

MEMORANDUM OF UNDERSTANDING BETWEEN THE
U.S. ARMY CORPS OF ENGINEERS
OF THE
U.S. DEPARTMENT OF THE ARMY
THE
U.S. GEOLOGICAL SURVEY, BUREAU OF RECLAMATION, AND U.S. FISH AND WILDLIFE
SERVICE
OF THE
U.S. DEPARTMENT OF THE INTERIOR
THE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OF THE
U.S. DEPARTMENT OF COMMERCE
THE
FEDERAL EMERGENCY MANAGEMENT AGENCY
OF THE
U.S. DEPARTMENT OF HOMELAND SECURITY
THE
U.S. ENVIRONMENTAL PROTECTION AGENCY
THE
U.S. DEPARTMENT OF AGRICULTURE
AND THE
U.S. DEPARTMENT OF ENERGY

Collaboration to Support Integrated Water Resources Science, Information, and Services

Article I. Background.

Federal agencies are engaged actively in water resources services, planning, development, operations, management and information gathering, analysis and communications. For the purposes of this document, water resources is inclusive of water supply, water quantity and quality, hydrologic extremes and risks to ecosystems, infrastructure, people, and property. 21st Century services necessitate coordinated understanding of hydrology and hydraulic phenomena, as well as their geospatial relationships across critical elements of the landscape, through time from hours to decades. The U.S. Army Corps of Engineers (hereinafter referred to as USACE) of the U.S. Department of the Army, the U.S. Geological Survey of the U.S. Department of the Interior (hereinafter referred to as USGS), the Bureau of Reclamation (hereinafter referred to as USBOR), the U.S. Fish and Wildlife Service (hereinafter referred to as USFWS) of the U.S. Department of the Interior, the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce (hereinafter referred to as NOAA), and the Federal Emergency Management Agency of the Department of Homeland Security (hereinafter referred to as FEMA), the Office of Water of the U.S. Environmental Protection Agency (hereinafter referred to as EPA-OW), the Natural Resources Conservation Service of the U.S. Department of Agriculture (hereinafter referred to as NRCS), and the Office of Energy Efficiency and Renewable Energy of the U.S. Department of Energy (hereinafter referred to as EERE), together referred to as the Parties, have related and complementary responsibilities in a number of program areas. It is in the national interest that such Federal programs be closely coordinated and mutually supportive to meet the growing demand for water resources data, information, assessment,

and services efficiently and effectively.

The mission of the USACE is to provide vital public engineering services in peace and war to strengthen our Nation's security, energize the economy, and reduce risks from disasters. These engineering services include water resource planning, development and management activities involving flood risk management, navigation, ecosystem restoration, emergency preparedness and response, multi-purpose water resources, infrastructure, and environmental stewardship.

The mission of the USGS is to provide the Nation with reliable, impartial information to describe and understand the Earth. This information is used to minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; enhance and protect the quality of life; and contribute to wise economic and physical development.

The mission of the USBOR is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

The mission of the USFWS is to work with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people.

The mission of NOAA is to understand and predict changes in the Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs. Critical elements of this mission include monitoring and analyzing our water resources and issuing predictions and warnings for all hydroclimatic conditions from floods to droughts.

The mission of FEMA is to help people before, during, and after disasters. Through the implementation of the National Flood Insurance Program (NFIP) and Stafford Act authorities, FEMA supports flood risk management, emergency preparedness and response, and mitigation to achieve long-term risk reduction and resilience.

The mission of the Environmental Protection Agency is to protect human health and the environment. EPA-OW ensures drinking water is safe, and restores and maintains oceans, watersheds, and their aquatic ecosystems to protect human health; support economic and recreational activities; and provide healthy habitat for fish, plants, and wildlife.

The mission of the NRCS is to develop and deliver high quality technical and financial assistance that support good stewardship of the Nation's soil, water, and related natural resources on non-federal lands.

