Agriculture and Food Research Initiative Competitive Grants Program

Modifications to the RFA are in red:

P2. Stakeholder Input for centers of excellence

P26. Change Conference Projects to Research Projects

P27: Add Non-Land Grant College of Agriculture before NLGCA

P33. Under 2b. Page Limits. Please Change "For Standard Research, Standard Integrated, New Investigator, and Strengthening Standard Grant applications" to "For Standard Research, Standard Integrated, New Investigator, and Strengthening Standard Grant, Conference, and Strengthening Conference application

Agriculture and Natural Resources Science for Climate Variability and Change Challenge Area

FY 2015 Request for Applications (RFA)

LETTER OF INTENT DEADLINE: April 2, 2015

APPLICATION DEADLINE: June 4, 2015

ELIGIBILITY: See Part III, A of RFA

USDA
United States Department of Agriculture
National Institute of Food and Agriculture

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE; U.S. DEPARTMENT OF AGRICULTURE

AGRICULTURE AND FOOD RESEARCH INITIATIVE
COMPETITIVE GRANTS PROGRAM –
AGRICULTURE AND NATURAL RESOURCES SCIENCE FOR CLIMATE VARIABILITY AND CHANGE CHALLENGE AREA

INITIAL ANNOUNCEMENT

CATALOG OF FEDERAL DOMESTIC ASSISTANCE: This program is listed in the Catalog of Federal Domestic Assistance under 10.310.

DATES: A Letter of Intent (LOI) must be received by (applications for conference grants are excluded from LOI requirement) **by 5:00 p.m. Eastern Time** on **April 2, 2015** (see Part IV, A. of this RFA Applications must be received via Grants.gov by **5:00 p.m. Eastern Time** on **June 4, 2015**. Applications received after the applicable deadline will not be reviewed unless extenuating circumstances exist (Part III, Section 6.1 of the NIFA Grants.gov Application Guide). Comments regarding this request for applications (RFA) must be submitted within six months from the issuance of this notice. Comments received after this date will be considered to the extent practicable.

STAKEHOLDER INPUT: The National Institute of Food and Agriculture (NIFA) seeks your comments about this RFA. We will consider the comments when we develop the next RFA for this program, if applicable, and we'll use them to meet the requirements of section 103(c)(2) of the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7613(c)(2)). Submit written stakeholder comments by the deadline set forth in the DATES portion of this notice to: Policy@nifa.usda.gov. (This e-mail address is only for receiving comments regarding this RFA and not requesting information or forms.) In your comments, please state that you are responding to the Agriculture and Food Research Initiative (AFRI) Agriculture and Natural Resources Science for Climate Variability and Change RFA.

As part of the National Institute of Food and Agriculture's (NIFA) strategy to successfully implement the 2014 Farm Bill, NIFA is soliciting stakeholder input on NIFA's centers of excellence strategy. Between January and March 2015 NIFA will hold webinars to collect stakeholder input about the centers of excellence strategy in fiscal year (FY) 2015. Upcoming dates for the informational outreach webinars are February 26, 2015 and March 12, 2015, they will also be announced on the NIFA website. The full transcript of the webinars will also be available on the NIFA website. NIFA will also request to receive input through an advertised call-in number, fax and email. All comments and suggestions for the FY 2015 centers of excellence should be received by March 30, 2015.

EXECUTIVE SUMMARY: AFRI is a competitive grant program to provide funding for fundamental and applied research, education, and extension projects in food and agricultural sciences. In this RFA, NIFA requests applications for AFRI Agriculture and Natural Resources Science for Climate Variability and Change (AFRI ANRCVC) Challenge Area Program for FY 2015. The goal of this program is to support research to facilitate the adaptation of

agroecosystems and natural resource systems to climate variability and the implementation of mitigation strategies in those systems. In FY 2015, applications are sought in the following priority areas:

1) Climate and Microbial Processes in Agroecosystems;
2) Climate Resilient Land Use for Agriculture and Forestry; or
3) Synthesis and Assessment of USDA NIFA's Climate Investments.

The amount available for support of this program in FY **2015** is approximately **$5 million**

This notice identifies the objectives for ANRCVC projects, the eligibility criteria for projects and applicants, and the application forms and associated instructions needed to apply for an AFRI ANRCVC Challenge Area grant.

