



NOAA Observing System Integrated Analysis (NOSIA) Integration with the Federal Earth Observation Assessment (EOA) Efforts

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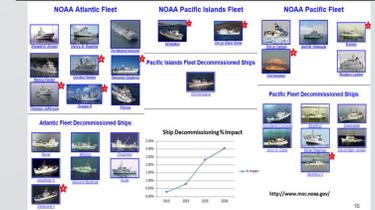
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Way Forward

- Complete the second National Earth Observation Assessment
- Final assessment will include:
 - ✓ A snapshot of the current national observing system portfolio
 - ✓ A baseline assessment of the current portfolio, tiered by relative criticality, for individual Societal Benefit Areas (SBA) and an overall integrated assessment
 - ✓ A recommended portfolio (current, planned, and new capabilities required), tiered by relative criticality, for individual SBAs and the overall government
- Improve Investment Decision Support for NOAA and Federal Observing System Architecture
- Develop Multi-Period Impact Analysis Analytic Capability
- Improve Portfolio Budget Analysis (Efficient Frontier)



Improved Decision Support



Federal Observing System Enterprise Architecture

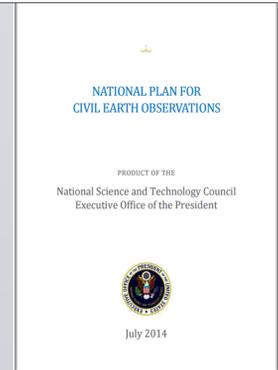
• In October 2010, Congress charged the Director of the Office of Science and Technology Policy (OSTP) with establishing a mechanism for addressing this challenge through the production and routine update of a strategic plan for Earth observations. In response, OSTP convened a National Earth Observations Task Force (NEOTF) in February 2011, which produced the National Strategy for Civil Earth Observations in April 2013. The NEOTF also conducted the first assessment of the Federal Earth observations enterprise. The resulting Earth-Observation Assessment (EOA) considered the impact of observing systems on distinct Societal Benefit Areas.

• National Plan is a key outcome of interagency coordination in support of the National Strategy. Based in large part on the results of a government-wide assessment of the Nation's Earth observations portfolio, the Plan establishes priorities and supporting actions for advancing our civil Earth observations capabilities. Its publication marks an important step in our ability to understand, prioritize, and coordinate Federal Earth observations and to better inform our investments in civil Earth observation systems.

• First Earth Observation Assessment (EOA 2012) Provided:

- Snapshot of the portfolio of observing systems relied upon by Federal agencies to meet key Earth observing objectives
- A cross-cutting and integrated look at all types of observing capabilities
- Evaluated the impact of distinct observing systems in delivering societal benefit
- Resulting Assessment Report:
 - Evaluated 362 observing systems and surveys
 - Designated 145 as "high impact"
 - Outcomes provided as annex to the National Plan

National Plan for Civil Earth Observations (July 2014)



EOA Societal Benefit Areas

- Agriculture & Forestry
- Biodiversity
- Climate
- Disasters
- Ecosystems (Terrestrial & Freshwater)
- Energy & Mineral Resources
- Human Health
- Ocean & Coastal Resources & Ecosystems
- Space Weather
- Transportation
- Water Resources
- Weather
- Reference Measurements

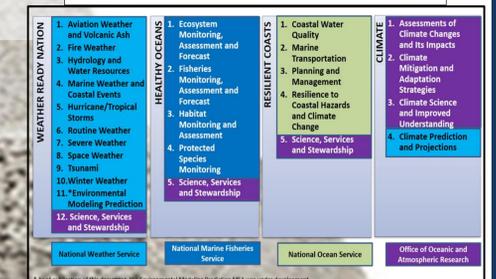
NOAA Foundational Contributions

NOSIA Methodology and Value Tree Framework:

The NOSIA-II Value Tree is a hierarchical model containing top-level NOAA Goals, associated 26 Mission Service Areas (MSA), and respective functionally aligned products and services. The concept of establishing a Value Tree for supporting complex value assessments is based on Decision Analysis Theory (Keeney 1992). Keeney describes the Value Tree as a logic process which documents the strength of relationships between fundamental objectives underpinned by a hierarchy of intermediate "means" objectives and their data sources. Trades within "means" objectives and their data sources provide the basis for value-focused thinking to solve problems.

The top of the NOSIA-II Value Tree is based on NOAA's Next Generation Strategic Plan (NGSP), which defines NOAA's long-term mission Goals and Objectives (NGSP 2010). Within the NOSIA-II Value Tree, Mission Service Areas are structured after NGSP Objectives. The Value Tree represents NOAA's functional service architecture, where NOAA Line Offices directly or indirectly contribute to the Goals and MSAs as a matrix organization. Each Mission Service Area is managed by a Line Office portfolio manager, who identifies products and organizational priorities within the MSA. Figure A provides the functional and organizational alignment within the Value Tree.

NOAA Mission Service Areas



Earth Observation Requirements Evaluation System (EORES)

A collaborative effort between the National Oceanic and Atmospheric Administration (NOAA) and United States Geological Survey (USGS). The joint NOAA/USGS team is developing EORES as Observing Systems Architecture and earth observing requirements & analysis. NOAA's version of EORES is hosted by NOAA/National Environmental Satellite, Data, and Information Service (NESDIS). The EORES Application is a web enabled tool suite that captures requirements and capabilities to perform analyses of user requirements and observation capabilities.



2016

2015

2014

2013

2012

2011

2010