The mission of EERE is to support research and development (R&D) to advance affordable, reliable energy that enhances America's economic growth, energy security, and environmental performance. EERE is focused on R&D that helps drive down the costs of new technologies and drive innovation forward to realize a better energy future, including multidisciplinary, transformative R&D to address vitally linked water and energy challenges. These challenges cut across integration of hydropower resilience and community value; desalination of industrial, agricultural, produced, and mine water; treatment of municipal water/wastewater for resource and energy recovery; irrigation modernization to revitalize rural communities, solar thermal desalination, sustainable water infrastructure and others.

With complementary mission elements centered on water resources, the Parties agree with the widely held view that water resources are one of the most significant challenges facing societies and governments in the 21st Century. Decision makers in all sectors of water resources require new and more integrated information and services to adapt to uncertainty, climate and land-use changes, and increasing demand on limited resources. To meet this challenge, an innovative partnership of Federal agencies with complementary operational missions in water science, observation, prediction, assessment, management, and in the social sciences and risk management has been developed. This collaborative partnership, referred to as Integrated Water Resources Science, Information, and Services (IWRISIS), currently consists of the Parties; however, it may be expanded in the future to include other agencies as appropriate.

Article II. Purpose.

The purpose of this Memorandum of Understanding (MOU) is to document the commitment of the Parties and formalize this interagency partnership to: better coordinate water resources programs within current authorities; enhance interagency and stakeholder communications; increase the exchange and availability of releasable data and information; enhance collaboration on water resources mapping and modeling; and establish opportunities for joint projects, programs, facilities, and other collaborative science, services and tools to support integrative and adaptive water resources management. This MOU is designed to facilitate the ability of the Parties to work together to achieve mutual goals and leverage resources to 1) share to the extent permissible by law, national- and regional-scale water resources data and information, and 2) plan, develop, and implement an integrated water resources framework.

Article III. Scope.

This MOU serves as an umbrella agreement that sets forth the general terms and conditions under which the Parties will coordinate and cooperate in activities to improve water resource science and services. Cooperative activities in these fields may include, but are not limited to:

- Exchange and collaborative development of technical information, data, methodologies, models, tools and services;
- Coordination of research and development activities and joint studies of mutual interest;
- Collection, development, and curation of in-situ observational and geospatial datasets and services;
- Collaborative development of technology;
- Creation of joint educational opportunities and communications activities to advance the understanding of water resources science and services; and
- Exchange visits and work details of individuals sponsored by all Parties who are engaged in water resources projects of mutual interest.

Article IV. Responsibilities.

The Principals for this MOU are the Assistant Secretary of the Army (Civil Works); the Assistant Secretary for Water and Science, U.S. Department of the Interior; the Department of Commerce Under Secretary for Oceans and Atmosphere, U.S. Department of Commerce; the Deputy Administrator for the Federal Emergency Management Agency, the U.S. Department of Homeland Security; Assistant Administrator for the Office of Water, Environmental Protection Agency; the Undersecretary for Farm Production and Conservation, U.S. Department of Agriculture; and the Assistant Secretary for the Office

of Energy and Efficiency and Renewable Energy, U.S. Department of Energy.

The Parties agree to provide membership and participate in a governance structure for the MOU that includes:

- An Executive Oversight Council comprised of the Principals or their designees, meeting twice annually or as necessary to discuss water resources issues, programs, and priorities and common objectives and goals.
- A Governance Board comprised of up to two senior executives from water related programs or organizations within each of the Parties, meeting twice annually or as necessary to ensure the strategic planning and execution of IWRSIS goals and objectives. The Governance Board will designate a Chairperson and Vice-Chair, which will be periodically rotated among the Parties.
- Program Coordination Teams comprised of national or regional chiefs and program leads, operating at the direction of the governance board to achieve the objectives of this MOU.
- Technical Working Groups will be established as necessary and work under the guidance of the Program Coordination Teams.

Article V. Objectives.

