

MEMORANDUM OF UNDERSTANDING

Continuation of the

COOPERATIVE ECOSYSTEM STUDIES UNITS NETWORK

among the

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE

Agricultural Research Service
Natural Resources Conservation Service
U.S. Forest Service

U.S. DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

U.S. DEPARTMENT OF DEFENSE

U.S. Army Corps of Engineers – Civil Works
Office of the Deputy Under Secretary of Defense (Installations and Environment)

U.S. DEPARTMENT OF THE INTERIOR

Bureau of Land Management
Bureau of Ocean Energy Management
National Park Service
Bureau of Reclamation
U.S. Fish and Wildlife Service
U.S. Geological Survey

I. INTRODUCTION

Background

Management and stewardship of the Nation's lands, waters, and public trust resources requires skillful public service supported by sound science. To help meet the need for sound science, a network of Cooperative Ecosystem Studies Units (CESU) was established (pursuant to 16 U.S.C. § 5933). CESUs provide research, studies, assessments, monitoring, technical assistance, and education to federal land and trust resource management, environmental, and research agencies, and their partners. CESUs are organized around biogeographic areas. Their broad scope includes the biological, physical, engineering, social, and cultural sciences needed to address critical natural and cultural resource management and trust resource stewardship issues. Each CESU includes several federal agencies, a host university, partner universities and other institutions. Participating agencies share benefits and interests with CESUs, including, but not limited to, a broadened scope of scientific services, increased technical assistance, and educational

opportunities for resource and environmental managers and others, and increased diversity of research scientists and institutional partners.

Mission

The mission of the CESU Network is to promote, conduct, and provide research, studies, assessments, monitoring, technical assistance, and educational services nationwide in support of the missions of participating federal agencies and their partners concerning natural and cultural resource management on public and/or private lands and waters, and management of public trust resources. To achieve this mission, each CESU project is conducted cooperatively and with substantial involvement by and benefits to federal and non-federal partners.

II. OBJECTIVES

The objectives of the CESU Network are to:

1. Link universities (including minority institutions) and other partners with federal land and trust resource management, environmental, and research agencies in new and innovative ways that deliver high-quality research and studies, provide usable knowledge, and support science-based decision-making;
2. Create new and innovative opportunities for federal resource management, environmental and research agencies to collaborate and coordinate their research, studies, technical assistance, and education activities;
3. Provide an efficient and effective mechanism to promote, conduct and provide research, studies, assessments, monitoring, technical assistance, and educational services through collaborative projects of concern to federal resource managers, their partners, and decision-makers; and
4. Accomplish the above objectives through an efficient, effective and evolving organization that includes federal agencies, universities, and other partners.

III. AUTHORITIES

This Memorandum of Understanding (MOU) is entered into by the following agencies consistent with the mission and any other authorities promoting science cooperation for each agency.

A. National Aeronautics and Space Administration

Among the National Aeronautics and Space Administration's (NASA) missions is the utilization of aeronautical and space activities for scientific purposes, encompassing research designed to expand knowledge of the Earth, its resources, and the effects of climatic change on the transformation of its ecological systems. In addition, NASA is

responsible for the environmental stewardship of the land, water, and wildlife resources under its control. In accordance with Section 203(c) of the National Aeronautics and Space Act of 1958, as amended, 42 U.S.C. § 2473(c), NASA is authorized to enter into agreements with other federal agencies consistent with and in furtherance of its areas of responsibility.

B. Agricultural Research Service

The Agricultural Research Service (ARS) mission is to conduct research to develop and transfer solutions to agricultural problems of high national priority and provide information access and dissemination to: ensure high-quality, safe food and other agricultural products; assess the nutritional needs of Americans; sustain a competitive agricultural economy; enhance the natural resource base and the environment; and provide economic opportunities for rural citizens, communities, and society as a whole. In accordance with 7 U.S.C. § 3101(2), ARS is authorized to enter into a Memorandum of Understanding to assist in providing research, technical assistance, and education to increase the long-term productivity of the United States agriculture and food industry while maintaining and enhancing the natural resource base on which rural America and the United States agricultural economy depend.

