UNITED STATES DEPARTMENT OF COMMERCE
The Under Secretary of Commerce
for Oceans and Atmosphere
Washington, D.C. 20230

NOAA FORM 58-5 (4-04)

	National Oceanic and Atmospheric Administration	NOAA Administrative Order 216-127	
	NOAA ADMINISTRATIVE ORDER SERIES	DATE OF ISSUANCE 05/01/2024	EFFECTIVE DATE 05/01/2024
	PROVIDING FOR A CLIMATE-READY NATION		

SECTION 1. PURPOSE.

.01 The National Oceanic and Atmospheric Administration (NOAA) is a world leader in climate services.[1] As part of its mission, NOAA maintains robust, high-quality climate services that aid decision-makers by making available actionable knowledge and information in a timely manner. This NOAA Administrative Order (NAO) establishes the structure required to align NOAA's capabilities across each of its mission areas in order to effectively deliver climate services to the Nation. This Policy does not expand or supersede NOAA's authorities or mission.

.02 This Order enacts NOAA's role in the Department of Commerce Administrative Order (DAO) 216-22, under which: "The National Oceanic and Atmospheric Administration (NOAA) will implement a formal process to oversee, coordinate, and strengthen the work across NOAA offices whose missions include climate; maintain an inventory of its climate-related work; and conduct listening sessions with external stakeholders on their use of NOAA's climate data, tools, observations, assets, and services. Based on those inputs, NOAA will pursue opportunities to improve its climate data, tools, observations, assets, and services and advance coastal resilience and ocean-based climate solutions."

.03 The coordinated efforts described in this Order support NOAA's Climate-Ready Nation (CRN) Initiative, which envisions a thriving Nation whose prosperity, health, security, and continued growth benefit from and depend upon a shared understanding of, and collective action to reduce, the impacts of climate change.

.04 This NAO further advances NOAA's function as a science-based, operational climate services agency, whereby NOAA maintains a robust, high-quality climate services enterprise that continually improves NOAA's products and services in response to:

[1] A definition of NOAA's climate services is found in section 3 of this NAO.

a. Increasing societal demand for new and improved climate services to address decision support priorities and needs;
b. Changes in NOAA's mission needs in response to climate variability and change and evolving environmental conditions;
c. Directives from the Executive, Legislative, and Judicial branches of the Federal Government;
d. Advancing understanding of the dynamic Earth system, its ecosystems and interactions with the complex human systems;
e. Innovations in Research and Development (R&D) methods, technologies, tools and approaches; and
f. Equitable Climate Services Action Plan.

.05 This Order encompasses the research and development, observations, data and information enterprises that continually improve NOAA's operational products and services as defined in NAO 216-115B (*Research and Development in NOAA*) and the successful transitioning application and use of R&D into operations, applications, commercialization, and other uses as defined in NAO 216-105B (*Policy on Research and Development Transitions*).

SECTION 2. SCOPE.

This NAO applies to all NOAA climate services activities, including activities conducted and/or funded by NOAA. It sets forth the framework for NOAA's climate services and outlines the responsibilities and authorities of relevant offices and personnel within the agency.

SECTION 3. DEFINITIONS.

.01 *Climate Services*: NOAA defines climate services as a continuum of capabilities from observations, modeling, and research to the co-development of timely, skillful, place-based knowledge and delivery of actionable data and technical assistance to help the Nation incorporate climate into decision-making on scales that impact operations across the public and private sectors. These services are designed to address weather, water and climate-related hazards (such as hurricanes, floods, drought, air pollution, extreme heat and cold, fire weather, tornadoes, winter storms, marine heat waves, and the complex, compound and cascading forms of these hazards), their intersections with social structures, and the diverse impacts that can unfold. Through provision of these services, NOAA aims to support equitable and inclusive decision-making and planning across all sectors of society, and enhance the capacity of government agencies, tribal entities, businesses, communities, and individuals in managing risks, enhancing resilience, and adapting to and mitigating the impacts of climate variability and change. NOAA climate services are also designed to inform the mitigation of future climate change.

.02 *Operational Climate Services*: NOAA defines operational climate services as sustained, systematic, reliable, and robust climate activities with an institutional commitment to deliver specified products and support to various stakeholders, such as

policymakers, planners, businesses, and the general public. The primary goal of operational climate services is to translate scientific knowledge and data into actionable information on relevant timescales to support decision-making and help stakeholders in understanding and adapting to the impacts of climate variability and change. Examples of operational climate services in NOAA include climate forecast models run on a routine basis to provide seasonal outlooks, stock assessments conducted to determine changes in the abundance of fishery stocks, coupled social and physical risk and hazard maps for vulnerability assessments and resilience planning, and sustained observations for public services and for Earth-System research in the public interest. These services include: the growth and maintenance of trusted relationships; continuous engagement between communities, decision-makers, and scientists to identify needs; co-production of activities and/or collaboration to respond to needs; coordination across the agency and with others to address those needs; and evaluating the delivery of products and services that meet the needs and lead to service delivery improvements.