Areas of mutual interest to be pursued within the context of this partnership will be developed, documented and implemented by the Parties through subsequent agreements, which address specific topics and projects for collaboration. Within this context and applicable authorities, the Parties agree to:

- Develop and implement collaborative and integrative capabilities to reduce risk, increase resilience, and support integrated and adaptive methods in water resources. The capabilities include:
 - Interoperable systems, seamless data exchange and synchronization, and enhanced geospatial information within a common operating picture.
 - Integrated delivery of federal water resource data and information, as appropriate.
 - Strict protection and related protocols for the exchange and management of data to ensure that appropriate protection, aggregation, and anonymization of data is ensured throughout.
 - Enhanced water resource information and capabilities including:
 - Data describing historical, real-time event-based, and future water resources conditions;
 - High resolution water resource physical process understanding and modeling;
 - Accurate real-time and long term flood hazard and flood risk data, model results, and maps;
 - Accurate high-resolution and integrated geospatial frameworks that underpin enhanced aquatic resource maps (including maps to depict the scope of waters regulated under the Federal Water Pollution Control Act Amendments of 1972) and decision support tools enabling networked modeling, and facilitating data discovery to improve the understanding of aquatic resources;
 - Actionable and timely post-event water resources data and information; and
 - Data and model applications and other software tools.
 - Evolution of the National Water Center to a collaborative center of excellence for

both water resources operations and the transitions of science and technology into operations.

- Coordinated development, operation, and evaluation of integrated water science test basins and community model test beds.
- Participate in joint stakeholder outreach, educational efforts and technical exchange activities;
- Cooperate in areas of mutual interest and share available data, information, and findings of mutual concern;
- Increase community awareness of water resources issues to reduce our Nation's flood hazard and flood risk, and increase resilience;
- Develop individual agreements between the Parties for specific work when mutually beneficial and agreeable;
- Provide regular updates as appropriate on program activities, technology application, development and related work pertaining to cooperative activities pursued under this MOU.
- Identify areas of information gaps, redundancies, conflicts, and opportunities for joint project planning, program alignment, and problem solving.

Article V. Financial Arrangements.

This MOU is neither a fiscal- nor a funds-obligation document, and no funds are being transferred hereunder. Any activities involving reimbursement or contribution of funds and services between the Parties of this MOU will be handled in accordance with applicable laws, regulations, and procedures. Such activities will be documented in separate agreements with specific projects and the funding authorities for and funding transfers between participating agencies spelled out. This MOU does not establish authority for noncompetitive award among the Parties for any contract or other agreement. Negotiation, execution, and administration of each such agreement must comply with all applicable statutes and regulations.

This MOU defines in general terms the basis upon which the Parties will cooperate and, as such, does not constitute a financial obligation to serve as a basis for expenditures. Expenditures of funds, human resources, equipment, supplies, facilities, training, public information, and expertise will be provided by each signatory agency to the extent that its participation is required and resources are available.

Any exchange of funds, property, or services will be supported by approved Interagency Agreements between the Principals or their designated representatives.

Updates on program activities, technology application, development, and related work pertaining to cooperative activities pursued under this MOU will occur through written correspondence, regular coordination meetings, and other mechanisms.

This MOU in no way restricts the Parties from participating, subject to applicable law, in similar activities or arrangements intended to enhance the objectives of this partnership with other public or private agencies, organizations, or individuals.

This MOU does not obligate the Parties to expend appropriations on any particular project or purpose or to enter into any agreements, contracts, or other obligations, even if funds are available.

Nothing in this MOU shall be construed to require any signatory herein to disclose any information, perform any act, or otherwise engage in any activity that it does not, in its sole discretion, consider appropriate for its particular agency.

Article VI. General Provisions

Effective date. This MOU will take effect upon the date of the last signature of the Parties.

Modification. This MOU may be amended including the inclusion of additional agencies and partners, at any time during the term by mutual written agreement of the Parties.

Transferability. This MOU is not transferable except with the written consent of the Parties.

Entire Understanding. It is expressly understood and agreed that this MOU embodies the entire understanding between the Parties regarding the MOU's subject matter.

Disputes. Any disputes relating to this MOU will, subject to any applicable law, Executive Order, directive, or instruction, be resolved through the governance structures detailed in Article IV.

Term and Early Withdrawal. This MOU will remain in effect for a period of five (5) years from the Effective Date. Any Party may terminate its participation in this MOU by providing written notice, which may be by electronic mail or other written means of communication, to the other Parties at least 90 calendar days in advance of the effective date of termination. This MOU will remain in full force and effect for the remaining Parties unless and until they provide their own written notice of early termination as herein provided. In its sole discretion, any Party may immediately terminate its participation in this MOU by providing written notice to the remaining Parties to this MOU. No explanation shall be required for any Party to terminate its participation under this MOU.