C. Natural Resources Conservation Service

The Natural Resources Conservation Service (NRCS) improves the health of our Nation's natural resources while sustaining and enhancing the productivity of American agriculture (16 U.S.C. §§ 590(a)-(f)). We achieve this by providing voluntary assistance through strong partnerships with private landowners, managers, and communities to protect, restore, and enhance the lands and waters upon which people and the environment depend. NRCS scientists and technical specialists identify appropriate technologies in research, development, and transfer them to field staff for recommending the technologies to America's farmers and ranchers. Under Section 714 of Pub. L. 106-387, 7 U.S.C. § 6962(a), NRCS is authorized to enter into cooperative agreements to assist in providing research, studies, technical assistance, and educational services consistent with the mission of the NRCS and the CESU Network.

D. U.S. Forest Service

The U.S. Department of Agriculture Forest Service's (USFS) mission is to achieve quality land management under the sustainable multiple-use management concept to meet the diverse needs of the people (16 U.S.C. §§ 1641-1646). In accordance with 7 U.S.C. § 3318(b), the USFS is authorized to enter into a joint venture agreement to assist in providing agricultural research and teaching activities. In accordance with the Interior and Related Appropriations Act of 1992 (Pub. L. 102-154), the USFS is authorized to enter into a Challenge Cost-share Agreement to cooperate with others in developing, planning, and implementing mutually beneficial projects that enhance Forest Service activities, where the cooperators provide matching funds or in-kind contributions. In accordance with Wyden Amendment (Pub. L. 105-277, Section 323 as amended by Pub. L. 109-54, Section 434), the USFS is authorized to enter into a

Cooperative Agreement or Participating Agreement for the protection, restoration, and enhancement of fish and wildlife habitat, and other natural or cultural resources on public or private land; the reduction of risk for natural disaster where public safety is threatened; or a combination of both. Wyden Amendment agreements must provide a benefit to the natural or cultural resources on National Forest System lands within the watershed.

E. National Oceanic and Atmospheric Administration

The mission of the National Oceanic and Atmospheric Administration (hereafter 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. Authorities to participate in and conduct activities through the Cooperative Ecosystem Studies Units Network include 33 U.S.C. § 883(e), which gives NOAA the authority to enter into cooperative agreements with States, Federal Agencies, public or private organizations or individuals for authorized surveys or investigations and other specified purposes. NOAA also has the authority under 15 U.S.C. § 2901 *et seq.*, to enter into contracts, grants, or cooperative agreements for climate-related activities. Finally, the Coastal Zone Management Act at 16 U.S.C. § 1451 *et seq.*, grants NOAA the authority to coordinate with Federal Agencies and provide financial and technical assistance to states and territories to preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation's coastal zone for this and succeeding generations, among other things. In accordance with the authorities listed above, NOAA is authorized to enter into agreements with States, nonprofit organizations, academic institutions, and other partners to support research, technical assistance, and educational services consistent with the mission of NOAA and the CESU Network.

F. U.S. Department of Defense, Office of the Deputy Under Secretary of Defense (Installations and Environment)

The Department of Defense (DoD) manages nearly 30 million acres of land, and the natural and cultural resources found there, and for this agreement includes the Office of the Secretary of Defense, the Military Services, the Defense Logistics Agency, the National Guard Bureaus, and the Military Reserve Components. DoD's primary mission is national defense. DoD's conservation program supports this mission by ensuring realistic training areas, and managing its resources in ways that maximize available land, air, and water training opportunities. DoD environmental stewardship activities are authorized under the Sikes Act, as amended. In accordance with one or more of the following: 16 U.S.C. § 670(c)(1), 10 U.S.C. § 2358, 10 U.S.C. § 2694, 10 U.S.C. § 2684, and Pub. L. 103-139 (FY 94 NDAA, page 107 Stat. 1422), DoD is authorized to enter into cooperative agreements with States, nonprofit organizations, academic institutions, and other partners to support research, technical assistance, and educational services consistent with the mission of the DoD and the CESU Network.

