

**ANNUAL FUNDING OPPORTUNITY
FISCAL YEAR 2014
U.S. Department of the Interior
U.S. Geological Survey
Northeast, South Central & Southwest DOI Climate Science Centers**

GENERAL INFORMATION AND INSTRUCTIONS

Background: This document provides information about funding opportunities from three Department of the Interior (DOI) Climate Science Centers (CSCs) for Fiscal Year 2014.

Funding Opportunities In this Document: This document invites statements of intent for projects to be initiated in **FY2014**, for the **Northeast, South Central, and Southwest CSCs**.

Eligible Applicants: Only the following may submit proposals in response to this Funding Opportunity:

- Institutions that are either Host Institutions or Consortium Members for the requesting DOI CLIMATE SCIENCE CENTER and
- USGS centers, field stations, laboratories, Cooperative Research Units, etc.

Each proposal must have a Principal Investigator (PI) from an eligible entity. *Parties from other organizations (Federal, State, Tribal, or other) can participate (and receive funds via sub-award from the Principal Investigator) but the proposal submitter and PI must be an eligible applicant, as described above.* Non-eligible applicants are encouraged to establish working partnerships with one of the recognized eligible applicants to seek participation as part of a project lead by a CSC/university consortium or USGS PI.

If you have submitted a Statement of Interest (SOI) to a previous CSC Funding Opportunity but were not chosen for funding, you will *not* automatically be considered again for FY14 funds. *You must resubmit an SOI for this funding opportunity to be considered.*

Estimated Available Funds: Approximately \$1,475,000 to \$1,975,000 may be available to fund projects that support CSC science priorities in Fiscal Year 2014 for the Northeast, South Central, and Southwest CSCs. See individual CSC sections for details. This funding opportunity is subject to the availability of funds and passage of a full Fiscal Year 2014 budget.

Funding Process: All funds will be transferred from a CSC to either a USGS entity through change of allocation or a CSC host institution through a cooperative agreement. These entities may then provide sub-awards to members of the CSC consortium or other parties.

Project funding amount: See individual CSC sections for details.

Project duration: See individual CSC sections for details.

Scientific topics to be funded:

A key component of the coordinated Funding Opportunity is the ability to work collaboratively across the CSC network. To that end the following are broad national topic headings under which individual CSCs have crafted specific detailed guidance on the types of science they will support.

1. Collaboration, Communication and Translation of Science Results to Managers, Stakeholders and the Public interested in Climate Change Activity.
2. Assess and synthesize our state of knowledge about climate and land use change impacts to DOI natural and cultural resources.
3. Perform vulnerability assessments of species and ecosystems.
4. Understand the social-ecological impacts of climate and land use change.
5. Understand the interactions between climate and the physical, biological, and chemical forces that influence the structure and functioning of ecosystems and the goods and services they provide.

See individual CSC sections for more specific details.

Schedule for Submission, Review, Awards:

Note: Submission deadlines for Statements of Interest and Proposals are
5:00 PM Mountain Daylight Time

Deadline for submission of Statements of Interest.....June 25, 2013
Applicants Notified and Full Proposals Requested.....July 23
Invited Full Proposals Due.....August 21
Applicants Notified of Intent to Award.....October 15
(“Intent to Award” means a CSC has selected the project for funding, pending completion of all administrative reviews and processing to complete formal awards. See below for additional details.)

Application Process and Timeline

1. Submit a Statement of Interest. All parties interested in responding to this solicitation must first submit a Statement of Interest (SOI). An SOI application template is available in **Appendix A**. SOIs must be submitted via the portal at [HTTPS://NCCWSC.USGS.GOV/RESEARCHFUNDS](https://nccwsc.usgs.gov/researchfunds). Failure to follow these guidelines may result in an SOI being removed from consideration. The applicant will receive a confirmation email once the SOI has been submitted.

2. Evaluation of Statements of Interest. SOIs will be reviewed by the relevant CSC, with input from regional partners, and by the National Climate Change and Wildlife Science Center (NCCWSC). Applicants may be contacted to provide additional or clarifying information. SOIs will be considered according to the following criteria:

- Applicability to a high priority need identified by the relevant CSC
- Scientific merit and quality of the research
- Engagement of stakeholders, decision makers, and other research entities
- Potential for cross CSC collaboration

Individual CSC sections below may include additional detail on how these criteria will be applied or may introduce additional ones (see individual CSC sections below). Applicants will also be evaluated based on past performance on USGS funded projects. Individuals or institutions with problems in timely or effective completion of projects will be eliminated from further consideration until the issues are addressed to the satisfaction of the CSC and NCCWSC.

3. Request for Full Proposal. Selected applicants will be invited by the CSC Director to develop full proposals. Proposals will not be accepted from investigators other than those invited as part of this process. Proposal format information is found in **Appendix B**. All proposals must comply with USGS requirements regarding data management, as specified in the USGS Science Data Sharing Policy found at

<https://nccwsc.usgs.gov/content/data-policies-and-guidance>

The CSC Director reserves the right to contact applicants for clarification of technical elements of a proposal. Neither an invitation to submit a full proposal, nor a contact from the Director concerning proposal details necessarily mean that the project will be funded.

4. Proposal Review Criteria. The criteria listed below will be applied to all proposals. Each CSC will determine the weighting of these factors and the specifics of their application; see individual CSC sections for additional details.

- **Scientific merit and quality of the proposed research:** will address whether a project uses a credible scientific approach that reflects the current state of the science, has project objectives, overall strategy, study design, methodology, and analyses that are well-reasoned

and appropriate to accomplish the specific scientific objectives of the project, and includes a credible data management plan as described above.

- **Management Significance:** will address the degree to which a project addresses high priority items for regional Landscape Conservation Cooperatives (LCCs, <http://www.fws.gov/landscape-conservation/lcc.html>) and other management partners.
- **Coordination and Engagement with science beneficiaries:** will address two factors: (1) Degree of engagement and interaction between the study team and intended management beneficiaries, and (2) the degree to which the project is coordinated or leveraged with other resources (including leveraging additional resources and complementing/integrating with existing work of the study team members).
- **Study Team qualifications:** will address applied and relevant past work, breadth of skill/knowledge to successfully perform the proposed research, and the integration, leadership, governance, and organizational approach of the investigator / study team. (As noted previously, applicants with significant issues regarding timely or effective completion of projects will be eliminated from further consideration until the issues are addressed to the satisfaction of the CSC and NCCWSC.)
- **Budget/work plan:** will address project budget and work plan in relation to the proposed level of work, expected benefits, complexity and/or scope of effort, and practicality and achievability of the proposed project.

5. Review and Selection Process: Project proposals will be evaluated as follows:

- Submissions will be screened by the relevant CSC upon receipt for eligibility and for conformance to the announcement provisions.
- Screened proposals will be reviewed against the criteria by a group of individuals with relevant technical expertise. Confidential information will be restricted to these reviewers, and they will be bound by confidentiality assurances. Further, reviewers will follow standard conflict of interest approaches and will be excused from ranking proposals with which they are associated.
- Reviewer rankings and comments will be provided to the CSC Director. The CSC Director will develop a final list of candidate projects, based on the review rankings, modified as appropriate to ensure an overall portfolio of science activities at the CSC that is balanced with respect to the following: geographic distribution, project cost and duration, applicant type (USGS or consortium), subject matter and focus, need for scientific continuity versus establishing new work.
- CSC Directors and the NCCWSC will review all proposed CSC projects to identify opportunities for cross-CSC and cross-agency leveraging opportunities. As noted, this may involve consultations with the applicant and proposal revision.
- Applicants will be notified of USGS intent to award. This is an informal notification, provided to applicants as a courtesy. Final awards are contingent upon all appropriate legal and administrative reviews and processing. Final discretion on funding decisions for specific projects remains with the CSC Director and the NCCWSC.

Additional Considerations

Cross CSC collaboration: The regional CSCs are intended to operate as a network in which expertise at one CSC can/will be leveraged against expertise at other CSCs. Further, identification of projects that can be scaled up or combined with other projects to not only address the local science issue, but increase our understanding of regional and national implications of climate impacts will be important to assure we are making best use of our limited resources. To that end, we encourage projects to either form collaborations across CSCs in which expertise in each CSC is leveraged or develop projects that would have benefits beyond the local scale. *Cross CSC collaboration may not be applicable for proposals at this time due to the involvement of only three CSCs in this funding opportunity.*

Multiple Project Submissions:

- 1) Proposers may submit multiple SOIs for *different* projects. Please refer to the online Proposal Management System for instructions on multiple submissions.
- 2) CSCs and NCCWSC discourage applicants from submitting identical proposals to multiple CSCs.
- 3) Projects extending across multiple CSC regions are encouraged, and applicants considering such proposals should submit their SOI to all CSCs of interest.
- 4) Applicants must state directly in their SOI if they are listed on additional CSC proposals (please also indicate this in the online Proposal Management System).

Matching / Leveraging: While matching funds are not required, projects providing matching funds or leveraging other funding sources will be viewed favorably.

Multi-year Funding: (relevant especially to USGS proposers): To address issues related to carry-over of federal funds between fiscal years, and to deal with the fact that this solicitation can only provide funds for the first fiscal year of the project, CSCs will work with successful applicants to plan funding for multi-year projects in the fiscal years needed by the project, within the limitations of knowledge about out-year funding.

Collaboration: Proposals with co-PIs from the USGS and a University consortium member are encouraged and will be evaluated more favorably. Likewise, proposals involving collaborations with other organizations (Federal, State, Tribal, or other), demonstrating the involvement and benefits of a collaborative effort will be evaluated more favorably.

Deliverables for Accepted Proposals: Principal Investigators for all invited proposals are required to prepare and submit to the funding CSC a *General Public Summary* that is written for a general public audience, does not exceed 200 words, and is suitable for sharing on public websites and other outreach methods. Key points to include:

- Why is the project important?
- Why should the public care?
- How will the results of the project improve aspects of climate change management, well-

being, economic or other issues that resonate with stakeholders?
Execution of funding documents is contingent upon completing this step. Please see Appendix B for more information regarding proposal requirements.