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PART I—FUNDING OPPORTUNITY DESCRIPTION

A. Legislative Authority and Background

Section 7406 of the Food, Conservation, and Energy Act of 2008 (FCEA) (Pub. L. 110-246) amends section 2(b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)), as amended and reauthorized by section 7404 of the Agricultural Act of 2014 (Pub. L. 113-79). to authorize the Secretary of Agriculture to establish the Agriculture and Food Research Initiative (AFRI); a competitive grant program to provide funding for fundamental and applied research, education, and extension to address food and agricultural sciences. Grants shall be awarded to address priorities in U.S. agriculture in the following areas:

1. Plant health and production and plant products;
2. Animal health and production and animal products;
3. Food safety, nutrition, and health;
4. Bioenergy, natural resources, and environment;
5. Agriculture systems and technology; and
6. Agriculture economics and rural communities.

To the maximum extent practicable, the National Institute of Food and Agriculture (NIFA), in coordination with the Under Secretary for Research, Education, and Economics (REE), will make grants for high priority research, education, and extension, taking into consideration, when available, the determinations made by the National Agricultural Research, Extension, Education, and Economics Advisory Board (NAREEEAB) pursuant to section 2(b)(10) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)(10)), as amended. The authority to carry out this program has been delegated to NIFA through the Under Secretary for REE.

B. Purpose and Priorities

The purpose of AFRI is to support research, education, and extension work by awarding grants that address key problems of national, regional, and multi-state importance in sustaining all components of food and agriculture, including farm efficiency and profitability, ranching, bioenergy, forestry (both urban and agroforestry), aquaculture, rural communities and entrepreneurship, human nutrition, food safety, physical and social sciences, home economics and rural human ecology, biotechnology, and conventional breeding. Through this support, AFRI advances knowledge in both fundamental and applied sciences that is important to agriculture. It also allows AFRI to support education and extension activities that deliver science-based knowledge to people, allowing them to make informed practical decisions. This AFRI RFA is announcing funding opportunities for integrated, research, education, and/or extension projects.

Supporting the many components of agriculture under the constraints of a growing population, pressure on natural resources, and the challenges of climate variability and change, requires research, education, extension, and integrated programs that increase agricultural and natural resource sustainability. The term "sustainable agriculture" (National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA), 7 U.S.C. 3103) means an integrated system of plant and animal production practices having a site-specific application that will over

the long-term achieve the following goals: 1) satisfy human food and fiber needs; 2) enhance environmental quality and the natural resource base upon which the agriculture economy depends; 3) make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls; 4) sustain the economic viability of farm operations; and 5) enhance the quality of life for farmers and society as a whole.

The National Research Council Committee on Twenty-First Century Systems Agriculture recently updated and simplified this definition as a four-part goal: satisfy human food, feed, and fiber needs and contribute to biofuel needs; enhance environmental quality and the resource base; sustain the economic viability of agriculture; and enhance the quality of life for farmers, farm workers, and society as a whole. The Committee states that progress toward these goals will require robust systems that adapt to and continue to function in the face of stresses, are productive, use resources efficiently, and balance all four goals across all scales of farms and enterprises. They further state that if the United States is to maintain adequate resources to meet food, feed, fiber, and biofuel needs, progress toward meeting the four goals must be accelerated. This acceleration must be based on research that determines ways to reduce tradeoffs and enhance synergies among the four goals while managing risks associated with their pursuit.

AFRI is intended to promote advances in U.S. agriculture and forestry. Agriculture, however, is increasingly worldwide in scope and reach. To attain AFRI's goals for U.S. agriculture and global competence of our nation's workforce, applicants to Foundational or Challenge Area RFAs are encouraged to include international partnerships or engagement in proposals as appropriate. Applicants are asked to keep in mind that while international activities supported by AFRI may contribute to Food Security as described in the U.S. Government's Feed the Future Food Security initiative (www.feedthefuture.gov), any international activity proposed under AFRI such as partnerships, exchanges, training, trips, etc., must first and foremost support AFRI's domestic program goals. Activities focused solely on agricultural development in other countries should not be submitted to AFRI. Applicants must clearly describe and demonstrate how international activities proposed in applications submitted to AFRI will contribute to and support advances in American agriculture.