G. U.S. Army Corps of Engineers – Civil Works

The US Army Corps of Engineers' Civil Works Program (USACE-CECW) provides assistance in the development and management of the nation's water resources. The main missions of USACE-CECW, i.e., the Corps, are 1) to facilitate commercial navigation, 2) to protect citizens and their property from flood and storm damages, and 3) to protect and restore environmental resources. The Corps carries out most of its work in partnership with Tribal, state, and local governments and other nonfederal entities. The Corps must rely upon using the best available science in the evaluation of water resources needs and in the development of recommendations for water resources management. The university and scientific institutions that comprise the CESU network have knowledge and expertise of the latest scientific advances that will assist the Corps in reaching sound, scientifically based decisions. Membership in the CESU network thus provides direct access to the sound science and technical base upon which the Corps can develop its sound, credible conclusions.

Corps field offices may avail themselves of support from the regional CESUs by collaborating with the Engineer Research and Development Center, who has the authority to enter into cooperative agreements with such CESUs, thus enabling these Corps offices to receive scientific support from regional CESU members. Each CESU provides independent and objective research and technical assistance that will directly benefit the Corps' missions and programs. In addition, by participating in the CESU, scientists within the Corps will have access to university resources within the CESU network and be able to interact with colleagues in various scientific disciplines, and thereby further their own professional development. Furthermore, by participating in the CESU Council, USACE-CECW will broaden and strengthen its partnerships with the other agencies and entities which comprise the Council.

USACE-CECW is authorized to cooperate with other agencies in accordance with Title 33 U.S.C. § 2323(a) and 10 U.S.C. § 3036(d). USACE-CECW is authorized to perform research and development projects by cooperative agreements or grants by the authority of 10 U.S.C. § 2328. Additionally, USACE-CECW may enter into transactions under the authority of 10 U.S.C. § 2371 in carrying out basic, applied, and advanced research projects.

H. Bureau of Land Management

The Bureau of Land Management (BLM) administers public lands within a framework of numerous laws. The most comprehensive of these is the Federal Land Policy and Management Act of 1976 (FLPMA). All Bureau policies, procedures, and management actions must be consistent with FLPMA and the other laws that govern use of the public lands. It is the mission of the BLM to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations (43 U.S.C. § 1701 *et seq.*). In accordance with 43 U.S.C. § 1737(b), the BLM is authorized to enter into contracts and cooperative agreements involving the management, protection, development, and sale of public lands.

I. Bureau of Ocean Energy Management

The Bureau of Ocean Energy Management (BOEM) oversees the exploration and development of oil, natural gas and other minerals and renewable energy alternatives on the Nation's outer continental shelf. BOEM continues to look for better ways to serve the American people and to ensure that the Nation receives the best value for its resources now and into the future. The program not only supports decisions made within the Department of the Interior, but also provides other Federal regulators, and the coastal states, and local governments with the information necessary to ensure that all stages of offshore energy and mineral activities are conducted in a manner to protect both the human and natural environments. Outer Continental Shelf Lands Act (OCSLA) (43 U.S.C. §§ 1331-1356) Section 1346 mandates the conduct of environmental and socioeconomic studies needed for the assessment and management of environmental impacts on the human, marine, and coastal environments which may be affected by oil and gas, renewable energy or mineral development. OCSLA Section 1345 authorizes the use of cooperative agreements with affected States to meet the requirements of OCSLA, including sharing of information, joint utilization of available expertise, formation of joint monitoring arrangements to carry out applicable Federal and State laws, regulations, and stipulations relevant to outer continental shelf operations both onshore and offshore. BOEM can enter into cooperative agreements with State offices, and public colleges and universities within the affected states.