Annual and Final Project Reports: All projects are required to submit annual progress reports and a final project report. Each must be submitted within 90 days of the project award anniversary (for annual report) or project completion date (for final report). In addition to the Federal Financial Report, Form SF-425, submitted via an on-line portal, each project must also complete annual or final reports according to the formats provided in **Appendix C** and **Appendix D**. Additional / more frequent reporting may be required by individual CSCs.

**USGS Submission Portal
For All Statements of Interest (SOIs) and
Invited Proposals
(Online Proposal Management System)**

[HTTPS://NCCWSC.USGS.GOV/RESEARCHFUNDS](https://nccwsc.usgs.gov/researchfunds)

Technical Assistance Contacts
For Portal Issues:

Haylee Schweizer
schweizerh@usgs.gov
970-226-9160

Gail Montgomery
montgomeryg@usgs.gov
970-226-9253

For Substantive Issues Contact CSC
Director/Staff (See CSC-Specific Sections)

CSC-Specific Information:

(In the following order)

Northeast (p.8)

South Central (p.18)

Southwest (p.28)

Following these CSC-specific sections are:

Statement of Interest Format (Appendix A)

Invited Proposal Format (Appendix B)

Annual and Final Report Requirements (Appendix C and Appendix D)

NORTHEAST CLIMATE SCIENCE CENTER

This Funding Opportunity addresses funding for FY 2014

Eligible Applicants: Only members of the Northeast Climate Science Center (NE CSC) Consortium [see table below] and USGS centers, field stations and laboratories may submit Statements of Interest (SOIs) or invited proposals in response to this Funding Opportunity. Other parties may participate on funded projects via subawards.

NE CSC Consortium Members and Lead Contacts:

NE CSC Consortium Member	Lead Contact
University of Massachusetts (Amherst)- host institution	Richard Palmer; http://necsc.umass.edu/people/richard-palmer
College of Menominee Nation	Chris Caldwell; http://necsc.umass.edu/people/chris-caldwell
Columbia University	Radley Horton; http://necsc.umass.edu/people/radley-horton
Marine Biological Laboratory	Linda Deegan, (contact Chris Neill at cneill@mbi.edu); http://necsc.umass.edu/people/linda-deegan
University of Minnesota (Twin Cities)	Anthony D'Amato; http://necsc.umass.edu/people/anthony-damato
University of Missouri (Columbia)	Frank Thompson; http://necsc.umass.edu/people/frank-thompson
University of Wisconsin (Madison)	Kenneth Potter; http://necsc.umass.edu/people/kenneth-potter

Funding Process: All funds will be transferred from the NE CSC to either a USGS entity or University of Massachusetts Amherst (UMass Amherst). These entities may then provide subawards to members of the NE CSC Consortium or other parties.

Estimated Available Funds: Approximately \$525,000 may be available to fund new projects that support NE CSC science priorities in Fiscal Year 2014.

Project Funding Amount: Individual project funds will not exceed a total of \$175,000.

Project Duration: Not to exceed 24 months.

NE CSC Contact: **Dr. Mary J. Ratnaswamy, Director**
DOI Northeast Climate Science Center
Department of Geosciences
233 Morrill Science Center
611 North Pleasant Street
University of Massachusetts
Amherst, MA 01003-9297
Office: (413) 545-3424
Email: mratnaswamy@usgs.gov

Submission Process: All SOIs and invited proposals are to be submitted via the U.S. Geological Survey online Proposal Management System (URL below).

Submission Portal: [HTTPS://NCCWSC.USGS.GOV/RESEARCHFUNDS](https://nccwsc.usgs.gov/researchfunds)

Priority Science Needs: Research funded by the NE CSC focuses on addressing the regional challenges presented by climate change and variability in the NE CSC region and providing regional-scale science products that inform conservation management. With guidance from its Executive Stakeholder Advisory Committee (SAC), the NE CSC is continuing to address the climate science needs described in the NE CSC draft five-year Science Agenda (http://necsc.umass.edu/sites/default/files/NECSC_Science_Agenda_Draft0--Nov20.pdf). The NE CSC will also build on previously funded research, complementary research efforts across the CSC and Landscape Conservation Cooperative (LCC) network, and relevant climate science programs ongoing in the region.

Projects that aim to produce resource management-relevant information and products and/or actively engage with the intended users of the scientific output are highly encouraged and will be ranked higher in the SOI and proposal review process. Interactive tools that allow stakeholders to explore the impacts of multiple climate-change scenarios or to visualize potential changes over time are strongly encouraged. PI's will be expected to demonstrate the willingness and ability to work with NE CSC partners, including state and federal resource management agencies, Tribes, and Landscape Conservation Cooperatives to incorporate management objectives and uncertainty into the scope of the scientific objectives.

In Fiscal Year 2014, the NE CSC is interested in inviting Statements of Interest (SOIs) that address one or more of the priority science needs listed below. This Funding Opportunity focuses on promoting the understanding of climate change impacts on the Great Lakes, freshwater wetland ecosystems, and cultural resources. These topics are priority science needs identified in the NE CSC draft Science Agenda that are currently of high priority and/or underrepresented by currently funded NE CSC research activities. The NE CSC has developed these annual science priorities in consultation with, and taking into consideration comments from, the following sources: the National Climate Change and Wildlife Science Center (NCCWSC); the interim Stakeholder Advisory Committee for the NE CSC; Coordinators for the North Atlantic, Appalachian, Eastern Tallgrass Prairie and Big Rivers, Upper Midwest & Great Lakes, and Plains & Prairie Potholes LCC's; other USGS Climate Science Center Directors; and, other federal agencies and experts (NOAA; FWS; NPS; Tribal liaisons and Tribal College).

Priority 1. Effects of climate change and variability on the Great Lakes with implications for sustainable fisheries, adaptive management and restoration of Great Lakes ecosystems

The Great Lakes are a particular focus for the NE CSC. Containing 84% of North America's surface fresh water and supplying drinking water to more than 26 million people, climate change impacts on the Great Lakes will reverberate throughout the region. Projected increases in temperature and decreases in precipitation, along with concurrent impacts from invasive species, eutrophication, and other stressors, could affect not only the Lakes directly, but streams, wetlands, forests, agriculture, and both ecological and human communities across the region. Priority will go to projects that address climate change impacts on priority fish and wildlife resources, ecological forecasting to better understand impacts of fluctuating water levels and other climate-related drivers on Great Lakes ecosystems, and approaches to restoration and preservation of Great Lakes coastal wetlands and shorelines to enhance adaptation to climate change.

Priority 2. Effects of climate change and surrounding land-use practices on freshwater wetland biogeochemistry, hydrology, ecology, and vulnerability, including impacts to wetland-dependent biota and alterations to ecosystem services

Climate-related environmental shifts can also impact watershed functions and wetland biogeochemistry, including the input of salinity, sediments and nutrients. Wetlands are complex and dynamic ecosystems, supporting high levels of biodiversity and sustaining numerous types of migratory species as well as those dependent on ephemeral wetland environments and complex wetland landscapes. Priority will be given to projects which

focus on freshwater wetland hydrology and biogeochemistry, resilience of wetland ecosystems, ecology and management of wetland-dependent biota, and evaluating climate-driven changes to ecosystem services.

Priority 3. Effects of climate change on the sustainability of cultural resources, including approaches that utilize traditional ecological knowledge, human dimensions, and adaptation strategies

The NE CSC region includes many cultural resources that are increasingly vulnerable in a changing climate, including National Parks, National Wildlife Refuges, National Forests, other federally managed lands, and tribal lands. Managing these lands under the impacts of climate change poses a grand challenge to managers who are entrusted to preserve a variety of resources for the education, enjoyment, and livelihood of future generations. Federally recognized Indian Tribes have a tremendous interest in building capacity for resilience to the impacts of climate change on their lands and communities. Priority will go to projects that build awareness, assess the vulnerability of cultural and/or subsistence resources and explore potential adaptation actions or mechanisms for resiliency, utilize traditional ecological knowledge, and develop research networks to improve the understanding of how climate change impacts cultural resources.

Statement of Interest Evaluation Criteria: The NE CSC will instruct an Expert Review Team to assess submissions using the following evaluation and weighting criteria:

1. Applicability to one or more NE CSC science priority needs (relevance/applicability): 30%
 - SOI identifies linkages of climate change and variability to impacts on land, fish, wildlife, habitat, or cultural heritage management issues;
 - SOI addresses management decisions or questions important to one or more LCC or Federal, State, or Tribal resource management organization;
 - SOI clearly articulates the resource management decision being considered and how the project will bring value added to the process.
2. Scientific merit and quality of the research (scientific design): 30%
 - SOI objectives are robust and clearly delineated;
 - SOI demonstrates sound scientific methodology, study design, and data management;
 - SOI indicates how results have a broad geographic application or scientific inference.
3. Engagement of stakeholders, decision makers, and research entities (partnerships): 30%

- SOI identifies collaborative partnerships (Federal, State, Tribal, or other) and how these partners will be engaged in project planning and administration;
 - SOI study design includes outreach components to disseminate research findings and information;
 - SOI includes information on how scientific findings can be used to implement new management strategies or decision frameworks.
4. Potential for cross CSC collaboration (national program applicability): 10 %
- SOI identifies potential for extending research across CSC boundaries to enhance scientific objectives and inference;
 - SOI builds upon existing work and capacity or complements related research underway in other climate science projects in the region;
 - SOI identifies how project relates to or supports the broad national science themes of the CSC.

Additional SOI Evaluation Considerations: In addition to the evaluation criteria listed above, SOIs that include one or more of the elements listed below will be evaluated more favorably. Further review will be conducted in concert with NCCWSC and the CSC network.

- **Leveraging of science needs, funds, and/or science capacity and collaboration**
Projects that extend across multiple CSC and/or LCC regions are encouraged and applicants considering such projects should consult with the relevant CSC Directors. While matching funds are not required, projects providing matching funds or leveraging other funding sources from organizations (Federal, State, Tribal, or other) will be viewed more favorably. SOIs with co-PIs from the USGS and a University consortium member are encouraged and will be evaluated more favorably. Likewise, collaborations with other organizations are encouraged.

