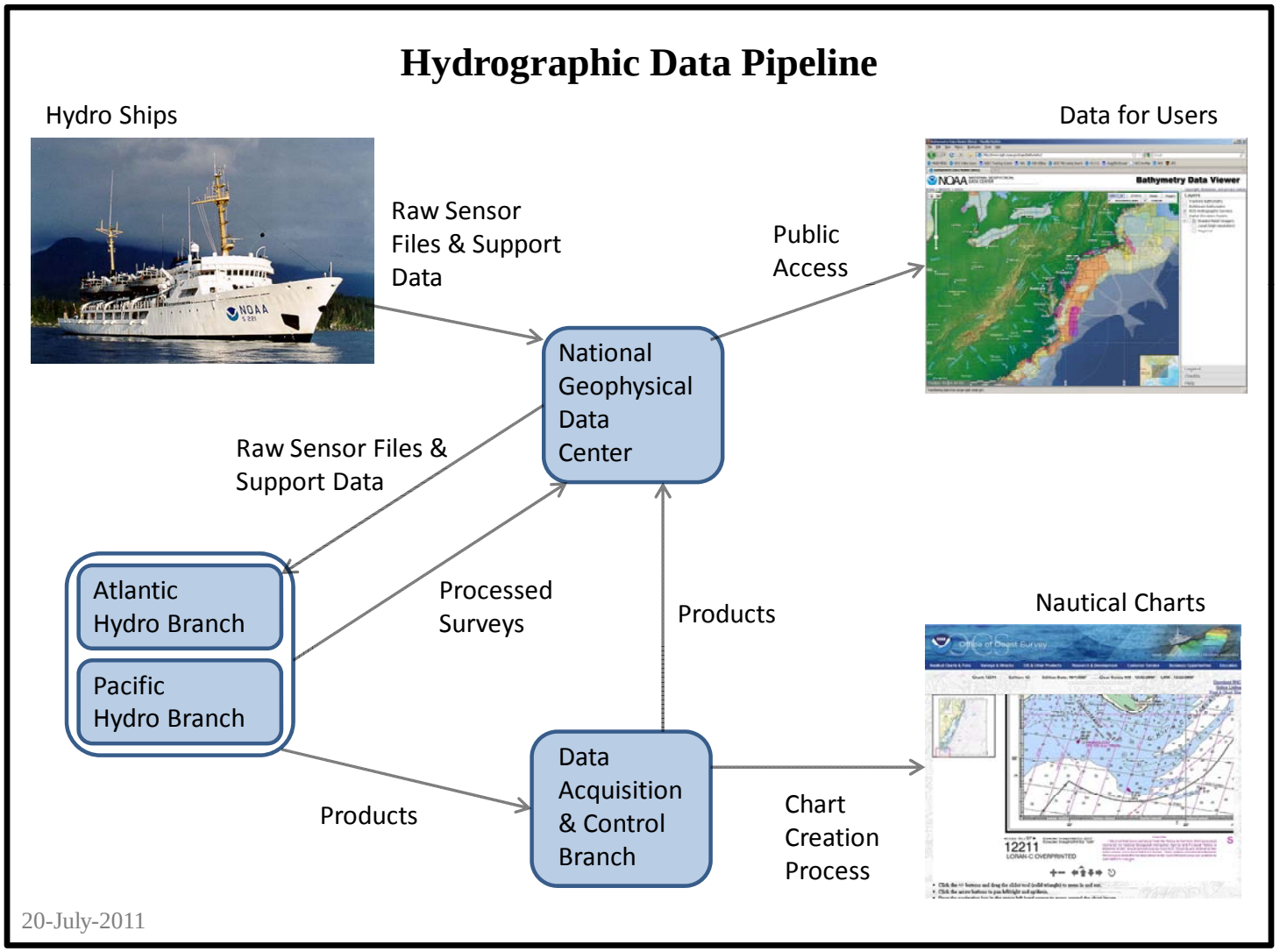
III. What Additional Resources are Required – in progress (NMFS, equipment)