J. National Park Service

The National Park Service (NPS) manages areas of the National Park System to conserve the scenery, natural and historic objects, and wild life therein to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations (16 U.S.C. § 1 *et seq.*). NPS also provides conservation and recreation assistance to partners to help them achieve goals of mutual interest. In accordance with 16 U.S.C. § 1(a)(2)(j), the NPS is authorized to enter into cooperative agreements to conduct research and training activities. In addition, 16 U.S.C. § 5933 authorizes and directs NPS to enter into cooperative agreements with colleges and universities, including but not limited to land grant schools, in partnership with other federal and state agencies, to establish cooperative study units to conduct multi-disciplinary research and develop integrated information products on the resources of the National Park System, or the larger region of which parks are a part. The NPS is also authorized to enter into agreements which provide contributions by the recipient in furtherance of the project, Cost Share Agreements (16 U.S.C. § 1(f)). [cf. CFDA #15.945]

K. U.S. Bureau of Reclamation

The U.S. Bureau of Reclamation (BOR) manages, develops, and protects water and related resources in an environmentally and economically sound manner in the interest of the American public (43 U.S.C. Chapter 12). The BOR is authorized to enter this agreement under Pub. L. 111-11 Subtitle F, Secure Water, Section 9504(b) Research Agreements, which states that: Authority of Secretary - The Secretary may enter into 1 or more agreements with any university, nonprofit research institution, or organization with water or power delivery authority to fund any research activity that is designed--(A)

to conserve water resources; (B) to increase the efficiency of the use of water resources; or (C) to enhance the management of water resources, including increasing the use of renewable energy in the management and delivery of water. According to Section 9509 - The Secretary may enter into contracts, grants, or cooperative agreements, for periods not to exceed 5 years, to carry out research within the BOR.

L. U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS), working with others, is responsible for conserving, protecting, and enhancing fish, wildlife, plants and their habitats for the continuing benefit of the American people through federal programs related to migratory birds, endangered species, interjurisdictional fish and marine mammals, inland sport fisheries, and the National Wildlife Refuge System. In accordance with 16 U.S.C. § 661, 16 U.S.C. § 742(f), and 16 U.S.C. § 753(a), the USFWS is authorized to cooperate with other agencies to assist in providing research, technical assistance, and education.

M. U.S. Geological Survey

The U.S. Geological Survey (USGS) serves the Nation by providing reliable scientific information to describe and understand the Earth, minimize the loss of life and property from natural disasters, manage water, biological, energy, and mineral resources, and enhance and protect our quality of life. USGS authority to enter into this MOU is pursuant to Public Law 99-591 that bestows permanent authority on the USGS to “prosecute projects in cooperation with other agencies, Federal, state, and private” (43 U.S.C. § 36(c)) and the USGS Organic Act of March 3, 1879, as amended (43 U.S.C. § 31 *et seq.*)

IV. CESU COUNCIL

Membership

This MOU continues the organization of the CESU Council (Council), consisting of representatives from each of the following agencies:

- National Aeronautics and Space Administration
- Agricultural Research Service
- Natural Resources Conservation Service
- U.S. Forest Service
- National Oceanic and Atmospheric Administration
- U.S. Army Corps of Engineers – Civil Works
- Office of the Deputy Under Secretary of Defense (Installations and Environment)
- Bureau of Land Management
- Bureau of Ocean Energy Management
- National Park Service
- U.S. Bureau of Reclamation
- U.S. Fish and Wildlife Service
- U.S. Geological Survey

Additional agencies joining the CESU Network shall appoint agency representatives to serve as primary and alternate members of the CESU Council.

CESU Council Roles and Responsibilities

The CESU Council has the following roles and responsibilities:

1. Serve as the official liaison between the CESU Network and the Council members' individual agencies,
2. Establish, maintain, and revise CESU Network policies and procedures,
3. Approve the addition of new federal agencies into the CESU Network,
4. Select host universities for new CESUs, evaluate existing CESUs, and approve renewal of CESU agreements,
5. Develop and support CESU Network initiatives,
6. Appoint and evaluate the CESU national coordinator,
7. Form Working Groups to assist the CESU Council as described below, and
8. Conduct additional activities appropriate to the Council.