FULL PROPOSAL (by invitation only, following SOI evaluation by the NE CSC)

Proposal Review Criteria: Review criteria for full proposals submitted to the NE CSC are listed below along with detailed weighting that the NE CSC will apply to each criterion for all proposals. Specific factors that will be evaluated by the NE CSC and Expert Review Team are discussed for each criterion.

1. **Scientific Merit and Quality of Proposed Research (Scientific Design): 30%**
The NE CSC will evaluate whether a project uses a credible scientific approach that reflects the current state of the science, has project objectives, overall strategy, study design, methodology, and analyses that are well-reasoned and appropriate to accomplish the specific scientific objectives of the project, and includes a credible data

management plan. Additionally, proposals will be evaluated for the following elements:

- Project study objectives are robust and clearly delineated;
- Proposed work demonstrates scientific soundness of overall methodological approach and study design;
- Project results have a broad geographic application or scientific inference;
- Proposal describes the desired outcomes and indicates the type of data to be collected.

2. Management Significance (Relevance/Applicability to Management Needs): 30%

The NE CSC will evaluate the degree to which a project addresses high priority items for regional LCCs and other management partners. Additionally, proposals will be evaluated for the following elements:

- Proposal identifies linkages of climate change and variability to impacts on land, fish, wildlife, habitat, or cultural heritage management issues;
- Project clearly articulates the resource management topic and decisions being considered;
- Project addresses management decisions or questions important to one or more LCC or Federal, State, or Tribal resource management organization;
- Proposal demonstrates how the research to be conducted and scientific outcomes will bring value added to resource questions and management decisions.

3. Coordination and Engagement (Working Partnerships and Knowledge Transfer): 20%

The NE CSC will evaluate two factors: (1) Degree of engagement and interaction between the study team and intended management beneficiaries, and (2) the degree to which the project is coordinated or leveraged with other resources (including leveraging additional resources and complementing/integrating with existing work of the study team members). Additionally, proposals will be evaluated for the following elements:

- Proposal identifies collaborative partnerships (Federal, State, Tribal, or other) that will participate in the project;
- Intended users of the scientific output of the project (i.e., resource managers, decision makers) are adequately engaged in the planning and administration of the proposed project;
- Project study design includes outreach components to disseminate research findings and information;
- Proposed work includes information on how scientific findings can be used to implement new management strategies or decision frameworks.

4. Study Team Qualifications (Scientific Expertise): 10%

The NE CSC will evaluate applied and relevant past work, breadth of skill/knowledge to successfully perform the proposed research, and the integration, leadership, governance, and organizational approach of the investigator/study team. Applicants with significant issues regarding timely or effective completion of projects will be

eliminated from further consideration until the issues are addressed to the satisfaction of the NE CSC and NCCWSC. Additionally, proposals will be evaluated for the following elements:

- Proposing team members have the appropriate expertise, high-level training, and qualifications to understand complex social-ecological-hydrological-climatological research;
- Proposal team includes, where appropriate, an interdisciplinary team of investigators (resource managers, decision makers, and scientists from the necessary scientific and analytic disciplines) with complimentary expertise;
- Collaborative projects (multi-PI) include clear delineation of project responsibility across the team.
- Proposed team has evidence of successfully completing similar work in the past;

5. Budget/Work Plan (Leveraging & Capacity Building): 10%

The NE CSC will evaluate project budget and work plan in relation to the proposed level of work, expected benefits, complexity and/or scope of effort, and practicality and achievability of the proposed project. Additionally, proposals will be evaluated for the following elements:

- Proposed budget and requested resources are reasonable and appropriate for the proposed level of work and expected benefits;
- Proposed work plan is practical and achievable for the proposed research project and budget;
- Project work provides opportunities to young researchers and post-docs participation;
- Proposed study builds upon existing work and capacity or complements related research underway in other climate science projects in the region.

Additional Proposal Review Considerations: In addition to the review criteria listed above, proposals that include one or more of the elements listed below will be evaluated more favorably. Further review will also be done in concert with NCCWSC and the CSC network.

- **Leveraging Science Needs:** Projects that extend across multiple CSC and/or LCC regions are encouraged where an expanded geographic range would enhance the scientific objective and scope of inference. Applicants considering such proposals should consult with the relevant CSC Directors. Applicants must state if they are listed on additional CSC proposals.
- **Leveraging Funds:** While matching funds are not required, projects providing matching funds or leveraging other funding sources from organizations (Federal, State, Tribal, or other) will be viewed more favorably.

- **Leveraging Science Capacity and Collaboration:** Proposals with co-PIs from the USGS and a University consortium member are encouraged and will be evaluated more favorably. Likewise, proposals involving collaborations with other organizations (Federal, State, Tribal, or other), demonstrating the involvement and benefits of a collaborative effort are encouraged.

ADDITIONAL INFORMATION

- Background information on the NE CSC can be found at <http://www.doi.gov/csc/northeast>, <https://nccwsc.usgs.gov>, or at <http://necsc.umass.edu>.
- **The NE CSC will host two Question-and-Answer Sessions pertaining to this solicitation on:**
 - **Monday, June 10, 2013, 10:00 AM Eastern Standard Time**
Phone: (703-648-4848), code (17236#)
Webinar Meeting: NE CSC FY14 RFP Q&A Session 1
Meeting number: 716 214 299
Meeting password: This meeting does not require a password (leave this field blank)
To register for this webinar meeting (registration is required) go to:
<https://usgs.webex.com/usgs/j.php?ED=202212527&UID=498188377&RT=MiMxMQ%3D%3D>
 - **Wednesday, June 12, 2013, 11:00 AM Eastern Standard Time**
Phone: (703-648-4848), code (17236#)
Webinar Meeting: NE CSC FY14 RFP Q&A Session 2
Meeting number: 719 748 512
Meeting password: This meeting does not require a password (leave this field blank)
To register for this webinar meeting (registration is required) go to:
<https://usgs.webex.com/usgs/j.php?ED=202213647&UID=498188377&RT=MiMxMQ%3D%3D>

Additional webinar instructions: Click on the meeting link provided. Once registration has been submitted, your name will be added to the registry for the webinar and you will receive an email with instructions on how to join the webinar via the WebEx platform. If you are having problems with the link, go to <https://usgs.webex.com> and search for the meeting by name and time. For questions or problems with the WebEx, please contact Michelle Staudinger (mstaudinger@usgs.gov).

- **NOTE RE: PASS THROUGH INDIRECT COSTS – FOR CONSORTIUM SUBMISSIONS ONLY:** All proposals submitted by the NE CSC Consortium must be submitted by UMass Amherst at the funding stage. Thus, applicants at other NE CSC consortium institutions must include an amount to cover indirect costs at UMass Amherst for this pass through. It is the policy of

UMass Amherst to apply indirect charges (in the amount of 51.5% to be applied to the first \$25,000 any funds passed through to a secondary institution). Please include the appropriate indirect charges on the budget sheets for your proposal.

- NOTE RE: MULTI-YEAR FUNDING (FOR CONSORTIUM SUBMISSIONS ONLY: To address issues related to carry-over of federal funds between fiscal years, and to deal with the fact that this solicitation can only provide funds for the first fiscal year of the project, CSCs will work with successful applicants to plan funding for multi-year projects in the fiscal years needed by the project, within the limitations of knowledge about out-year funding.
- Proposing teams are encouraged to consult or collaborate with one or more LCC in the NE CSC region in defining the problems and decisions to be addressed. For more information on LCCs in the NE CSC region, go to <http://www.fws.gov/landscape-conservation/lcc.html> or visit <https://nccwsc.usgs.gov/content/landscape-conservation-cooperatives-lccs> for an explanation of how CSCs are related to LCCs.

Landscape Conservation Cooperative partners in the NE CSC Region (listed alphabetically)

Landscape Conservation Cooperative	Science Coordinator	Coordinator
Appalachian; http://www.applcc.org	Bridgett Costanzo; bridgett_costanzo@fws.gov	Jean Brennan; jean_brennan@fws.gov
Eastern Tallgrass Prairie and Big Rivers; http://www.tallgrassprairiebcc.org	Gwen White; gwen_white@fws.gov	Glen Salmon; glen_salmon@fws.gov
Gulf Coastal Plains and Ozarks; http://gcpolcc.org	John Tirpak; john_tirpak@fws.gov	Greg Wathen; greg.wathen@tn.gov
North Atlantic; http://www.northatlanticbcc.org	Scott Schwenk; william_schwenk@fws.gov	Andrew Milliken; andrew_milliken@fws.gov
Plains and Prairie Potholes; http://www.plainsandprairiepotholesbcc.org	Mike Olson; michael_olson@fws.gov	Rick D. Nelson; rick_d_nelson@fws.gov
South Atlantic; http://www.southatlanticbcc.org	Rua Mordecai; rua_mordecai@fws.gov	Ken McDermond; kenneth_mcderrmond@fws.gov
Upper Midwest and Great Lakes; http://www.greatlakesbcc.org	Bradly Potter; bradly_potter@fws.gov	John Rogner; john_rogner@fws.gov

- Proposing teams are encouraged to consult or collaborate with other Federal agencies having climate variability and change programs. These agencies include among others: U.S. Geological Survey (http://www.usgs.gov/climate_landuse); National Oceanic and Atmospheric Administration (<http://www.climate.noaa.gov>); U.S. Environmental Protection Agency (<http://www.epa.gov/climatechange>); and U.S. Fish and Wildlife Service (<http://www.fws.gov/home/climatechange>).
- The U.S. Geological Survey and the NE CSC are currently developing consultation strategies with Native American Tribes in the NE CSC region. If interested in collaboration with Tribe(s) in the NE CSC region, please contact the NE CSC Director.

SOUTH CENTRAL CLIMATE SCIENCE CENTER

This Funding Opportunity addresses funding for FY 2014

Eligible Applicants: Federal funds administered by the South Central Climate Science Center (SC CSC) are only available to institutions participating in the affiliated academic consortium (University of Oklahoma, Texas Tech University, Louisiana State University, The Chickasaw Nation, The Choctaw Nation of Oklahoma, Oklahoma State University, and NOAA’s Geophysical Fluid Dynamic Laboratory), and USGS centers, field stations and laboratories. Partnering with and across these groups is strongly encouraged. Also, partnering across CSCs is encouraged.

