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Rec #	**Year (FY)**	**Recommendation**	**Implementation Date (if applicable)**
72	2023	Climate: NOAA should develop a national integrated coastal climate capability with IOOS as the national leader to collect-collate-synthesize continental shelf data.	Partially implemented, 2023
71	2023	Climate: NOAA should fund recapitalization and modernization of existing infrastructure and fill existing gaps in the current ocean observing network.	Partially implemented, 2023
70	2023	Climate: NOAA should expand coastal observations and support regional-scale models that collectively can be used to monitor trends, detect changes, provide forecasts, and deliver tailored information products to users for improving coastal resilience.	Partially implemented, 2023
69	2023	Climate: NOAA should invest in technological innovation for new types of observing tools, sensors, and delivery mechanisms to improve coastal observations and regional scale models, reduce costs and improve the understanding, delivery, and communication of information.	Implemented, 2023
68	2023	Climate: NOAA should expand regional data integration services to better integrate IOOS with other coastal and global climate programs and to better provide products and services for communities.	Partially implemented, 2023
67	2023	Climate: NOAA should increase engagement with historically underrepresented communities that are often disproportionately affected by climate impacts and take action to co-producing observation systems and tailored products to ensure all have access to the information and tools needed to fully prepare for and respond to coastal change.	Partially implemented, 2023
66	2023	DEIA: The IOOS Program Office, working with the IOOS Association, the RAs, the IOOC and others (e.g. NOS) should develop common DEIA vision and mission statements for the IOOS enterprise.	Implemented, 2023
65	2023	DEIA: NOAA should expand support for and/or develop new programs for DEIA activities within NOAA, leveraging the broader IOOS community.	Partially implemented, 2023
64	2023	DEIA: NOAA and the IOOC should develop and execute strategies in DEIA activities that will strengthen the IOOS Program, IOOC observing community, and the new blue economy.	Not yet implemented, 2023
63	2023	DEIA: NOAA should gather knowledge and enhance access to information to increase diversity, equity, inclusivity, and accessibility in coastal ocean communities and programs.	Partially implemented, 2023
62	2023	DEIA: NOAA should ensure coordination of DEIA activities across NOAA and the broader IOOC community.	Partially implemented, 2023
61	2023	New Blue Economy: NOAA should invest in technology advancement by leveraging the IOOS network of government agencies, academia, and industry.	Implemented, 2023
60	2023	New Blue Economy: NOAA should review and evaluate the current Data Management & Cyberinfrastructure (DMAC) structure to meet the exponential growth in data being created from sensors, models, analysis, and AI.	Partially implemented, 2023
59	2023	New Blue Economy: NOAA should review and evaluate the data buy agreements currently in place for the ocean domain.	Partially implemented, 2023
58	2023	New Blue Economy: IOOS should evaluate its role in coordination of data collection and data management for the Offshore Wind sector.	Partially implemented, 2023
57	2023	New Blue Economy: NOAA should promote IOOS to support STEM education in ocean sciences.	Partially implemented, 2023
56	2022	The IOOS Advisory Committee recommends that the IOOC support the coastal climate signal workshop proposal submitted to US CLIVAR.	Implemented
55	2022	The Federal Advisory Committee (FAC) for the Integrated Ocean Observing System (IOOS) strongly recommends infrastructure funding for IOOS be included in NOAA's spend plan for ocean observing system sections within the Infrastructure Investment and Jobs Act (PL 117-XX).	Implemented
54	2021	Maintain and increase IOOS observing infrastructure and measurements and ensure they capture the coastal climate signal and its impact through sustained observations and models.	Implemented, 2022
53	2021	Advance linkages between regional near-shore and global ocean models and enhance integration with NOAA's Unified Forecast System.	Partially implemented, 2023
52	2021	Continue to undertake economic valuation processes of observing systems to better quantify benefits and enhance messaging for sustained observations.	Implemented, 2022
51	2021	Ensure use of 11 federally certified regional data centers to implement advanced data tools and further data aggregation.	Implemented, 2021

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50	2021	Identify ways that NOAA can use technological innovations to address the needs of coastal and oceanographic communities and stakeholders, including for outreach and education purposes.	Implemented, 2021
49	2021	Leverage diverse STEM expertise to enhance future workforce.	Implemented, 2021