.03 NOAA's climate services inventory provides a compendium of existing services and is organized to demonstrate NOAA's capabilities across its spectrum of expertise (see figure below).

SECTION 4. POLICY.

.01 This NAO establishes NOAA's CRN structure for services through a series of steps that are divided into four main components (Figure 1):

- **a. Collect** observations, socio-economic data, and information from a broad range of resources;
- **b. Develop** usable data sets, products and applications, co-produce and co-manage tools and information;
- **c. Deliver** extensive services and technical assistance, training, and capacity building; and
- **d. Support** risk assessment and decision-making across all sectors of society.

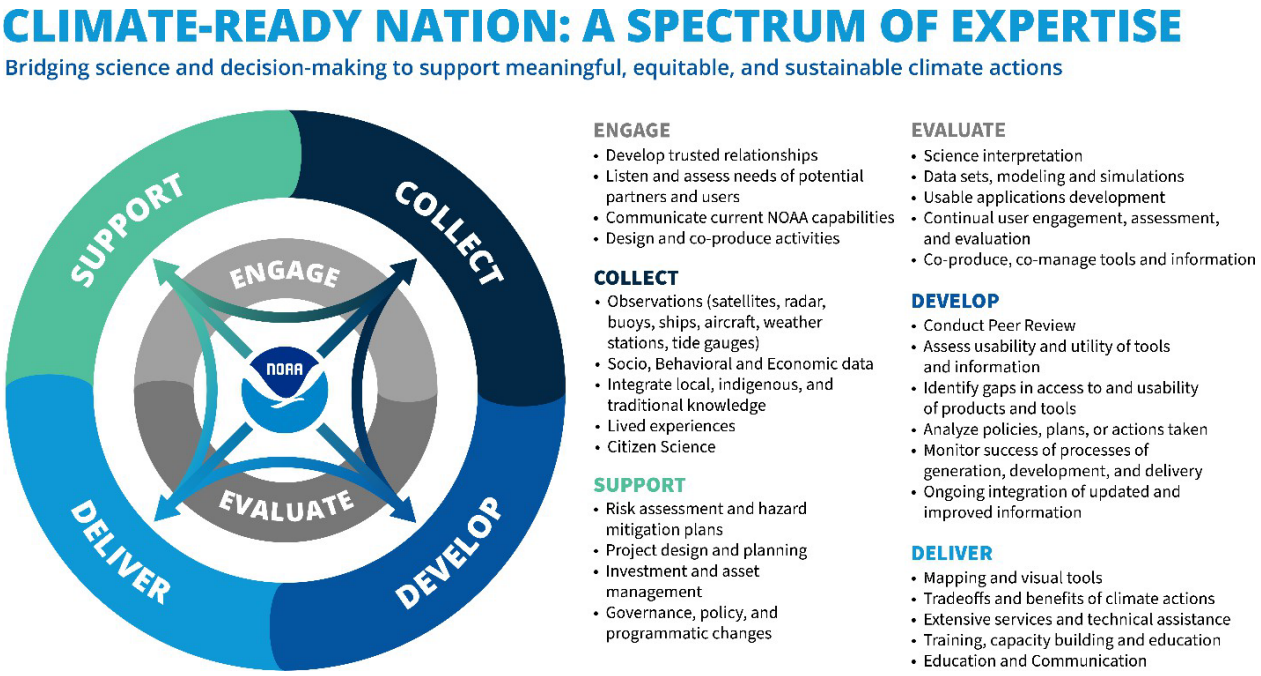

Figure 1. A Continuum of Expertise to Deliver Effective Climate Decision Support

This structure emphasizes the importance of scientific information and products built with data and other ways of knowing, but also the importance of continuous engagement with partners and end users (**Engage**) to ensure the relevance of products and develop trust between NOAA and non-NOAA entities. Additionally, regular assessment and evaluation (**Evaluate**) of both processes and products will ensure that communities not only have access to the information they need in forms they can use it, but that they also have the support necessary to put it into practice. Through these iterative processes, built on understanding and collaboration, NOAA can provide and co-produce tailored tools necessary to help make informed decisions that will allow the Nation to prepare, respond, become resilient to climate change, and mitigate future change. This initiative recognizes that this process is dynamic and draws on a wide range of capabilities that exist across all of NOAA (see NOAA Inventory of Climate Services).

CRN will also provide a venue for highlighting areas needing cross-cutting climate services by identifying gaps, challenges and opportunities associated with climate services in each LOs and to seek areas of cross-LO collaboration in the following key activities:

a. Service delivery and decision support tools;
b. Co-development and engagement;
c. Modeling, prediction, and projection;
d. Research and development;
e. Data and information stewardship;
f. Observational infrastructure; and
g. Evaluation.

.02 This NAO establishes that NOAA will coordinate its efforts to improve and make accessible its climate services and provide scalable and tailored information in key mission areas, including:

a. Drought;
b. Heat;
c. Wildfire;
d. Flood;
e. Coasts;
f. Marine resources; and
g. Mitigation.