SC CSC Consortium Members and Lead Contacts:

Consortium Member	Principal Investigator/ Contact
University of Oklahoma	Dr. Berrien Moore, III (contact Aparna Bamzai, email: aparna@ou.edu)
Texas Tech University	Dr. John Zak john.zak@ttu.edu
Louisiana State University	Dr. Chris D’Elia cdelia@lsu.edu
Chickasaw Nation	Mr. Wayne Kellog, P.E. wayne.kellogg@chickasaw.net
Choctaw Nation	Mr. Brian McClain bmclain@choctawnation.com
Oklahoma State University	Dr. M. Keith Owens keith.owens@okstate.edu
NOAA’s Geophysical Fluid Dynamic Laboratory	Dr. Keith Dixon Keith.Dixon@noaa.gov

It is not necessary for a university lead contact to be included on the proposal, but these contacts have a strong sense of the primary objectives of the SC CSC. As such, University PIs are

advised to discuss proposal ideas with their respective institutional lead contact.

Each proposal must have a Principal Investigator (PI) from an eligible entity. Partnerships between University consortium scientists and USGS researchers are strongly encouraged. Other partners may receive funds via subawards, but they must have a PI that is eligible.

Prospective PIs are advised to seek out and establish working partnerships with local or regional stakeholders from relevant organizations concerned with management of natural resources. These organizations may include agencies within the federal Department of the Interior, other federal agencies, state agencies, tribes, and private or non-governmental entities. The Landscape Conservation Cooperatives (<http://www.doi.gov/lcc/index.cfm>) are key stakeholders, and partnering with, or soliciting input from them is advised. Proposals that demonstrate clear engagement with stakeholders from such organizations, showing clear benefits through a collaborative process, will be evaluated more favorably.

Consortium-initiated proposals must be submitted through the University of Oklahoma. Other parties may participate on funded projects via subawards. USGS researchers may receive funds directly.

Estimated Available Funds: Approximately \$350,000 to \$850,000 may be available to fund projects that support SC CSC science priorities in Fiscal Year 2014.

Project funding amount: Individual project funds will not exceed a total of \$150,000 per year.

Project Duration: Not to exceed 24 months.

SC CSC Contact: **Dr. Kim Winton, Director**
DOI South Central Climate Science Center
301 David L. Boren Blvd, Suite 3030
Norman, OK 73072
Office: 405-325-1272
Cell: 405-833-5091
Email: kwinton@usgs.gov

Submission Portal: [HTTPS://NCCWSC.USGS.GOV/RESEARCHFUNDS](https://nccwsc.usgs.gov/researchfunds)

Science needs:

In Fiscal Year 2014, the SC CSC is interested in inviting Statements of Interest (SOIs) that address the following topical science needs:

The over-arching theme that threads through this funding opportunity for SC CSC will be “Precipitation Variability.” The South Central region exists in a zone of dramatic transition both in terms of eco-climate system diversity and in terms of occurrence of extreme events. This transition zone is the perfect natural laboratory for development of climate and ecological models, and decision support tools for land and water managers, and culture keepers. Precipitation variability should be a component of consideration in the proposals along with the science priorities listed below.

Also, the projects funded should provide relevant tools, data sets, models, etc. that help land managers make decisions at a landscape scale. That is not to say the more basic research will not be funded, but describe in the SOI and proposal why the basic research is needed and how it is related, or how it will be used in the development of the applied tools and models. (Example: Understanding soil microbiology may not help one make an immediate land management decision. However, it may be a critical component to build into ecosystem models to help predict whether a drought is of intensity and length to lead to desertification.)

The science priorities for the 2014 funding are:**1. Regional Physical Climate Variability and Trends**

a. Develop tools to comprehensively assess strengths, weaknesses, and gaps in the understanding of the drivers of regional physical climate variability and trends across the South Central CSC Region. The project should incorporate observations, modeling and development of new methods and techniques that enhance adaptive management strategies.

Within the SC CSC Region, areas of New Mexico and West Texas have suffered extreme droughts in recent years. Develop technology transfer tools to evaluate scenarios of climate change on water management, groundwater and surface water availability, economics and potential land use changes. This could include models that show the change predicted (i.e. groundwater and surface water maps under various climate scenarios and water management strategies).

Develop a critical analysis of what is known, and what are the key information gaps related to controls on precipitation variability. (For example: summarize the state of knowledge of studies done at intermediate time scales, and geographic coverage of these studies).

Example for over-arching theme: Develop a decision support system that utilizes information on precipitation variability to model landscape management decisions (e.g., rangeland/wetland/water-resources models or web tools).

b. Drought Monitoring

At present, the drought information that is available is typically not developed with stakeholders/managers in mind, therefore is often not responsive to their needs. Identify the drought information needs of stakeholders in the South Central region and the most effective methods of communicating drought information.

Evaluate the drought indices that are used for monitoring and predicting meteorological, agricultural, and hydrological drought and evaluate their effectiveness in the South Central region.

Develop new drought monitoring products that are responsive to user needs (e.g., soil moisture-based drought indices) and evaluate their effectiveness.

Develop tools that effectively communicate drought information and the associated uncertainty to stakeholders.

2. Ecosystems and Landscapes

a. Identify major ecosystem drivers and disturbances across the South Central Region; focus is fire and drought.

Develop products that assess the impacts of fire or drought on land use change on ecosystem recovery or change, and assess the current level of understanding of each. (Example: What is the state of the science in the South Central Region for fire science).

b. Develop a methodology for compiling, organizing and assessing available data in the South Central CSC Region, and for integrating results across varying scales (spatial, species, time, etc.). (Example: Identify linkages between qualitative scenario narratives and quantitative models for management applications at an intermediate time scale).

c. Along with fire, there is a gradient from the west to east where we see desertification. What are the ecologic drivers for that tipping point? Develop tools or datasets that would enhance the understanding of desertification across the SC CSC Region.

d. Develop proposals that use existing data and climate projections to generate products (namely maps) demonstrating change in range or disturbance regimes as related to climate change and precipitation variability. Examples:

Where will woody plants (e.g., Eastern red cedar, mesquite, etc....) and invasive species reside in 2050?

How will the fire regimes change? Using an existing fire regime model (e.g., Guyette et al 2012. Predicting Fire Frequency with Chemistry and Climate. Ecosystems 15(2): 322-335.) paired with existing climate projection models to develop maps of projected change.

e. Develop a product (or generate the science needed to develop a product) such as an Alien Plant Ranking System (e.g., <http://www.npwrc.usgs.gov/resource/literatr/aprs/index.htm>) applied throughout SC CSC Region that incorporates climate change. These products could define plants, animals, insects or diseases whose distribution may be affected by ecosystem changes.

f. Protocols exist for development of vulnerability assessments:

(e.g., <https://connect.natureserve.org/science/climate-change/ccvi>) . These tend to be state

based on priority species in state wildlife action plans. The need exists to complete more vulnerability assessments as well as develop synthesis products that allow evaluation of vulnerability across regional scale.

3. Human dimensions

a. As They Relate to Landscape-Scale Climate Change and Precipitation Variability

The private land holdings make up the majority of the land in the SC CSC Region. Develop models, tools or processes that help the CSC frame the science needs or articulate the science questions that land owners need answered. Develop processes that help the scientists package the science planning, research activities, and translation to the private landowner in a way that the landowners can understand it and find it beneficial enough to use it in their own land management strategies.

Develop methods that will allow the SC CSC to:

1. Understand how private land owners and agronomists make decisions related to landscape-scale climate change
2. How do they perceive risk (drought, fire, flood, etc.)?
3. What shapes their understanding of that risk (news, weather forecasts, agricultural extension personnel...etc.?)
4. How should the SC CSC frame the science questions and package the results so that it is useful to a private land owner or agricultural industry?
5. Develop an inventory of the social science tools in the SC CSC Region that exist in various communities. Define what tools are available, what they do, what are their strengths and limitations, define the geographic scale, and determine if the tools are site specific or transferable?

b. Native Americans and Cultural Resources

Effects of climate change on the sustainability of cultural resources, including approaches that utilize traditional ecological knowledge, human dimensions, and adaptation strategies. The SC CSC region includes many cultural resources that are increasingly vulnerable in a changing climate, including National Parks, National Wildlife Refuges, National Forests, other federally managed lands, and tribal lands. Managing these lands under the impacts of climate change poses a grand challenge to managers who are entrusted to preserve a variety of resources for the education, enjoyment, and livelihood of future generations. Federally recognized Indian Tribes have a tremendous interest in building capacity for resilience to the impacts of climate change on their lands and communities. Priority will go to projects that build awareness, assess the vulnerability of cultural and/or subsistence resources and explore potential adaptation actions or mechanisms for resiliency, utilize traditional ecological knowledge, and develop research networks to improve the understanding of how climate change impacts cultural resources.

c. Understanding Organizational Systems and Governance in Conservation Decision Making as it Relates to Climate Change, and Precipitation Variability

Landscape Conservation Cooperatives and the Southeast Conservation Adaptation Strategy (SECAS) have identified conservation governance systems as a priority knowledge gap in the successful implementation of conservation initiatives in response to global changes like climate change. SECAS defines the problem in the following way: “Define and assess the institutional setting within which the conservation community and other communities of practice (e.g., community planning organizations) make conservation decisions.” Within the context of this definition of the problem, the conservation community, which includes federal, state, and non-governmental organizations, often fails to effectively consider the following challenges in implementing their conservation priorities: **1)** understanding the institutional/governance context (including hierarchical governance structures) within which decisions affecting conservation are made, and; **2)** understanding how to effectively translate science information and tools into the decision making process. In order to more effectively address these knowledge gaps, the SC CSC is seeking proposals that can effectively answer one or more of the following objectives:

1. Case studies of conservation governance systems in the SC CSC region that demonstrate effective integration of conservation outcomes (targets), economic indicators, ecosystem services, and adaptive learning into decision making.
2. Pilot projects which demonstrate effective establishment of governance systems that successfully integrate conservation objectives into decision making processes at the local scale (i.e., city/municipality/county/community, watershed, private lands cooperatives, etc.). Pilot projects should demonstrate scalability and applicability at larger landscape and/or regional scales, such that landscape-scale conservation objectives can be successfully implemented through effective conservation governance systems. Pilot projects should demonstrate the relationship and integration of conservation outcomes (targets), economic indicators, and ecosystem services into an adaptive decision making process that is resilient to changing economic and political conditions.