IV. Monitoring, Feedback, and Training – near future

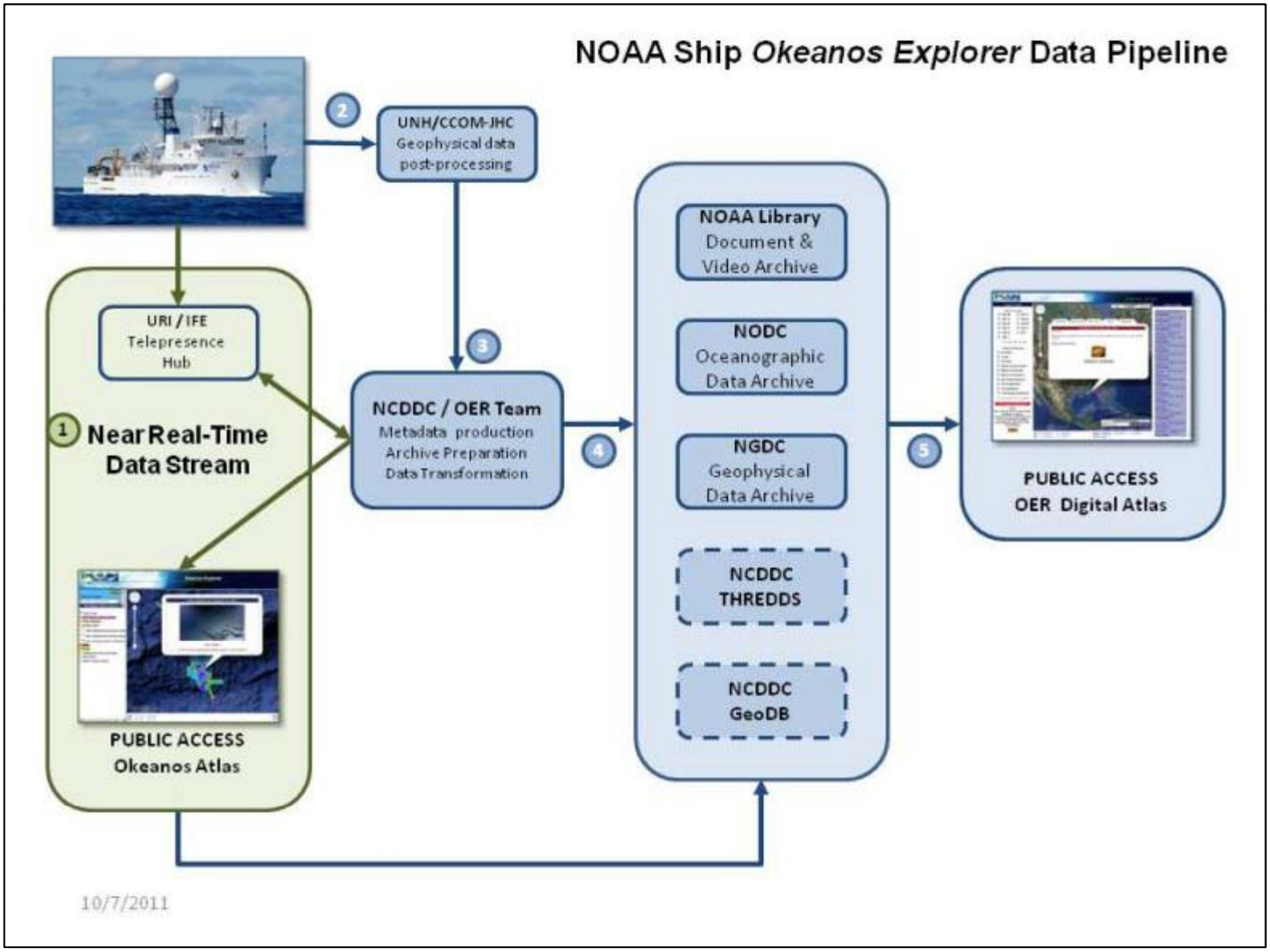
Current Status

- Existing pipelines (components):
  - NOS hydro survey
  - Ocean Exploration
  - SAMOS: Scientific Computer System (SCS) Dataset
- Identified Gaps
  - Complete Project SCS Dataset
  - NMFS data (biologics, acoustic, video)
  - Metadata, data integrity
  - Standardization & tracking

