



DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration (NOAA)

Public Comment for the Four Draft NOAA Science and Technology Strategies: NOAA Unmanned Systems, Artificial Intelligence, 'Omics, and Cloud Strategies.

AGENCY: National Oceanic and Atmospheric Administration (NOAA), Department of Commerce (DOC).

ACTION: Notice of public comment.

SUMMARY: This notice announces the availability for public comment of the NOAA *Unmanned Systems, Artificial Intelligence, 'Omics, and Cloud draft strategies*. These strategies are intended to dramatically expand our application of these four emerging science and technology focus areas by improving the efficiency, effectiveness and coordination of their development and usage across the agency.

DATES: Comments must be received by [insert date 30 days after the date of publication in the FEDERAL REGISTER].

ADDRESSES: Copies of the draft strategies may be downloaded or viewed on the internet at <https://nrc.noaa.gov/NOAA-Science-Technology-Focus-Areas>. The documents are also available by sending a written request to the point of contact identified below (see FOR FURTHER INFORMATION). You

may submit public comments via email to oar.rc.execsec@noaa.gov. Please include "Public Comment on NOAA Draft Science and Technology Strategies" in the subject line of the message. You may also submit public comments via mail to Emma Kelley, Office of Labs and Cooperative Institutes, NOAA Research, 1315 East-West Highway, Silver Spring, MD 20910. All comments received are part of the public record. All personal identifying information (e.g., name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender is publicly accessible. NOAA will accept anonymous comments.

FOR FURTHER INFORMATION CONTACT: Emma Kelley, Research Council Executive Secretariat, Office of Labs and Cooperative Institutes, NOAA Research, Rm. 11319, 1315 East-West Highway, Silver Spring, Maryland 20910. (Phone: 301-734-1179, Email: emma.kelley@noaa.gov).

SUPPLEMENTARY INFORMATION: In recent years, individual NOAA programs and its multisector partners have worked to advance successful *unmanned systems, artificial intelligence, 'omics, and cloud solutions* that improve the delivery of their respective missions.

The draft strategies NOAA developed for each of these

science and technology focus areas directly follow guidance from the Administration and Congress, including the Office of Science and Technology Policy FY21 Research and Development Priorities letter, the National Science and Technology Council report "Science and Technology for America's Oceans: a Decadal Vision", the Executive Order on Maintaining American Leadership in Artificial Intelligence, the Weather Research and Forecasting Innovation Act, and the Commercial Engagement Through Ocean Technology (CENOTE) Act.

The draft strategies will ensure robust agency-wide coordination and strong institutional support from NOAA senior leadership for these emerging science and technology focus areas to guide transformational advances in the quality and efficiency of NOAA's science, products, and services.

Summary of the Four Draft Strategies

Unmanned Systems Strategy: In recognition of the opportunities unmanned systems presents for addressing NOAA's mission priorities, the *NOAA Unmanned Systems Strategy* provides a framework to: (1) efficiently provide requirements-driven, safe, cost-effective, and compliant Unmanned Systems services across the agency; (2) prioritize

strategic investments in Unmanned Systems applications and technologies that fuel innovation and strengthen operations, and (3) accelerate and enhance capabilities through partnerships.

Artificial Intelligence Strategy: The overarching goal of the *NOAA Artificial Intelligence (AI) Strategy* is to utilize AI to advance NOAA's requirements-driven mission priorities. Through this strategy, NOAA seeks to reduce the cost of data processing, and provide higher quality and more timely scientific products and services for societal benefits.

'Omics Strategy: In recognition of the opportunities and challenges presented by the advent of 'omics tools (a suite of advanced methods used to analyze material such as DNA, RNA, or proteins), the *NOAA 'Omics Strategy* provides a framework to advance the application of 'omics to address mission priorities. The strategy leverages NOAA's current organizational structure to more effectively implement 'omics through improvements in computational and analytical capacities, targeted research, technology transition, workforce proficiency, and partnerships across NOAA's lines, federal agencies, and extramural research and commercial communities.

Cloud Strategy: NOAA's robust experience with cloud applications are already beginning to demonstrate significant improvements in performance and skill in areas such as satellite data products and services, numerical weather prediction, ocean models, and big data analysis, storage and dissemination. Cloud services will be further leveraged to expand benefits, such as: (1) accelerated timeline to acquire new computing resources, (2) increased security posture, (3) more accessible and monetizable NOAA data to customers, such as academia and industry, (4) reduced transition time from research to operations, (5) scalable infrastructure that supports scientific and high performance computing requirements, and (6) a more agile and innovative culture.

After completion of these strategies, NOAA will develop corresponding Strategic Implementation Plans (or "Roadmaps") that define detailed action items, deadlines, and responsibilities. In the meantime, these NOAA S&T focus areas are already improving performance in our economically impactful missions and setting the course to strengthen our renowned environmental science and technology leadership for the coming decades. Through the four strategies, NOAA will be better positioned to achieve our top agency

priorities to regain global leadership in numerical weather prediction and sustainably expand the American Blue Economy.

Dated: November 8, 2019.

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