Evaluation of Statements of Interest.

SOIs will be reviewed by the SC CSC, with input from regional partners, and by the National Climate Change and Wildlife Science Center (NCCWSC). Applicants may be contacted to provide additional or clarifying information. SOIs will be considered according to the following criteria.

- 30% Applicability to a high priority need identified by the relevant CSC
- 30% Scientific merit and quality of the research
- 30% Engagement of stakeholders, decision makers, and other research entities
- 10% Potential for cross CSC collaboration

Review Criteria for Invited Full Proposals: In addition to the criteria listed above, this solicitation will add or subtract from proposal scores for the following factors:

- **25% Scientific merit and quality of the proposed research:** will address whether a project uses a credible scientific approach that reflects the current state of the science, has project objectives, overall strategy, study design, methodology, and analyses that are well-reasoned and appropriate to accomplish the specific scientific objectives of the project, and includes a credible data management plan as described above.
 - Also: Scientific Design
 - Scientific soundness of overall methodological approach to the project.
 - Project results have broad geographic application (regional and/or beyond).
 - Describes desired outcomes and indicates the type of data to be collected and special data service needs.

- **25% Management Significance:** will address the degree to which a project addresses high priority items for regional Landscape Conservation Cooperatives and other management partners. Does this project help land managers make decisions regarding climate change and adaptation strategies?
 - Also: Knowledge Transfer
 - Engages targeted users in the study design and describes outreach components to disseminate research findings and information.
 - Identifies human dimension of project topic (i.e., safety, health, social, economic, etc.).
 - Identifies collaborative partners that will participate in the project.

 - Also: Applicability to Management Needs
 - Clearly demonstrates a connection to the SC CSC Climate Science Priorities listed above.
 - Identifies relevancy of project results to fish, wildlife, or habitat management needs.
 - Implements the shared science mission of the SC CSC across University and Federal Research agencies.

- **25% Coordination and Engagement:** will address two factors: (1) Degree of engagement and interaction between the study team *and intended management beneficiaries*, and (2) the degree to the project is coordinated or leveraged with other resources (including leveraging additional resources and complementing/integrating with existing work of the study team members).

- Also: Projects that extend across multiple CSC and/or LCC regions are encouraged where an expanded geographic range would enhance the scientific objective and scope of inference. Applicants considering such proposals should consult with the relevant CSC Directors. Applicants must state if they are listed on additional CSC proposals.
 - Also: Proposals with co-PIs from the USGS and a University consortium member are encouraged and will be evaluated more favorably. Likewise, proposals involving collaborations with other organizations (Federal, State, Tribal, or other), demonstrating the involvement and benefits of a collaborative effort will be evaluated more favorably.
 - Also: While matching funds are not required, projects providing matching funds or leveraging other funding sources from organizations (Federal, State, Tribal, or other) will be viewed more favorably. Coordinates funding with other sources of funds and leverages additional resources to carry out the proposed project (“matching” funds are not required, but are encouraged).
 - Builds upon existing work and capacity or complements related research underway in other climate science projects in the region.
 - Reaches across multiple LCCs to build upon common needs using a standard format for data and products.
 - Provides opportunities for students, young researchers, and post-docs to participate.
- **15% Study Team qualifications:** will address applied and relevant past work, breadth of skill/knowledge to successfully perform the proposed research, and the integration, leadership, governance, and organizational approach of the investigator / study team. (As noted previously, applicants with significant issues regarding timely or effective completion of projects will be eliminated from further consideration until the issues are addressed to the satisfaction of the CSC and NCCWSC.)
 - **10% Budget/work plan:** will address project budget and work plan in relation to the proposed level of work, expected benefits, complexity and/or scope of effort, and practicality and achievability of the proposed project.

Additional Information

Additional information and background on the SC CSC may be found at:

<http://www.doi.gov/csc/southcentral/index.cfm>

- **SC CSC will hold a question and answer conference on:**
 - **Monday June 10**
 - 1:00 p.m. Central Standard Time
 - Call in information: 703-648-4848, Pass Code 74401 #

- **A second call will be available on:**
 - **Wednesday June 12**
 - 10 a.m. Central Standard Time
 - Call in information: 703-648-4848, Pass Code 74401 #
- Evaluation of SOI. Applicants may be contacted to provide additional or clarifying information. The evaluation of SOIs will be conducted with the assistance of an Evaluation Team comprised of LCC coordinators and independent experts who are not applying for funds.
- The SC CSC process has identified annual science priorities in consultation with, and taking into consideration comments from, the following sources:
 - USGS Leadership headquartered at the National Climate Change and Wildlife Science Center (NCCWSC) in Reston, Virginia;
 - Coordinators for the Desert, Eastern Tallgrass Prairie and Big Rivers, Great Plains, Gulf Coastal Plains and Ozarks, Gulf Coastal Prairie, and Southern Rockies LCC's;
 - Other USGS Climate Science Center Directors;
 - Other agencies and experts.
- Proposing teams are encouraged to consult with one or more Landscape Conservation Cooperatives (LCCs) or Tribes in the SC CSC region in defining the problems and decisions to be addressed.

Primary LCCs and LCC Science Coordinators in the SC CSC Domain

LCC	LCC Coordinator and LCC Science Coordinator	Contact email address
<u>Desert</u>	<u>Genevieve Johnson</u> Aimee Roberson	<u>gjohnson@usbr.gov</u> <u>aimee_roberson@fws.gov</u>
<u>Eastern Tallgrass Prairie and Big Rivers</u>	<u>Glen Salmon</u> – Coordinator Gwen White	<u>glen_salmon@fws.gov</u> <u>gwen_white@fws.gov</u>
<u>Great Plains</u>	Dana Roth (temp) James Broska	<u>dana_roth@fws.gov</u> <u>james_broska@fws.gov</u>
<u>Gulf Coastal Plains and Ozarks</u>	<u>Greg Wathen</u> <u>John Tirpak</u>	<u>Greg.wathen@tn.gov</u> <u>john_tirpak@fws.gov</u>
<u>Gulf Coast Prairie</u>	<u>Bill Bartush</u> , Cynthia Edwards	<u>Bill_Bartush@fws.gov</u> <u>c.kallio.edwards@gmail.com</u>
<u>Southern Rockies</u>	<u>Kevin Johnson</u>	<u>Kevin_m_johnson@fws.gov</u>

- NOTE RE: PASS THROUGH INDIRECT COSTS: All proposals submitted by non-USGS entities must be submitted by the University of Oklahoma. Full proposals that are invited will get further instruction on how to address indirect costs per their partnering institution so that the appropriate indirect charges on the budget sheets may be applied.
- Multi-year Funding (relevant to USGS proposers): To address issues related to carry-over of federal funds between fiscal years, and to deal with the fact that this solicitation can only provide funds for the first fiscal year of the project, CSCs will work with successful applicants to plan funding for multi-year projects in the fiscal years needed by the project, within the limitations of knowledge about out-year funding.
- It is strongly suggested that multi-year proposals have milestones for the end of each year with a product available for each year (i.e. year 1 literature review and data set compiled, year 2 model developed, year 3 model tested and published)

SOUTHWEST CLIMATE SCIENCE CENTER

This Funding Opportunity addresses funding for FY 2014

Eligible Applicants:

Scientists and scholars affiliated with the SOUTHWEST CLIMATE SCIENCE CENTER (SW CSC) University Consortium (see Table 1 below) and USGS centers, field stations and laboratories may submit proposals in response to this Funding Opportunity. The University Consortium members and lead contacts are provided in Table 1. It is not necessary for a university lead contact to be included on the proposal, but these contacts have a strong sense of the primary objectives of the SW CSC. As such, University PIs are advised to discuss proposal ideas with their respective institutional lead contact.

Each proposal must have a Principal Investigator (PI) from either a SW CSC University Consortium member institution or from USGS. Partnerships between University consortium scientists and USGS researchers are strongly encouraged. Scientists and scholars at other institutions may participate as collaborators and subcontractors.

Prospective PIs are advised to seek out and establish working partnerships with local or regional stakeholders from relevant organizations concerned with management of natural resources. These organizations may include agencies within the federal Department of the Interior, other federal agencies, state agencies, tribes, and private or non-governmental entities. Proposals that demonstrate clear engagement with stakeholders from such organizations, showing clear benefits through a collaborative process, will be evaluated more favorably. The Landscape Conservation Cooperatives (LCCs) in the region are good portals for establishing partnerships with management agencies. Contact information for relevant LCCs is provided in Table 2.

Consortium-initiated proposals must be submitted through University of Arizona (UA). Other parties may participate on funded projects via subawards. USGS researchers may receive funds directly.

Funding Stream: All funds will be transferred from SW CSC to either a USGS entity or UA. These entities may then provide subawards to members of the CSC consortium or other parties.

Estimated Available Funds: Approximately \$600,000 may be available to fund FY14-start projects that support SW CSC research priorities.

Project Funding Guidance: The SW CSC intends to fund 3 to 4 projects through this funding opportunity with budgets that collectively sum to approximately \$600,000 (including both years of any two-year projects).

Project Duration: Not to exceed 24 months.

SW CSC Contact: **Dr. Stephen Jackson, Director**
DOI Southwest Climate Science Center
1955 E. Sixth Street
Tucson, AZ 85721
Office: 520-670-5591
Email: stjackson@usgs.gov

Submission Portal: [HTTPS://NCCWSC.USGS.GOV/RESEARCHFUNDS](https://nccwsc.usgs.gov/researchfunds)

BACKGROUND:

The U.S. Department of the Interior (DOI) established the Southwest Climate Science Center (SW CSC) in 2010 to address the challenges presented by climate change and variability in the Southwestern United States (<http://www.doi.gov/csc/southwest>). The SW CSC's mission is to provide essential scientific knowledge and tools that resource managers and other partners interested in land, water, wildlife, and cultural resources can use to anticipate, monitor, and adapt to a changing climate. The SW CSC operates using advice and guidance from a Stakeholder Advisory Committee (SAC). The SAC is chaired by the U.S. Geological Survey (USGS) Regional Director for the Pacific Region. The SW CSC also works closely with Landscape Conservation Cooperatives located wholly or partially within the SWCSC boundaries.