If international activities (*e.g.*, partnerships, exchanges, travel, etc.) are proposed, applicants must describe the indicators that they will use to assess those activities. Appropriate indicators include but are not limited to those posted at the U.S. government's Feed the Future global food security initiative Web site (www.feedthefuture.gov/progress). The contact for questions regarding global engagement is Michael McGirr (mmcgirr@nifa.usda.gov) or (202) 205-3739.

AFRI Stakeholder Input

The programs described herein were developed within the context of the authorized purposes of USDA research, extension, and education projects and activities. In addition, AFRI obtains input from Congress, NAREEEAB, and many university, scientific, and agricultural committees and organizations. NIFA developed a stakeholder's web page (www.nifa.usda.gov/business/reporting/stakeholder.html) to document stakeholder input that is considered when developing and updating Program Area Descriptions and Priorities each year.

For information on stakeholder input related to AFRI and the ANRCVC Challenge Area program, please visit: (http://www.nifa.usda.gov/funding/afri/afri.html).

Alignment with U.S. Government Directives and Priorities

The AFRI ANRCVC Program for FY 2015 is aligned with Section 7406, Subsection (b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)) as amended and reauthorized by section 7404 of the Agricultural Act of 2014 (Pub. L. 113-79) under (b) Priority Areas, (2) BIOENERGY, NATURAL RESOURCES, AND ENVIRONMENT- Natural resources and the environment, including--(i) fundamental structures and functions of ecosystems; (ii) biological and physical bases of sustainable production systems; (iii) minimizing soil and water losses and sustaining surface water and ground water quality; (iv) global climate effects on agriculture; and (v) forestry.

The program support's the USDA contribution to The President's Climate Action Plan, released in June 2013 (http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf). The ANRCVC program supports the following initiatives in that plan–

- Pillar 1 (*Cut Carbon Pollution in America*)
    - Goal IV (*Reducing other Greenhouse Gas Emissions*); and
- Pillar 2 (*Prepare the U.S. for the Impacts of Climate Change*)
    - Goal II (*Protection our Economy and Natural Resources*);
    - Goal III (*Using Sound Science to Manage Climate Impacts*).

The ANRCVC Program aligns with the 2014-2018 USDA Strategic Plan (http://www.usda.gov/documents/usda-strategic-plan-fy-2014-2018.pdf).
The program specifically addresses the following goal of the 2014-2018 USDA Strategic Plan –

- Goal 2 (*Ensure our National Forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources.*

The program is supportive of the following objectives within Goal 2 of the 2014-2018 USDA Strategic Plan –

- Objective 2.1 (*Improve the health of the nation's forests, grassland, and working lands by managing natural resources*);
- Objective 2.2 (*Lead efforts to mitigate and adapt to climate change, drought, and extreme weather in agriculture and forestry*); and
- Objective 3.1 (*Ensure U.S. agricultural resources contribute to enhanced global food security*).

The ANRCVC Program aligns with the 2014-2018 NIFA Strategic Plan, specifically addressing goal 1: Catalyze exemplary and relevant research, education and extension programs, sub-goal 1.2: Advance the development and delivery of science for agricultural, forest, and range systems adapted to climate variability and to mitigate climate impacts. In addition, because the Program calls for both research and integrated proposals, and it emphasizes sustainability and resilience of agricultural production systems, it addresses sub-goals 1.3.: Optimize the production of goods and services from working lands while protecting the nation's natural resource base and environment, and sub-goal 1.7.: Ensure the development of human capital, communities, and a

diverse workforce through research, education, extension and engagement programs in food and agricultural sciences to support a sustainable agriculture system.

The ANRCVC Program aligns with the 2014 USDA Research, Education, and Economics (REE) Action Plan (www.ree.usda.gov/ree/news/USDA_REE_Action_Plan_03-2014.pdf). The ANRCVC specifically addresses the following 2014 USDA REE Action Plan goals and subgoals

- Goal 1- *Sustainable intensification of agricultural production*;
- Goal 2- *Responding to climate and energy needs*;
    - Subgoal 2A- *Responding to climate variability*, is the primary focus along with possible contributions to Subgoal 2B- *Bioenergy, biofuels, and biobased products* as they relate to climate, greenhouse gas, and carbon sequestration and release; and
- Goal 3- *Sustainable use of natural resources*,;
    - Subgoal 3B- *Landscape-scale conservation and management*.