NOS Hydro Survey Pipeline



Ocean Exploration Pipeline

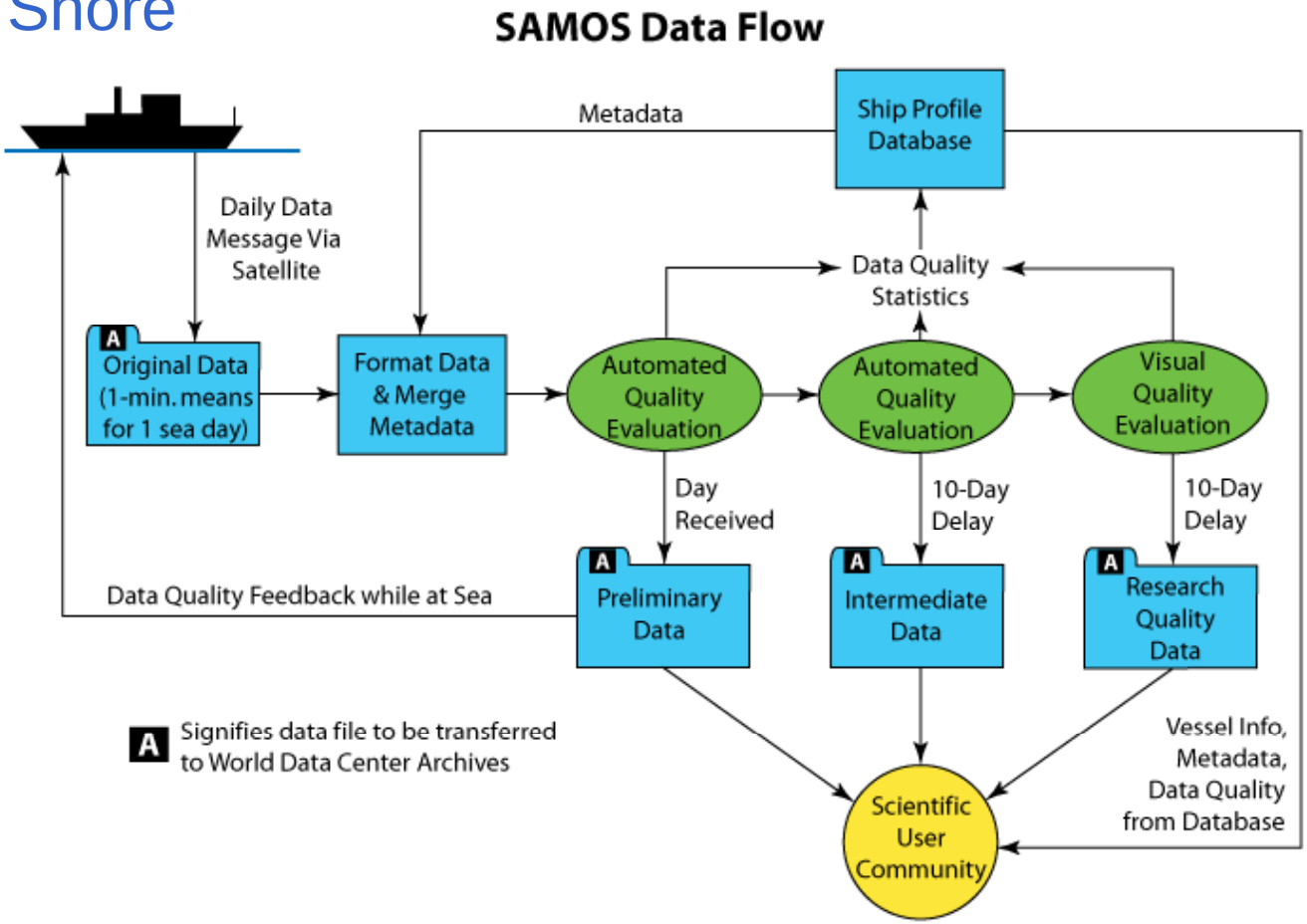


Next Steps 1

- Create an OMAO Data Management Policy
  - Formalizing responsibly as it pertains to lifecycle data management and data quality
    - Place responsibility for ship sensor data with vessel operators, not science party
- Formalization of SCS data pipeline
  - Provide for Full SCS dataset
  - Metadata, acquisition, packaging, submission, archive, access
- Work with NODC & SAMOS to develop a cruise catalog
- Automate Data tracking and formalize Data submissions for Geospatial data on non hydrographic ships.
  - Inclusion of data stewardship policies in cruise instructions and communicate and formalize Data Management SOPS per vessel

Next Steps 2

- Partner with the SAMOS Data Assembly Center (DAC) to automate the transfer of a subset of meteorological data and surface oceanographic data from NOAA ships to Shore



Next Steps 3

- Improve/formalize and automate ship schedule submissions to SAMOS DAC. *For CY2011 schedule information was not obtainable for any enrolled NOAA vessel .