Renewal. This MOU may be renewed for successive five-year terms by mutual written consent of the Parties, subject to their respective clearance requirements.

Review. This MOU shall be reviewed annually by the Parties and, as necessary, modified by mutual written agreement by the Parties.

This MOU is not intended to, and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against the United States, its agencies, its officers, or any person.

Article VII. Authorities.

To the extent the Parties enter into implementing Interagency Agreements pursuant to Article IV, the Parties may rely upon the following authorities and any other that might be applicable.

The authorities of the USACE to enter into Interagency Agreements pursuant to this MOU include, *inter alia*:

- Chiefs of Branches; assignments; duties (10 U.S.C. § 3036); and

- Economy in Government Act (31 U.S.C. § 1535).

The authorities of the Assistant Secretary of the Army, Civil Works to enter into Interagency Agreements pursuant to this MOU included, *inter alia*:

- Assistant Secretaries of the Army (10 U.S.C. § 3016).

The authorities of the USGS to enter into Interagency Agreements pursuant to this MOU include, *inter alia*:

- 43 U.S.C. § 36c; and
- The USGS Organic Act of March 3, 1879, codified as amended (43 U.S.C. §§ 31 *et seq.*).

The authorities of NOAA to enter into Interagency Agreements pursuant to this MOU include, *inter alia*:

- 33 U.S.C. §§ 883a and 883e; and
- 15 U.S.C. § 313.

The authorities of the FEMA to enter into Interagency Agreements pursuant to this MOU include, *inter alia*:

- The Post-Katrina Emergency Management Reform Act of 2006, P. L. 109-295, as amended (6 U.S.C. § 314);
- The Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. § 5121 *et seq.*); and
- The National Flood Insurance Act of 1968, as amended (42 U.S.C. § 4 101(a)).

The authorities of EPA-OW to enter into Interagency Agreements pursuant to this MOU include, *inter alia*:

- Clean Water Act Sections 104(a), 104(b), and 304(k) (33 U.S.C. § 1251 *et seq.*); and
- Safe Drinking Water Act Sections 1433, 1434, and 1453 (42 U.S.C. § 300f *et seq.*).

The authorities and limitations of USDA-NRCS to enter into Interagency Agreements pursuant to this MOU include, *inter alia*:

- The Soil Conservation and Domestic Allotment Act of 1935, as amended (16 U.S.C. §§ 590a-f, 590-q);
- Soil and Water Resources Conservation Act of 1977, as amended (16 U.S.C. §§ 2001-2009);
- Land Inventory and Monitoring Program, as amended (7 U.S.C. § 1010a);
- Section 1619 of the Food, Conservation, and Energy Act of 2008, as amended (7 U.S.C. § 8791);
- Section 1244(b) of the Food Security Act of 1985, as amended, 16 U.S.C. 3844(b);
- The Emergency Watershed Program (16 U.S.C. § 2203); and
- The Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. § 5121 *et seq.*).

The authorities of DOE-EERE to enter into Interagency Agreements pursuant to this MOU include, *inter alia*:

- Section 646 of the Department of Energy Organization Act (Pub.L.95-91), as amended (42 U.S.C. § 7256).

Article VIII. Publications and Release of Information.

Publications documenting cooperative efforts made under this MOU may be prepared by each individual party, or jointly, provided that all parties have an opportunity to review manuscripts prior to publication and provide either approval or disapproval prior to publication. No agency shall be required to participate in any publication. To the extent possible, decisions involving authorship, review of reports, and other conditions and circumstances will be addressed during the preparation of Interagency Agreements referencing this MOU. Should differences of viewpoint occur, an effort should be made toward reconciliation of the differences. No agency will make editorial changes to the portions of joint documents drafted by another agency without full knowledge and consent of the other party.

The Parties agree that sharing credit is mutually beneficial and will make every effort to assure that appropriate citation and attribution, including the use of official agency visual identifiers, if possible, is given for work performed under this MOU.