The SW CSC maintains two key documents that describe its geographic scope, mission, goals, guiding principles, and research priorities – a 3 to 5 year Strategic Agenda and an annual Workplan. The research priorities delineated in this funding opportunity have been guided by the long-term and annual plans in the Strategic Agenda and annual Workplan. Proposal authors are encouraged to review these documents, available at the SW CSC website: <http://www.doi.gov/csc/southwest>.

In keeping with its mission, the SW CSC identifies research priorities that are tied closely to the needs of natural-resource managers. Proposals developed in response to this funding

opportunity should focus on developing knowledge that can be directly applied to specific management challenges, either locally or broadly across the landscape. Each project should target one or more issues faced by stakeholders, generate knowledge to address that challenge, and communicate the results to stakeholders in actionable ways. The FY13 research priorities are described in the next section.

RESEARCH PRIORITIES:

For FY 2014, the SW CSC identifies six research priorities, as outlined below. Priorities 1-3 are unchanged from the FY 2013 funding opportunity, and the SW CSC welcomes statements of interest (SOIs) addressing these priorities, including revised SOIs submitted for FY 2013. Priorities 4-6 are new, and particular attention will be paid to SOIs focused on these priorities. Potential exists for cross-cutting proposals addressing multiple priorities, old and new, and we particularly encourage SOIs that effectively and convincingly speak to more than one priority. SOIs and proposals should indicate clearly which SW CSC priorities they intend to address.

- 1. Anticipating climate change and variability at intermediate timescales.** Current forecasting ability is concentrated on short time spans of weeks to months, and long time spans of a few decades, with a major gap at intermediate time spans. Yet the strong variability and changes that occur at annual to decadal frequencies in the Southwest will modulate longer-term trends, and profoundly affect hydrological and ecological realizations in the coming decades. Intermediate-scale climate variability poses challenges and opportunities for resource managers. Assessments of how annual to decadal climate variability might influence climate extremes and long-term trends are needed. These assessments may include original research or reviews of the state of the science and prospects for intermediate-scale forecasting.
- 2. Linking climatic, hydrological and ecological changes at intermediate timescales.** Climate variation at annual to decadal timescales has a large influence on hydrological and ecological systems. Hydrological extremes, both high and low, pose challenges for managers of water and other natural resources. Composition and structure of terrestrial ecosystems are strongly influenced by annual to decadal variability in spatially extensive disturbances (wildfires, mass mortality of trees) and recruitment, which in turn reflect climatic variability. Effects of such variation in disturbances and recruitment can persist for decades or longer in terrestrial ecosystems across the Southwest. Furthermore, geographic ranges and population sizes of many species are highly sensitive to interannual to decadal climate variability, which will affect their responses

to longer-term climate trends. Hydrological and ecological responses to intermediate-scale climate variability need careful study. These dynamics will occur regardless of climate change, and they will influence ecological trajectories during the longer-term changes in climate over the next century. An important scientific challenge is to anticipate the array of intermediate-scale hydrological and ecological outcomes. That will in turn help resource managers identify threats and opportunities posed by alternative intermediate-scale scenarios.

- 3. Hydrological effects of climate change in the Southwest.** Projections of 21st-century hydrological changes represent a critical need for stakeholders in the Southwest. The most recent results from the Coupled Model Intercomparison Project (CMIP5) provide an opportunity to update and improve forecasts of long-term trends in precipitation, snowpack, runoff, soil moisture, and groundwater in the region. The long-term projections (circa 2035 – 2100 CE) can be integrated and validated using observational and paleohydrological data. Projections of future hydroclimate and hydrology, with accompanying specifications of uncertainties, will be invaluable for stakeholder planning and decision-making, particularly if closely coordinated with one or more groups of stakeholders.
- 4. Effects of climate change on coastlines, estuaries, and wetlands.** Coastal regions and estuaries will be affected by sea-level rise, which will interact with changes in ocean and atmospheric circulation to alter land cover and species habitats along the California coast. The recent identification of transient ‘atmospheric rivers’ highlights the potential vulnerability of coastal regions and freshwater wetlands to extreme events. The most recent generation of climate projections (e.g., CMIP5), sea-level assessments, and research on climate extremes can be brought to bear in determining vulnerability of coastal, estuarine, and freshwater-wetland ecosystems, and developing effective management strategies.
- 5. Design and implementation of monitoring strategies.** Multiple arrays of monitoring programs and networks exist in the Southwest and adjacent regions. These networks are useful for diagnosing trends, identifying emerging threats and opportunities, determining success of past and ongoing management initiatives, and assessing accuracy of past projections. Many networks have developed haphazardly or opportunistically, and systematic assessment of existing monitoring networks and their utility for current decision-making is timely. Such assessment should be closely coordinated with stakeholders to determine how monitoring data are used, whether

existing networks and data streams are adequate for decision-making, and ways in which monitoring can be improved. Emphasis will not be on supporting monitoring programs *per se*, but on determining how monitoring strategies can best meet the needs of stakeholders.

- 6. Hydroclimatic change and terrestrial ecosystems.** Changes in hydroclimate are expected to cause substantial changes in terrestrial ecosystem properties, ranging from fundamental attributes of land cover and species habitats (e.g., vegetation composition and structure) to ecosystem functions (carbon storage, primary productivity, runoff and infiltration, forage, fuel accumulation, local to regional climate *via* albedo, evapotranspiration, and latent heat flux). Such changes can be assessed using a variety of approaches, including field observation, remote sensing, state-and- transition models, and simulations. In some settings, paleoecological and paleoclimatic studies can contribute to sensitivity assessment and model validation. Local to regional studies of terrestrial ecosystem responses to hydroclimatic change, developed in close coordination with stakeholders, will provide valuable information for decision-making and planning.

STATEMENT OF INTEREST REVIEW CRITERIA:

Statements of Interest will be ranked and evaluated according to the following criteria (see Section 2, on Page 3 of this document):

- 1. Engagement of stakeholders, decision-makers, LCCs, or other SW CSC partners (30%)**
- 2. Applicability to regional scientific priorities as described above (40%)**
- 3. Applicability to national, cross-cutting CSC program goals (see Section 5 above, page 4) and the goals of the National Climate Change and Wildlife Science Center (<http://nccwsc.usgs.gov>) (10%)**
- 4. Scientific merit and quality of the proposed research (20%)**

INVITED PROPOSAL REVIEW CRITERIA:

The Director of the SW CSC will assemble a Scientific Review Team (SRT) to assist in the evaluation of invited proposal submissions. With advice from the SRT, the Director will review and rank proposals according to the criteria described in Section 4 above (Page 3) and summarized below. Additional factors described in the “Additional Considerations” on Page 5 will be evaluated for each proposal.

6. **Scientific Merit and Quality of Proposed Research (Scientific Design) (35%)**
7. **Management Significance (Relevance/Applicability to Management Needs) (20%)**
8. **Coordination and Engagement (Working Partnerships and Knowledge Transfer) (20%)**
9. **Study Team Qualifications (Scientific Expertise) (15%)**
10. **Budget/Work Plan (Leveraging & Capacity Building) (10%)**

ADDITIONAL INFORMATION:

- Background information on the Southwest Climate Science Center can be found at <http://www.doi.gov/csc/southwest/index.cfm>
- **The Southwest Climate Science Center will host two questions and answer sessions pertaining to this solicitation:**

Monday, 3 June, 2013, 11:00pm Mountain Standard time:

Call-in phone number: 424-203-8400

Access code: 257376#

Thursday, 6 June, 2013, 2:00 Mountain Standard time:

Call-in phone number: 424-203-8400

Access code: 257376#

- **NOTE RE: PASS-THROUGH INDIRECT COSTS:** All proposals submitted by non-USGS entities will be funded through a cooperative agreement with the host institution, which, for the SW CSC, is the University of Arizona (UA). UA applies indirect charges (51.5% of total direct costs) to the first \$25,000 of any funds passed through to another institution. Accordingly, the maximum UA indirect charge amounts to \$12,875. Please include the appropriate indirect charges, for both UA and other institutions, on the budget sheets for your proposal.
- All proposals are expected to have a clear breakdown of annual costs requested of the SW CSC for each participating institution for the duration of the project. Matching funds, in-kind contributions, and other sources beyond the request to the SW CSC should also be summarized.
- **Multi-year Funding (relevant to USGS proposers):** To address issues related to carry-over of federal funds between fiscal years, and to deal with the fact that this solicitation can only provide funds for the first fiscal year of the project, CSCs will work with successful

applicants to plan funding for multi-year projects in the fiscal years needed by the project, within the limitations of knowledge about out-year funding.

Table 1. SW CSC University consortium members and lead contacts:

University of Arizona (Jonathan T. Overpeck)
 Desert Research Institute (Kelly Redmond)
 Scripps Institution of Oceanography (Alexander Gershunov)
 University of California – Davis (Mark W. Schwartz)
 University of California – Los Angeles (Glen M. MacDonald)
 University of Colorado (Bradley H. Udall)

Table 2. Southwestern Landscape Conservation Cooperatives and Contacts:

California LCC		
Debra Schlafmann	Coordinator	debra_schlafmann@fws.gov
Rebecca Fris	Science Coordinator	Rebecca_Fris@fws.gov
Desert LCC		
Genevieve Johnson	Coordinator	gjohnson@usbr.gov
Aimee Roberson	Science Coordinator	Aimee_Roberson@fws.gov
Great Basin LCC		
Linda Kelly	Coordinator	likelly@blm.gov
Todd Hopkins	Science Coordinator	Todd_Hopkins@fws.gov
North Pacific LCC		
John Mankowski	Coordinator	John_Mankowski@fws.gov
Mary Mahaffy	Science Coordinator	Mary_Mahaffy@fws.gov
Southern Rockies LCC		
Kevin Johnson	Coordinator	kevin_m_johnson@fws.gov
John Rice	Science Coordinator	JRice@usbr.gov

**APPENDIX A
FORMAT FOR STATEMENTS OF INTEREST**

Statement of Interest Structure:

Section 1. Project Administration Information (1/2 page)

Section 2. Partnerships & Communication (1/2 page)

Section 3. Project Summary (1 page)

Section 4. Estimated Budget

Two pages maximum with a standard font at 10 point or larger with one-inch margins (two page maximum *does not* include Estimated Budget Table). Statements of Interest (SOIs) must be submitted to the online proposal submission portal [[HTTPS://NCCWSC.USGS.GOV/RESEARCHFUNDS](https://nccwsc.usgs.gov/researchfunds)] in Portable Document Format (**PDF**).