MARCH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
KAOU		P	P	*S*	*S*	*S*	*S*	*S*	*S*	*S*	*S*	*S*	*S*	*S*	*S*	P	P	P	P	P	P	P	P	*S*	*S*	*S*	*S*	*S*	*S*	*S*	*S*
KAQP													A	A	A	A	A	A	A	A	A	A	A								
KCEJ	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
KNBD ➢D2																															
NEPP																															
NRUO																															
VLHJ		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	*S*	*S*	P	P
VNAA																														*S*	
WBP3210	A	*S*	A	A	A	A	A	*S*	A	A	*S*	A	*S*	*S*	*S*	A	*S*	A	*S*	A	A	A	A	A	*S*	A	A	A	A	A	A
WCX7445	A	A	A	A	A		A	A	A	A	A	A	*S*	A	A	A	A	A	A	A	A		A	A	A	*S*	A	A	A	A	A
WDA7827											P																				
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WTDF ➢HB	A	A	A	A	A	A	A	A	A																						
WTDH➢OE																	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
WTDL ➢PC																						A	A	A	A	A	A	A	A	A	A
WTDM➢MF																															
WTDO➢O2	A									A	A	A	A	A	A	A	A	A	A	A	A										
WTEB ➢FA																															
WTEC ➢RHB																															
WTEE ➢OS	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A						
WTEF ➢RA																															
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WTEP ➢OD																															
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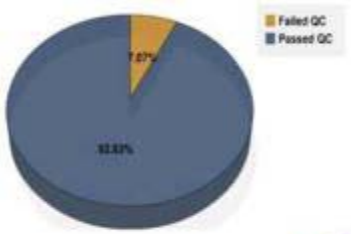
WTEU ➢HI	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A							
WTEY										A	A	A	A	A	A	A	A	A	A	A	A	A	A	A							A
WXAQ	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	*S*	A	A	A	A	A	A	A	A	A	A	A	A
ZMFR																															

2011 calendar for March showing (green) ship days received by DAC and *(grey) additional days reported afloat by vessels; "A" denotes data has been archived at NODC, "*S*" denotes vessel reportedly at sea, "P" denotes vessel reportedly at port. Vessels are listed by call sign.

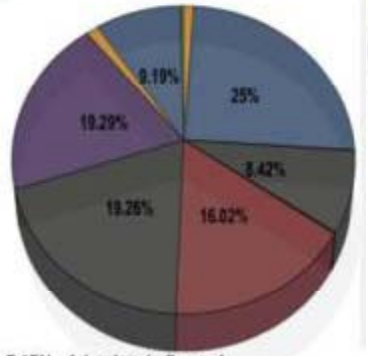
Next Steps 4

- Partner with SAMOS to receive automated quality control data to populate dashboards and produce reports routinely visible to NOAA

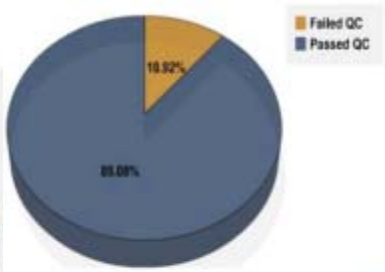
Henry B. Bigelow

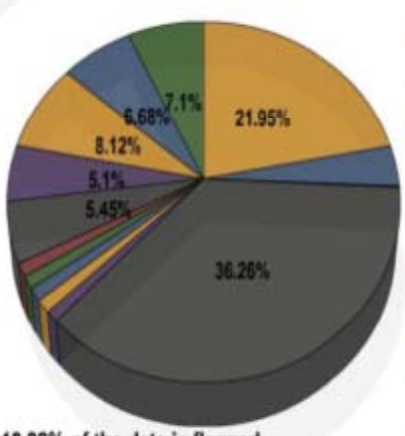


Hi'ialakai



7.07% of the data is flagged
(224658 flagged of 3178908 data values)