Working Groups

Working Groups will be formed as needed to plan, coordinate, and facilitate the implementation of actions developed by the Council, within existing authority, policy review, and budgets. Working Groups may be formed or dissolved as needed, at the discretion of the Council. Working Groups will report regularly to the Council on their deliberations.

V. ADMISSION AND WITHDRAWAL FROM THE CESU NETWORK

Admission to the CESU Network

The CESU Council approves admission of new federal agencies to the CESU Network upon concurrence of its member agencies. Federal agencies wishing to join the CESU Network shall request admission in writing to the CESU Council. Upon approval, an amendment adding the federal agency to the Network is incorporated in this MOU. Upon admission to the CESU Network, the federal agency is then committed to join at least one CESU.

Withdrawal from the CESU Network

Any federal agency may terminate its participation in the CESU Network under this MOU by delivery of thirty (30) days advance written notice to the CESU Council. Termination by a federal agency of its participation in the CESU Network under this MOU will not affect any ongoing project under an existing CESU agreement to which it is a party.

VI. THE PARTICIPATING FEDERAL AGENCIES AGREE TO DO THE FOLLOWING:

1. Participate in at least one CESU.
2. Assign agency representative(s) to serve on the CESU Council.
3. Provide support for the CESU Network within the missions, authorities, and available resources of the participating federal agencies.
4. Review, update, and approve administrative procedures and guidelines for the CESU Network.
5. Review and revise the CESU Network strategic plan as necessary and appropriate.
6. Provide technical assistance to partners in individual CESUs as requested, available, and appropriate.
7. Facilitate interagency agreements, when necessary, to allow full access to the resources of the CESU Network for all participating agencies.

VII. IT IS MUTALLY AGREED AND UNDERSTOOD BY AND AMONG THE PARTICIPATING FEDERAL AGENCIES THAT:

1. This MOU does not restrict participant - involvement in similar activities with other public and private agencies, organizations, and individuals. This includes separate cooperative agreements with universities participating in the CESU Network.
2. Nothing in this MOU shall be construed as obligating agencies to expend funds or to provide resources or be involved in any obligation for future payment of money or provision of resources.
3. All amendments to this MOU shall be in writing and must have the consent of all member agencies.
4. This instrument is neither a fiscal nor a funds-obligation document. Any activity involving reimbursement or contribution of funds between the parties to this instrument will be handled in accordance with applicable laws, regulations, and procedures including those for federal procurement, assistance, and printing. Such activities will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authority.
5. The activities conducted under this MOU will be in compliance with the nondiscrimination provisions in Title VI and VII of the Civil Rights Act of 1964, as amended; the Civil Rights Restoration Act of 1987 (Pub. L. 100-259); and other nondiscrimination statutes; namely, Section 504 of the Rehabilitation Act of 1973,

Title IX of the Education Amendments of 1972, and the Age Discrimination Act of 1975.

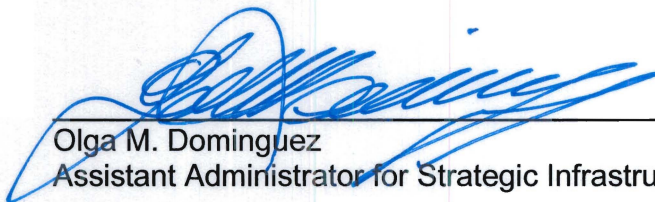
6. No member of Congress shall be admitted to any share or part of this instrument, or any benefits that may arise therefrom.
7. This MOU continues the CESU Network and replaces the previous MOU that was in effect from May 16, 2005 – May 26, 2011.
8. This MOU is effective upon the date of the second signature and expires no later than six (6) years from the date of the second signature, at which time it shall be subject to review, renewal, or expiration. Note: For the U.S. Forest Service, the effective term of this MOU shall not exceed five (5) years from the date of the U.S. Forest Service signature.