Publicity and public information products documenting cooperative efforts made under this MOU, including news releases, reports, briefing papers, or other information products, are subject to the same terms and conditions as other publications as stated above.

Any commitment of a Party to preserve the confidentiality of any and all information is subject to applicable laws and regulations.

Article IX. Authorized Representatives.

The Parties warrant and represent that the authorized officials to enter into Interagency Agreements referencing this MOU will be appropriately identified.

Article X. Adding Parties to this MOU.

As stated in Articles I, II and VI above, it is the understanding of the Parties that the collaborative partnership formalized by this MOU may expand to include additional Federal agencies and partners committed to working together to improve the access to data, information and water resources science, services and support for better integrated and adaptive water resources management. It is the intention of the Parties that this MOU will serve as the foundation for other Federal agencies and partners to join this partnership in the future as appropriate.

Additional Federal organizations may become parties to this MOU by petitioning the Executive Oversight Committee and signing an amendment to the MOU in accordance with Article VI. The Parties agree to refer requests from third parties to become parties to this MOU to the Executive Oversight Committee for consideration. Any requests from third parties to become parties to this MOU shall be granted only after written unanimous consent and agreement from all federal government agencies that are signatories to this MOU.

Article XII. Approval.

For the U.S. Army Corps of Engineers
Department of the Army



R.D. James
Assistant Secretary of the Army
(Civil Works)

Date: January 8, 2021

Date: _____

Date: _____

For the Office of Energy Efficiency and
Renewable Energy, U.S. Department of Energy

**DANIEL
SIMMONS**

Digitally signed by
DANIEL SIMMONS
Date: 2021.01.14 17:36:38
-05'00'

Daniel R Simmons
Assistant Secretary of the Office of Energy
Efficiency and Renewable Energy

Date: 14 January 2021 _____

Article XI. Approval.

For the U.S. Army Corps of Engineers
Department of the Army



XXXXXXXXXXXXXXXXXX

Assistant Secretary of the Army
Civil Works

Date: _____

For the National Oceanic and Atmospheric
Administration, U.S. Department of Commerce

XXXXXXXXXXXXXXXXXX

Administrator and Under Secretary for
Oceans and Atmosphere

Date: _____

For the U.S. Geological Survey, U.S.
Bureau of Reclamation, and U.S. Fish and
Wildlife Service, U.S. Department of the Interior



XXXXXXXXXXXXXXXXXX

Assistant Secretary for Water and Science

Date: _____

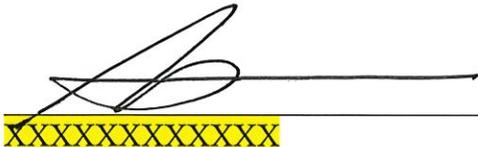
For the Federal Emergency Management Agency
U.S. Department of Homeland Security

XXXXXXXXXXXXXXXXXX

Deputy Administrator

Date: _____

For the Office of Water, U.S. Environmental
Protection Agency



XXXXXXXXXXXXXXXXXX

Assistant Administrator for Water

For the Natural Resource Conservation Service
U.S. Department of Agriculture



XXXXXXXXXXXXXXXXXX

Under Secretary for Farm Production and
Conservation

Article XI. Approval.

For the U.S. Army Corps of Engineers
Department of the Army

For the National Oceanic and Atmospheric
Administration, U.S. Department of Commerce



XXXXXXXXXXXXXXXXXX
Assistant Secretary of the Army
Civil Works

XXXXXXXXXXXXXXXXXX
Administrator and Under Secretary for
Oceans and Atmosphere

Date: _____

1/15/2021
Date: _____

For the U.S. Geological Survey, U.S.
Bureau of Reclamation, and U.S. Fish and
Wildlife Service, U.S. Department of the Interior

For the Federal Emergency Management Agency
U.S Department of Homeland Security

XXXXXXXXXXXXXXXXXX
Assistant Secretary for Water and Science

XXXXXXXXXXXXXXXXXX
Deputy Administrator

Date: _____

Date: _____

For the Office of Water, U.S. Environmental
Protection Agency

For the Natural Resource Conservation Service
U.S. Department of Agriculture

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Assistant Administrator for Water

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Under Secretary for Farm Production and
Conservation