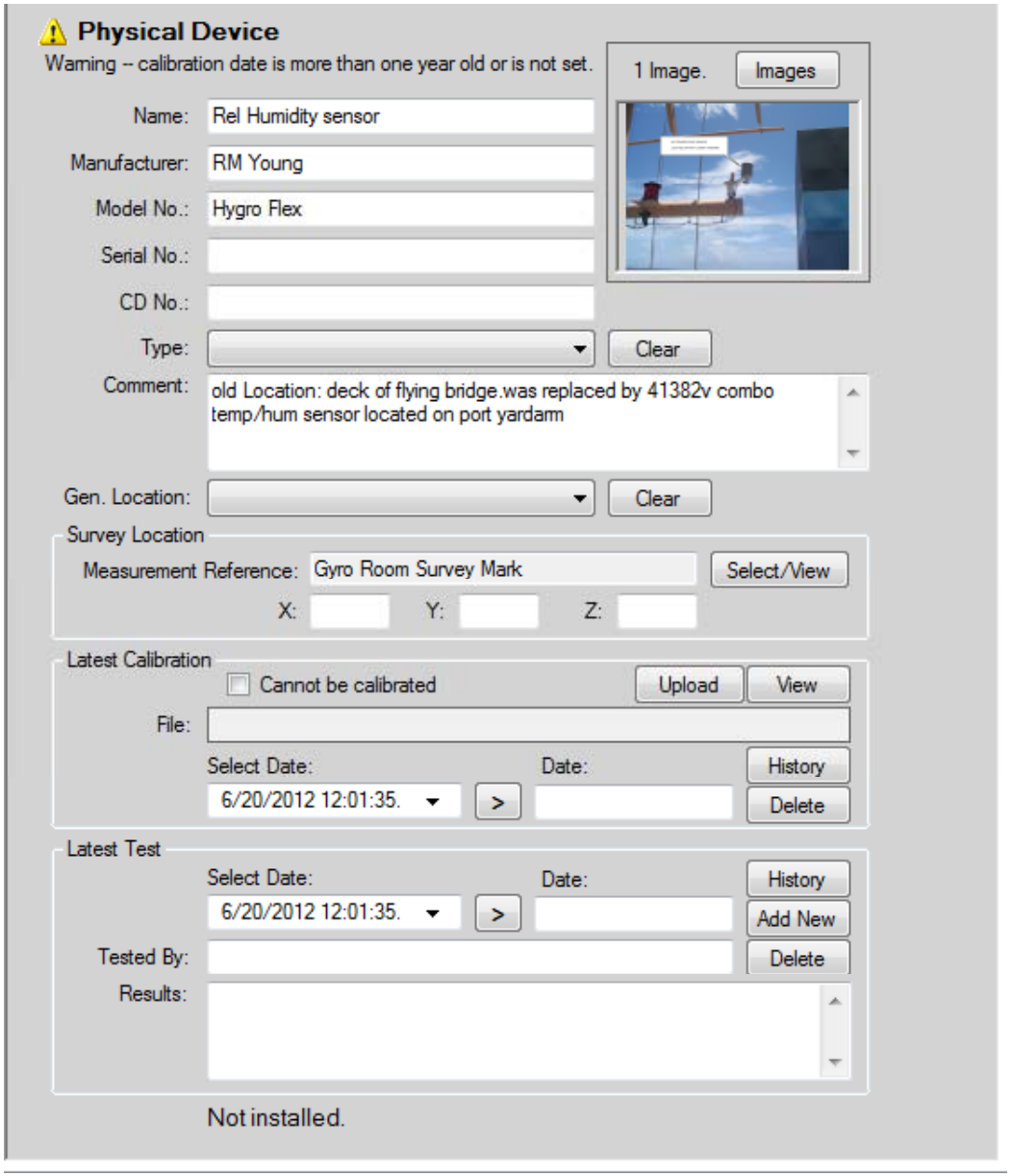


10.92% of the data is flagged
(259678 flagged of 2377169 data values)

CNDC (conductivity) - 21.95%
DIR (earth relative wind direction) - 3.7%
lat (latitude) - 0.06%
lon (longitude) - 0.06%
P (atmospheric pressure) - 36.26%
P2 (atmospheric pressure 2) - 0.98%
PL_CRS (platform course) - 1.14%
PL_HD (platform heading) - 1.14%
PL_WDIR (platform relative wind di...) - 1.14%
PL_WSPD (platform relative wind sp...) - 1.14%
RH (relative humidity) - 5.45%
SPD (earth relative wind speed) - 5.1%
SSPS (salinity) - 8.12%
T (air temperature) - 6.68%
TS (sea temperature) - 7.1%

Next Steps 5

- Train Survey Techs and ET's to populate and maintain the SCS sensor configuration editor with metadata attributes such as calibration history, photos, and other identification/location attributes.