VIII. AUTHORIZING SIGNATURES

IN WITNESS WHEREOF, the parties hereto have entered into this MOU as evidenced by their signatures below:

VIII. AUTHORIZING SIGNATURES (continued)

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

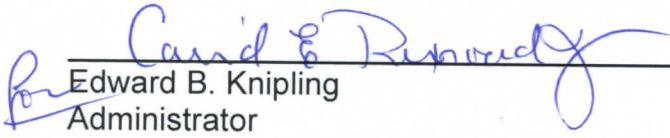


Olga M. Dominguez
Assistant Administrator for Strategic Infrastructure

5/18/11
Date

VIII. AUTHORIZING SIGNATURES (continued)

U.S. DEPARTMENT OF AGRICULTURE
Agricultural Research Service



Edward B. Knipling
Administrator

5/27/2011
Date

VIII. AUTHORIZING SIGNATURES (continued)

**U.S. Department OF AGRICULTURE
Natural Resources Conservation Service**



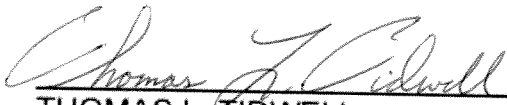
ELORIS SPEIGHT,
Deputy Chief for Management

5-27-2011

Date

VIII. AUTHORIZING SIGNATURES (continued)


U.S. DEPARTMENT OF AGRICULTURE
U.S. Forest Service



THOMAS L. TIDWELL
Chief

8/27/2012
Date

The authority and format of this instrument have been reviewed and approved for signature.

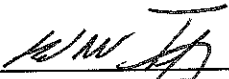


CAROL J. BROWN
U.S. Forest Service
Grants & Agreements Specialist

5/21/2012
Date

VIII. AUTHORIZING SIGNATURES (continued)

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

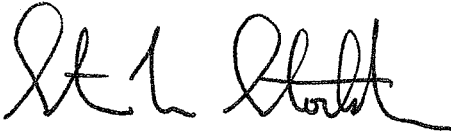


David W. Titley, Ph.D.
Deputy Under Secretary for Operations
National Oceanic & Atmospheric Administration

10/5/12
Date

VIII. AUTHORIZING SIGNATURES (continued)

U.S. DEPARTMENT OF DEFENSE
U.S. Army Corps of Engineers – Civil Works

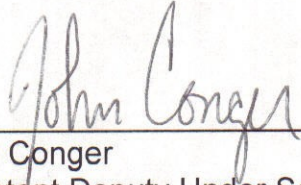


Steven L. Stockton, P.E.
Director of Civil Works

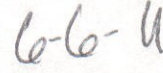
5 OCT 11
Date

VIII. AUTHORIZING SIGNATURES (continued)

U.S. DEPARTMENT OF DEFENSE
Office of the Deputy Under Secretary of Defense (Installations and Environment)



John Conger
Assistant Deputy Under Secretary of Defense for
Installations and Environment



Date

VIII. AUTHORIZING SIGNATURES (continued)

**U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management**



Robert V. Abbey
Director

5-23-11
Date

VIII. AUTHORIZING SIGNATURES (continued)

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Ocean Energy Management




Tommy P. Beaudreau
Director

3-20-12

Date

VIII. AUTHORIZING SIGNATURES (continued)

U.S. DEPARTMENT OF THE INTERIOR
National Park Service



Jonathan B. Jarvis
Director

2/28/12
Date

VIII. AUTHORIZING SIGNATURES (continued)

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Reclamation

Acting For

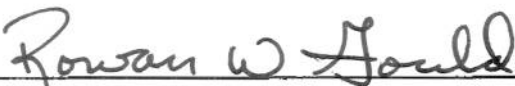


Michael L. Connor
Commissioner

3/16/12
Date

VIII. AUTHORIZING SIGNATURES (continued)

U.S. DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service



Rowan W. Gould
Acting Director

5/27/2011
Date

VIII. AUTHORIZING SIGNATURES (continued)

U.S. DEPARTMENT OF THE INTERIOR
U.S. Geological Survey

Marcia McNutt
Marcia McNutt
Director

5/1/12
Date