.03 The CRN Initiative will encourage strong, diverse, and equitable partnerships and collaborations across stakeholders, including government agencies, businesses, non-governmental organizations, communities, and key international partners to help NOAA exchange knowledge and its applications; identify climate information needs, service requirements, and decision contexts related to NOAA's mission; co-develop and deliver equitable services and solutions (engagement and service delivery); and address mutual expectations and agreements. Partnerships are essential in order to build trust and understanding of NOAA's climate services while providing input to further evolve those services.

SECTION 5. RESPONSIBILITIES.

.01 The NOAA Climate Council (NCC) is responsible for developing and maintaining the content of this NAO, recommended to the Under Secretary. The NCC is also responsible for ensuring the coordinated and strategic implementation of climate services within NOAA and having the expertise to answer questions regarding this NAO's provisions or subject matter.

.02 The Earth Systems Integration Board (ESIB) is responsible for coordinating and implementing NOAA's integrated climate services while ensuring equitable service delivery for the public good.

.03 Programs and activities residing across NOAA have primary responsibility for implementation of specific elements of the continuum of expertise, in keeping with their line and staff office mandates.

SECTION 6. REFERENCES.

.01 The National Climate Program Act of 1978 (Public Law 95-367), 15 U.S.C. §§ 2901-2908, which specifically directs the Secretary of Commerce to establish a program office to provide climate services that includes*, inter alia*, the establishment of "mechanisms for intergovernmental climate-related studies and services, including participation by

universities, the private sector and others concerned with applied research and advisory services."

.02 1990: Global Change Research Act, 15 U.S.C. §§ 2921-2961. https://uscode.house.gov/view.xhtml?path=/prelim@title15/chapter56A&edition=prelim

.03 2006: National Integrated Drought Information System (NIDIS) Act. P.L. 109-430. Public Law, Reauthorization Act of 2018, P.L. 115-423, 15 U.S.C. § 313d. https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title15-section313d&num=0&edition=prelim

.04 2007: America Competes Act. P.L. 110-69 www.congress.gov/110/plaws/publ69/PLAW-110publ69.pdf

.05 2011: P.L. 111-358. https://uscode.house.gov/statviewer.htm?volume=124&page=4048

.06 NOAA Administrative Order (NAO) 216-105B: Policy on Research and Development Transitions, effective December 2016. www.noaa.gov/organization/administration/nao-216-105b-policy-on-research-and-development-transitions

.07 2017: Weather Research and Forecasting Innovation Act of 2017, 15 U.S.C. § 8501. https://uscode.house.gov/view.xhtml?path=/prelim@title15/chapter111&edition=prelim

.08 NOAA Service Delivery Framework, August 2020. www.noaa.gov/sites/default/files/2022-02/A-Model-of-Service-Delivery-for-the-NOAA-Water-Initiative_FINAL.pdf

.09 NOAA Administrative Order (NAO) 202-735D-2: Scientific Integrity. Effective January 19, 2021. www.noaa.gov/organization/administration/nao-202-735d-2-scientific-integrity#

.10 NOAA Science Advisory Board (SAB), 2023: Current Charter for NOAA's Science Advisory Board, filing date June 2023. https://sab.noaa.gov/index.php/charter/

.11 NOAA Climate Council Charter, July 2021.

.12 2021: Infrastructure Investment and Jobs Act (or Bipartisan Infrastructure Law). P.L. 117-58. www.congress.gov/bill/117th-congress/house-bill/3684/text

.13 Department of Commerce Administrative Order (DAO) 216-22: Addressing the Climate Crisis, effective April 19, 2022. https://osec.doc.gov/opog/dmp/daos/dao216_22.html

.14 NOAA Administrative Order (NAO) 216-115B: Research and Development in NOAA, effective June 07, 2022. www.noaa.gov/organization/administration/nao-216-115b-research-and-development-in-noaa

.15 NOAA FY22-26 Strategic Plan: Building a Climate Ready Nation, June 24, 2022. www.noaa.gov/organization/budget-finance-performance/value-to-society/noaa-fy22-26-strategic-plan

.16 2022: Inflation Reduction Act. P.L. § 40001-40006. www.congress.gov/bill/117th-congress/house-bill/5376/text

.17 NOAA Weather, Water and Climate Strategy FY2023-FY2027, September 2022. www.noaa.gov/sites/default/files/2022-12/NOAA-FY23-27-Weather-Water-and-Climate-Strategy-12092022.pdf

.18 Earth Systems Integration Board (ESIB), 2022: Terms of Reference, filing date October 10, 2022.

.19 2022: Flood Level Observation, Operations, and Decision Support (FLOODS) Act. https://uscode.house.gov/view.xhtml?path=/prelim@title15/chapter121&edition=prelim

SECTION 7. EFFECT ON OTHER ISSUANCES.

None.

Under Secretary of Commerce
for Oceans and Atmosphere
and NOAA Administrator

Offices of Primary Interest:

- NOAA Oceanic and Atmospheric Research – Climate Program Office