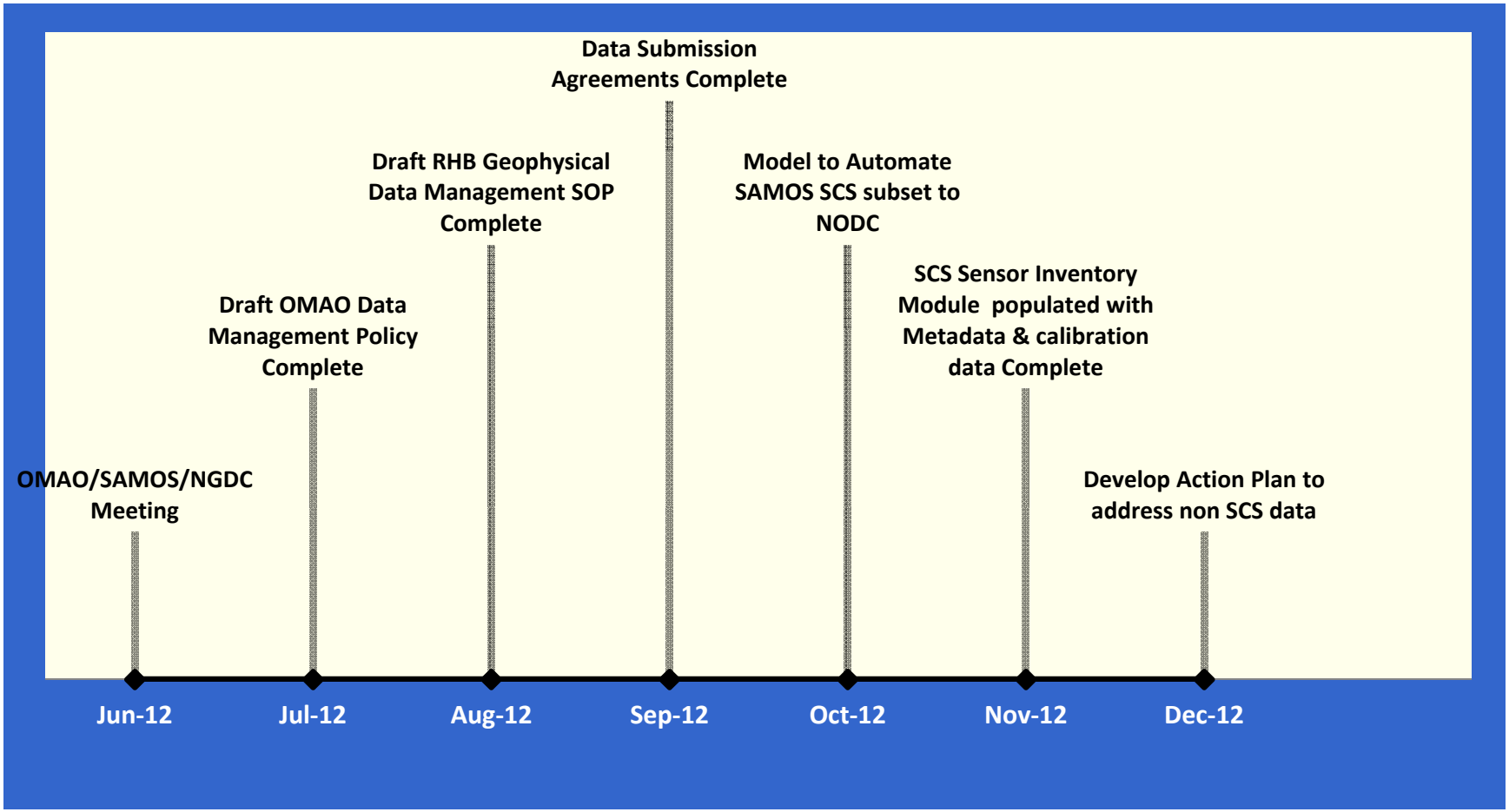


Next Steps 6

- Address Lifecycle Data Management of Non-Ship Sensors
  - Require data management plans indicating repository of Science party equipment
- Data Centers
  - Issue ingesting MB (ME-70) data
- Develop data submission agreements
  - Identify funding needs for participating programs

Next Steps 7

Notional timeline for action items



Questions?