48	2021	Maintain/Build on existing partnership models	Implemented, 2022
47	2021	Use partnerships to accelerate innovation and inclusivity	Implemented, 2022
46	2021	Analyze NOAA initiatives with established partnership models to ensure alignment with IOOS effort.	Implemented, 2022
45	2021	Expand engagement with private industries and other entities to rapidly establish partnerships to augment aging ocean observing infrastructure.	Implemented, 2022
44	2021	Pursue leveraged support from other agencies and private sources through the National Ocean Partnership Program.	Implemented, 2021
43	2021	Collaborate with NOAA Big Data Project, and other relevant entities, regarding IOOS contributions to ecological forecasting and regional ocean forecasting efforts.	Implemented, 2021
42	2021	Expand the participation at all levels of BIPOC and underserved and underrepresented communities, including co-production of knowledge and incorporation of local and traditional Indigenous knowledge.	Partially Implemented, 2023
41	2021	The U.S. IOOS Office should adopt a requirements management system that begins with higher-level objectives (e.g. “IOOS observations will lead to a XX% improvement in hurricane intensity forecasts over the next X years”)	Implemented, 2022
40	2021	NOAA Leadership should develop a coherent description of the many ocean observing programs within its Line Offices, including associated budgets in a cross-Line Office roll-up	Partially Implemented, 2023
39	2021	U.S. IOOS Office should develop an annual investment strategy based on a traceable requirements management process	Partially Implemented, 2023
38	2021	NOAA Leadership should position IOOS as the oceanographic operational integrator at NOAA	Partially Implemented, 2023
37	2021	IOOS Office should create an unfunded requirements list based on a gap analysis	Implemented, 2022
36	2021	IOOS Enterprise should develop an Observing System Recapitalization Plan to include maintenance, operations, sustainability, and modernization of the observing system	Partially Implemented, 2023
35	2021	NOAA should set up PAC budget lines for IOOS, for infrastructure refreshes and equipment servicing as part of a larger plan to fully fund present and future known and emerging infrastructure needs	Not Yet Implemented, 2023
34	2021	IOOS should, where possible without a federal budget cross-cut, assess requirements in the context of the total federal investments	Not Yet Implemented, 2023
33	2021	The IOOC should conduct the federal budget cross-cut mandated in both the ICOOS Act of 2009 and the Coordinated Ocean Observation and Research Act (COORA) of 2020, and ensure their membership has the expertise, resources, and influence in their agencies to accomplish this task.	Not Yet Implemented, 2023
32	2021	Consider new task teams to address critical U.S. government-wide priorities such as communications and messaging, ocean climate modeling, and environmental justice (underserved users).	Partially Implemented, 2023
31	2021	Generate a list of the IOOC’s top ten accomplishments of the past decade, in order to provide context to the impacts of that committee on the federal ocean observing enterprise.	Implemented, 2022
30	2021	Align outcomes of OceanObs’19 and Ocean Studies Board workshops focused on sustaining ocean observations with emerging priorities, programs, and concepts linked to the UN Decade for Ocean Science and Sustainable Development goals.	Implemented, 2022
29	2021	Manage a crosswalk of the status of all essential ocean, biology, climate, and other relevant variables; and suggest best practices or standards to best integrate the data from a local-to-global scale.	Implemented, 2023
28	2018	We recommend that the U.S. IOOS Office be positioned at a level within NOAA that will enable more senior recognition during marketing and communication with partner agencies.	Implemented, 2020

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27	2018	We note there are challenges to the integration of ocean observing systems. Increased support from the IOOC would be advantageous to resolving this concern.	n/a
26	2018	An easy “win” will be to highlight and celebrate the upcoming 20 year anniversary of IOOS in 2019.	Implemented, 2019
25	2018	Identify relevant data sets suitable for management and analysis by these techniques.	Implemented, 2019
24	2018	Support the existing cross-NOAA “big data” initiatives and encourage continued direct engagement of IOOS in these efforts.	Implemented, 2019
23	2018	Strive to develop and maintain connectivity to the private sector in this field to ensure currency of technology best practices and identify innovation opportunities.	Implemented, 2019
22	2018	Enhance IOOS Data Management and Communications (DMAC) using the “big data” topic to evaluate and advance new DMAC methods and practitioners.	Implemented, 2019