In addition to submitting the PDF document, please also complete any questions that appear within the online proposal management system.

If you are submitting an SOI for a project that extends multiple CSCs, please submit the SOI to each CSC of interest and state directly in the SOI PDF document that you plan to do so.

SECTION 1. PROJECT ADMINISTRATIVE INFORMATION (½ page)

- Project title
- Short description (generally one sentence)
- Region to which the proposal is responding (Northeast, South Central or Southwest)
- Name of Lead Agency/Institution/Organization requesting funding
- Project Lead Contact or Principal Investigator
- Mailing Address
- City, State, Zip
- Telephone, Fax, and E-mail

SECTION 2. PARTNERSHIPS & COMMUNICATION (½ page)

- Description of any collaborative partnerships involved in this project.
- List of additional investigators & affiliations involved in project.
- Potential links to Landscape Conservation Cooperatives (LCCs) and other DOI Partner Strategic Science needs.
- Opportunities provided to young researchers and post-docs.

SECTION 3. PROJECT SUMMARY (1 page)

Please provide a brief narrative summary of the project based on the needs and evaluation criteria within the CSC-specific sections of this document for the region to which the proposal applies.

SECTION 4: ESTIMATED BUDGET

Please provide an estimated budget, including relevant indirect costs (including pass through costs, if any, at the CSC host institution). Please use the following format for an estimated budget table, and include it as the last page in the SOI PDF document (does not count towards the two page maximum limit):

Institution Name	FY 2014	FY 2015	FY 2016 (if applicable)	Total
Institution 1				
Institution 2				
Institution 3				
Institution 4				
ADD ADDITIONAL LINES AS NEEDED				
Total				

In addition to including this budget table in the SOI PDF document, please also enter FY budget totals directly into the online proposal management system.

- The Budget Template “years” are FISCAL YEARS in which USGS will disburse funds.
- USGS proposers need to be aware of relevant deadlines (e.g. FY14 awards made close to end of FY, and carryover restrictions) and request funding in ways that minimize problems. USGS proposers are responsible for management of the initial FY funding, either by spending it or making carryover arrangement with their own Center/agency management.

APPENDIX B
FORMAT for INVITED PROPOSALS

Proposals with multiple institutions should be submitted as a single proposal into the online Proposal Manager System.

Proposal Structure: Proposers must submit three separate documents (see additional guidance below for each item):

1) a **single PDF document** with:

- Cover page information and project summary (max. 1 page)
- General Public Summary (not to exceed 200 words; submitted on a separate page and in the online proposal management system)
- Proposal body (max. 7 pages)
- Budget justification (max. 1 page)
- Curriculum vitae (max. 2 pages per investigator)
- Literature cited (no page limit)
- Letters of support (optional, as needed)

2) a **Budget form** using the Excel template available in the Proposal Manager system

3) a **Data management plan** submitted via a web-form in the Proposal Manager System)

In addition to the PDF document components, some information will be collected within the online proposal management system. Please follow instructions within the system and below.

A. Proposal Cover Page and Project Summary Format (max. 1 page)

Project title: Brief but descriptive title of proposed project

Principal investigator (PI): List the name of the Principal Investigator. All communications and notifications will be directed to this individual and to the Fiscal Contact (see below). Other participants should be listed below.

Phone number of PI:

Email of PI:

Name and number of PI's cost center (only if USGS PI):

Name of project fiscal contact: List the name of the fiscal contact. All communications and notifications will be directed to this individual and to the PI.

Phone number of fiscal contact:

Email of fiscal contact:

Names/Affiliations of other cooperators and partners (no contact information required):

Proposed start date and estimated duration of project (e.g., Start Date: 1 January 2014, 12 months):

Total project funding requested from the CSC:

Funding from other sources to be applied to this project: List additional funding sources.

Keywords: (list three *general* keywords that best characterize the proposed project; it is unnecessary to include climate or climate change as a keyword)

Project Summary: The project summary should provide a synopsis of the overall proposal. Key sections from the full proposal that *must* be summarized are: (1) Objectives/Justification, (2) Background, (3) Procedures/Methods, (4) Expected Products and Information/Technology Transfer, and (5) Personnel/Cooperators/Partners. The project summary should be included in the proposal PDF and should also be submitted separately in the online proposal management system. **NOTE: this summary does not replace the required “general public” summary, as noted above on Page 5 and in the Proposal Body section below.**

B. GENERAL PUBLIC SUMMARY: Provide a synopsis of the overall project that is written for a general public audience, does not exceed 200 words, and is suitable for sharing on public websites and other outreach methods. Key points to include:

- Why is the project important?
- Why should the public care?
- How will the results of the project improve aspects of climate change management, well-being, economic or other issues that resonate with stakeholders?

The General public summary should be submitted on a separate page within the proposal PDF document and should also be submitted separately in the online proposal management system.

C. PROPOSAL BODY (max. 7 pages)

Note: The proposal body must be limited to seven pages, single-spaced with one-inch margins and 12-point font, and formatted for standard 8.5x11-inch paper.

OBJECTIVES/JUSTIFICATION: Explain the objective of the proposed project (or need for continuation of existing project). Describe the significance and priority of the issue to be addressed and explain how the project relates to that issue. Identify instances in which the issue or question has been cited as a national or regional conservation priority.

BACKGROUND: Describe the scientific or technical issues that underlie the proposed activity, including available relevant findings, related ongoing activities, problems to be addressed, and scientific value of anticipated results. The results of related projects supported by USGS or LCCs should be described, including their relation to the currently proposed work.

PROCEDURES/METHODS: Describe the procedures and methods to be followed in sufficient detail to permit evaluation by peer reviewers of likely success. If applicable, the following topics should be addressed: hypotheses to be tested; modeling approach to be used; model validation procedures; acceptance and rejection criteria; statistical analysis approaches; other methods used in research efforts, sampling, or surveying. If standard methods are used, a reference for the methods is sufficient.

GEOGRAPHIC SCOPE: Unless otherwise noted proposals should address information needs of the CSC region they are applying to.

EXPECTED RESULTS AND PRODUCTS: Describe expected products to be generated from the project (e.g., models, data sets, associated products and metadata, written reports, scientific publications, maps, software, etc.). Specifically identify products to be developed within a period of one to three years and key milestones for producing those products.

TECHNOLOGY/INFORMATION TRANSFER: Identify intended users of project results or products and describe how results or products will be made available for application by clients and customers (e.g., DOI resource- and land-management agencies, other federal agencies, tribes, state and local governments, universities, and non-government organizations). Describe plans for digital integration and dissemination of data and products resulting from the project.

DOCUMENTATION OF MANAGEMENT APPLICATION / RELEVANCE: Describe what will be done at the start of the project to ensure project deliverables will respond to management information needs in the CSC REGION, including how LCCs will be involved in planning and implementing the project. Describe how project approach will ensure that expected products meet the needs of resource managers, including LCCs. Describe the interactions between investigators and the intended users of the scientific output of the project.

COOPERATORS/PARTNERS: Indicate all cooperators or partners making significant contributions to the success of the proposed project. Provide brief summaries of the respective roles and types of contributions (e.g., financial, in-kind, technical) to the achievement of the project objectives. Include names, addresses, affiliations, phone, and email addresses. Indicate arrangements and mechanisms for establishment and execution of partnerships. Describe any arrangements to include natural and cultural resource managers in the study design team. Summarize how this project will rely upon, build upon, or otherwise leverage either (1) existing USGS funding or projects or (2) the funding and resources of partners and collaborators.

FACILITIES/EQUIPMENT/STUDY AREA(S): Describe facilities, major equipment, computing infrastructure and field-study areas utilized in the project.

WORK AND REPORTING SCHEDULE: Provide a timetable for achievement of milestones, other accomplishments, and completion of the project.

QUALIFICATIONS OF PROJECT PERSONNEL: Summarize briefly the qualifications of each principal investigator, co-investigator, and any other personnel with primary responsibilities and making significant contributions to the success of the proposed project. Refer to CVs as appropriate.

LEGAL AND POLICY-SENSITIVE ASPECTS: Address any issues related to legal or policy mandates. Include any necessity for state or federal permits (e.g., the need for permits to collect or hold wild animals, to access federal or private lands, or any restrictions on the dissemination of data or products). If field work will be completed on federal lands, identify and indicate whether arrangements have already been made for access to the land.

ANIMAL USE OR HUMAN SUBJECTS: Any research on animals must go through the investigators' institutional Animal Care and Use Committee (IACUC) and get formal approval by their Institutional Review Board or similar entity. Any research working with human subjects must go through the investigators' institutional Human Subjects Review process and get formal approval by their Institutional Review Board or similar entity.

TABLES AND FIGURES: Tables and figures may be included in the proposal body, as necessary, but they must be within the seven-page limit.

D. DATA MANAGEMENT PLAN: Please see (<https://nccwsc.usgs.gov/content/data-policies-and-guidance>) for guidance and instructions on how to develop the required Data Management Plan (DMP). The Data Management Plan will be submitted via a web-form on the proposal submission portal (*PDF documents will not be accepted for the DMP, please insert information directly into the web-form*).

If the proposal is selected for funding, the Data Management Plan must be updated within three months of project initiation and reviewed periodically until project completion. A CSC Data Steward will work with research teams to answer any questions and assist in the development and review of the Data Management Plan for funded projects. If there are any questions, please contact Emily Fort (efort@usgs.gov), the Data and Information Coordinator for the National Climate Change and Wildlife Science Center.