21	2018	In order to guide focused, effective, market-driven growth of IOOS, the AC suggests that methods for marketing of IOOS be embraced formally through structured methodology with marketing industry experts.	Partially implemented, 2021
20	2018	We recommend IOOS foster frequent and regular consultation among these three segments [government, academic, and commercial] to make complementary use of both public and private funding.	Implemented, 2019
19	2016	Increase funding from $36.2M to $44M annually.	Implemented, 2020
18	2016	Support appropriation of funds for high priority ocean observation infrastructure needs.	Implemented, 2021
17	2016	Increase the OTT budget from $5M to $10M annually, and identify other opportunities for NOAA and the IOOC to invest in tech development and transfer in collaboration with provate sector partners.	Not yet implemented
16	2016	Support reauthorization of the ICOOS Act of 2009.	Implemented, 2020
15	2016	Support Interagency ocean observations efforts and the IOOC.	Implemented, 2016
14	2016	Make a stronger IOOS available to communities, local governments, industry and institutions to support the resilience decision-making	Implemented, 2016
13	2016	Focus the attention of the nation of the role that IOOS plays in enhancing resilience, and on the fact that IOOS has been a trusted and essential source of ocean, Great Lakes and coastal information.	Implemented, 2016
12	2016	Improve the visibility of IOOS within NOAA, and with federal agency Interagency Ocean Observation Committee (IOOC) partners, as an essential, valuable tool in the race to acquire the information and data for shaping a resilient and sustainable future for our country.	Implemented, 2016
11	2016	Provide IOOS the funding and administrative support needed to maintain and expand its resilience efforts.	Implemented, 2018
10	2015	The NOAA Administrator, in collaboration with the IOOC, should clearly define how IOOS can effectively lead across agencies and how those agencies can be counted upon to support the IOOS vision.	Implemented, 2015
9	2015	The IOOS Office should be elevated within NOAA to a Program Office, as per the ICOOS Act of 2009.	Implemented, 2121
8	2015	IOOS “touch-points” should be identified to connect the complex organizations that make up IOOS to the IOOS Program Office and IOOC member agencies.	Implemented, 2015
7	2015	The IOOS Program Office, the IOOC, and the NOAA Administrator should communicate all actions to the regional associations and thus to all IOOS enterprise stakeholders.	Implemented, 2015
6	2015	The NOAA Administrator and IOOC should seek to celebrate IOOS success internally and externally. The IOOS enterprise touches a vast network of individuals and organizations in much the same way a championship team positively impacts a high school or college community.	Implemented, 2015
5	2015	In support of the marketing and communications Guiding Principles, which are focused on engagement, embracing new approaches, and evaluation for success, outreach should include a continuum stretching from applied research to product use, with an active customer-driven focus.	Implemented, 2015

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4	2015	In support of the planning and operations Guiding Principles, which emphasize efficiency in execution and enhancement of the IOOS office, the following suggestions are offered: Consistent focus on strategic planning, designed resilience, and flexibility at all levels with continued review. Requirements for coordination with national and international integrating systems, for example, the National Response Framework, NOAA Data Integration Framework, Spatial Data and GIS interoperability standards, Metadata Standards and other key existing (and future) standards. Flexible planning from maintenance to introduction of promising new technologies to take into account the changing constraints on the funding entities. Flexible cost savings mechanisms, such as a pool of deployable observational assets, e.g. portable weather stations, general spare parts and instruments for use in emergency situations such as hurricane or tsunami response. Flexible management to tie diverse, operational parts together to enable federal and non-federal partners to retain or increase their funding based on collaboration with the national IOOS endeavor. Flexible management to integrate federal, regional, private, and public data, products, and services. Review of IOOS assets for ranking by quality of data incoming and new methodologies for how to handle these types of information.	Implemented, 2015
3	2013	Empower IOOS to promote the growth and development of the enterprise, products and services, not simply to manage a system.	Implemented, 2014
2	2013	Encourage increased interagency governmental and non-governmental activity and trusted involvement in the enterprise.	Implemented, 2014
1	2013	Expect excellence and participation from collaborators and stakeholders to ensure maximum value and return on investment.	Implemented, 2014