E. BUDGET FORM: Proposers are required to use the Budget Form Template (Excel) provided in the online Proposal Management System. Additional information about costs can be provided in the Budget Justification (see Section F below).

Below is a listing of the categories of budget information that will be required in the template. This information will be broken out by institution and by fiscal year. Insert additional lines or columns as needed. Please include separate "institution" columns for:

- The CSC Host institution (if the project has a university component)
- Any CSC Consortium institutions

- Any USGS unit receiving funding. Thus, a project involving two consortium universities and a USGS lab would have THREE “institution” columns.
- Any other participant (e.g. a non-consortium university) whose activities are “major” in terms of the project budget or responsibility for completion. (As noted below, smaller partners and minor contracts, e.g. sample analysis, should be included under Contractual or Consultant Services)

Budget Information:

- A. Personnel (Salaries)**
- B. Fringe Benefits**
- C. Travel**
- D. Equipment**
- E. Supplies**
- F. Contractual (or Consultant Services) – this should include “minor” contracts (e.g. well driller) and other minor partners.**
- G. Construction**
- H. Other (i.e. Publication costs, IT services, Facilities, Lab Fees, Student Tuition)**
- I. Total Direct Costs (*automatically calculated in template*)**
- J. Modified Total Direct Costs (*University/CSC proposals only*)**
- K. Indirect Costs (Overhead/Burden)**
- L. Project Total Costs (Total Direct + Indirect) (*automatically calculated in template*)**
- M. ***PASS THROUGH INDIRECT COSTS*** (*For university/CSC proposals only*)**
- N. TOTAL REQUESTED FUNDS (*automatically calculated in template*)**

NOTE RE: PASS THROUGH INDIRECT COSTS – FOR CONSORTIUM PROPOSALS ONLY: All proposals submitted by the CSC Consortium must be submitted by a CSC Host University. Applicants at other consortium institutions may be required to include an amount to cover indirect costs at the Host University for this pass through. Please include the appropriate indirect charges on the budget sheet for your proposal. Please review carefully the specific CSC section describing required indirect charges that must be included in such proposals. Proposers are strongly encouraged (and in some cases required by the CSC or Host institution) to consult with the CSC University Director concerning indirect cost policies for funds passed through the host institution.

- The Budget Template “years” are FISCAL YEARS in which USGS will disburse funds.
- USGS proposers need to be aware of relevant deadlines (e.g. FY14 awards made close to end of FY, and carryover restrictions) and request funding in ways that minimize problems. USGS proposers are responsible for management of the initial FY funding, either by spending it or making carryover arrangement with agency management.

F. BUDGET JUSTIFICATION (max. 1 page)

A budget justification must be included to explain project costs in the categories outlined below. Detail should be sufficient to allow evaluation by reviewers of the costs proposed. Explain requests in each category:

Salaries and fringe benefits: Include estimated commitment to the project (by hours, months, percent of time or other clear metric) and rate of compensation proposed for each named individual (e.g., the PI) or category (e.g., graduate student). Fringe benefits: Give and explain the proposed rates/amounts in conformance with policies of the investigator(s) institution(s).

Travel: Specify travel requirements for field work, project meetings, and/or conference attendance for presenting project results. Itemize estimated travel costs to show the number of trips required, destinations, the number of people traveling and per diem rates, cost of transportation, and miscellaneous expenses for each trip. Calculations of other special transportation costs (such as vehicle rental costs) should also be shown.

Equipment: Itemize any proposed permanent equipment acquisitions (\$5,000 or more) and show the estimated cost of each item.

Other: Explain costs including publication costs, IT services, facilities, lab fees, and student tuition.

Modified Total Direct Costs (MTDC): Explain what is not included in direct costs for the purposes of calculating indirect costs.

Indirect costs: Provide indirect cost rate and amount approved for each institution.

Partner contribution: provide summary of any financial contributions from partners or match from your institution. Any contributions from partners should be documented in a letter of support.

G. CURRICULUM VITAE (max. 2 pages per investigator)

H. LITERATURE CITED (no page limit)

Include full citations at the end of the proposal body. The seven-page maximum does not apply to citations.

I. LETTERS OF SUPPORT (optional as needed, max. 1 page each)

APPENDIX C ANNUAL REPORT INSTRUCTIONS FOR CSC-FUNDED PROJECTS

This document contains instructions for completing an **annual report** for projects funded by a Climate Science Center (CSC). Annual reports of your project activities provide a record of your study and preliminary results. Annual reports serve several important functions to the CSC and are used as:

- An essential component of the CSC due diligence activities;
- A means for PIs to communicate significant preliminary research findings or reasons for project delays;
- A metric for gauging the impact of CSC funding programs;
- Presentations and website communication services to advance CSC's mission and activities.

Please note that annual reports are due within ninety (90) days of the anniversary of the effective date of the Cooperative Agreement. Failure to provide the required information may delay payments of your Agreement and may jeopardize your ability to participate in future CSC funding opportunities. Please submit completed reports electronically to the Director of the CSC from which funds were received. Additional questions, comments, and supplemental information may also be sent to this address.

Annual reports do not need to be lengthy, but we ask that you include the following information:

1. ADMINISTRATIVE: Please include name and contact information of the award recipient, agency or institution, project title, agreement number, date of report, and period of time covered by the report.

2. PURPOSE AND OBJECTIVES: Describe the project goals and objectives, with particular emphasis on changes made to the objectives as stated in the original proposal. If the objectives have been added to, eliminated, or modified, please explain why these changes have been made.

3. ORGANIZATION AND APPROACH: Explain how each research task is being conducted. Briefly list which research methods are being used to achieve results, including new methods that were not described in the original proposal. Please also discuss any problems or delays encountered in conducting the research during the reporting period.

4. RESULTS: Present your preliminary project results if possible. Both quantitative and qualitative results (descriptions of how well or poorly something worked) are useful. Of

particular interest are major discoveries, innovative approaches and solutions, and accomplishments made by the project team to date.

5. NEXT STEPS: State and describe the next steps in the research, including an updated project timeline and anticipated completion date.

6. OUTREACH: Describe all project-related outreach opportunities to date. Include a list of articles that are in preparation, under review, accepted, or published in peer reviewed journals and other non-peer reviewed journals. Also list project-related conference presentations, seminars, webinars, workshops, or other presentations to the public made by research team members. Please also report on any communications with decision-makers, including their name and agency and the date(s) and frequency of your communications. Information on whether the decision-makers were involved in the design of the project plan or if the research has been tailored to address a specifically-stated management need is also helpful.

7. BUDGET: Briefly describe the budget, with particular emphasis on changes to the budget that was submitted in the original proposal. Please discuss reasons for substantial budget modifications or why funds have not been spent as expected.

APPENDIX D FINAL REPORT INSTRUCTIONS FOR CSC-FUNDED PROJECTS

This document contains information and instructions necessary to complete the **final report** for projects funded by a Climate Science Center (CSC). The final report of your CSC-funded research project provides a record of your study and its results. Your report will serve as a resource for others: copies of project reports are available to the public upon request. The final report serves several important functions to the CSC and is used as:

- An essential component of CSC due diligence activities;
- A metric for gauging the impact of CSC funding programs;
- An opportunity for Principal Investigators (PIs) to suggest areas for improvement;
- Presentations and website communication services to advance the CSC's mission and activities.

Please note that final reports are due within ninety (90) days after the close of the performance period covered by the Agreement. Failure to provide the required information may delay final payments of your Cooperative Agreement and may jeopardize your ability to participate in future CSC funding opportunities. Please submit completed reports electronically to the Director of the CSC from which funds were received. Additional questions, comments, and supplemental information may also be sent to this address.

The final report shall include the following sections:

- 1. ADMINISTRATIVE:** Please include name and contact information of the Recipient, Agency or Institution, project title, agreement number, date of report, period of time covered by the report, and actual total cost.
- 2. PUBLIC SUMMARY:** The public summary should be concise and informative, and should be self-contained and intelligible to a layperson. In less than 300 words please describe your major scientific achievements to a non-scientific community (i.e., in non-scientific language) including major benefits of your research to society at large. Highlight the findings and significance of your research to expanding general knowledge in your scientific discipline, and the application of the results of your research to address significant societal problems. The CSC may use the public summary in publicly-distributed documents and other materials.
- 3. TECHNICAL SUMMARY:** The technical summary should outline the goals of the original research project and provide a technical description of how these goals were or were not met, highlighting specific achievements. Please state major research accomplishments made possible by receiving CSC funding. Please indicate how your research results contributed to the advancement of scientific knowledge regionally and/or nationally.

4. PURPOSE AND OBJECTIVES: This section should include information about the issue(s) the project addressed, and the community it serves. What were the original objectives identified during project initiation? Were they met? Have changes eliminated, added to, or modified the original objectives? Please describe any differences from the original proposal and why these changes were made. This is valuable information for others who are studying the same topic and essential for our evaluation of the project.

5. ORGANIZATION AND APPROACH: This section of the report explains in task orientated terms how the research activities of the project were conducted. Briefly list which research methods were used to achieve results and why they were chosen by the team.

6. PROJECT RESULTS: Present your project results. Quantitative results (numerical and/or statistical data) and qualitative results (descriptions of how well or poorly something worked) are both important. Tables, graphs and other figures representing your data are excellent ways to summarize data and present them in an accessible way.

7. ANALYSIS AND FINDINGS: In this section, describe research findings and list major discoveries, innovative approaches and solutions, and accomplishments made by the project team. Please describe the corresponding management applications relevant to these scientific findings.

8. CONCLUSIONS AND RECOMMENDATIONS: In this section, discuss the results of the project and what you found out. Did you encounter any problems during the project? What project tasks were not completed and why? What would you do differently if you did this project again? Also state and describe the recommended next steps. Based on what you've learned, what do you think should be studied next?

9. OUTREACH: List the type of outreach that you did, or expect to do, including any publications or other presentations of your project to the public. Include a list of articles that emerged from this research. The list should include articles in preparation, under review, accepted, or published in peer reviewed journals and other non-peer reviewed journals. List any project-related conference presentations made by any team members.