The ANRCVC Program draws from these subgoals and specific actionable items defined in the REE Action Plan, but not all actionable items defined by the action plan are addressed by this year's RFA. Several action items are addressed by other AFRI RFAs, such as the Foundational Program (http://www.nifa.usda.gov/fo/foundationalprogramafri.cfm), the Food Security Challenge Area (http://www.nifa.usda.gov/fo/foodsecurityafri.cfm), and the Water for Agriculture Challenge Area (http://www.nifa.usda.gov/fo/waterforagricultureafri.cfm). NIFA may also solicit applications for AFRI funds through other announcements, including supplemental AFRI RFAs or RFAs issued in conjunction with other federal agencies. Such announcements will be made public in the same manner as this announcement. Other sources of NIFA funding for work relevant to the ANRCVC Program can be found at www.nifa.usda.gov/afri and www.nifa.usda.gov/fo/funding.cfm.

The 2015 ANRCVC Program aligns with the 2015 Budget Explanatory Notes for USDA NIFA which states that this program will provide opportunities for the development of new scientific knowledge for adaptation to climate variability and change, mitigate atmospheric greenhouse gases, and make this knowledge accessible and usable in decision-making. In addition, it fulfills the section that states that the increased funding will support critical research on the effects of climate on microbes, pathogens, arthropods, weeds, and other pests. This will provide process-level knowledge of the impact of climate on the environmental-microbial matrices and host-pest interactions in food, plants, animals, and aquatic and soil ecosystems.

Current and Projected Future Program Areas:

NIFA is soliciting applications for the 2015 Agriculture and Natural Resources Science for Climate Variability and Change Challenge Area Program in the following program priority areas:

1) **Climate and Microbial Processes in Agroecosystems;**
2) **Climate Resilient Land Use for Agriculture and Forestry; or**
3) **Synthesis and Assessment of USDA NIFA's Climate Investments**.

The ANRCVC Program intends to continue the FY 2015 program area priorities into fiscal years 2016 and 2017, broadening or adjusting the production systems of interest and questions to be addressed, as appropriate and in keeping with available funds. In particular, we hope to include an emphasis within the microbial community research area on mitigating enteric methane emissions.

Also, pending availability of funds, the following will be offered in the ANRCVC Program in future years:

- Regional Climate Coordinated Agricultural Projects (CAPs);
- Land use and climate change: to understand the patterns, processes, and consequences of changes in land use, land condition, and land cover at multiple spatial and temporal scales, resulting from the interactions between climate change, human activities, and the landscape mosaic comprised of natural and production systems; and
- Development of metrics for greenhouse gas mitigation.

Finally, NIFA intends to offer priorities in the future on new emerging issues and outcomes that evolve from the FY 2015 and FY 2016 awards that strategically analyze land use changes.

Background
Project types supported by AFRI within this RFA include multi-function integrated research, education, and/or extension standard projects, Research Standard projects, FASE Grants, and conference grants.

Agriculture and Natural Resources Science for Climate Variability and Change Challenge Area:
The Agriculture and Natural Resources Science for Climate Variability and Change (ANRCVC) Challenge Area focuses on the societal challenge to adapt agroecosystems and natural resource systems to climate variability and change and implement mitigation strategies in those systems. In the ANRCVC RFA, specific priority areas are designed to achieve the long-term outcome of reducing the use of energy (particularly fossil fuels), nitrogen, and water, while also reducing greenhouse gas (GHG) emissions during the production of food, feed, fiber, and fuel. Reducing GHG emissions from these agroecosystems may be accomplished by technology change or management practices that increase carbon sequestration.

The FY 2015 ANRCVC Program will have two main areas of focus: 1) microbial communities and their role in resilience, greenhouse gas fluxes, and carbon sequestration, and 2) a meta-analysis toward opportunities for a national land use framework to increase resilience in agricultural and natural ecosystems. The following paragraphs provide a brief justification for these focus areas. Please refer to Part I, C. Program Area Description for specific guidelines on specific requirements and priorities within these two areas (microbial communities and climate change & land use change) to be addressed in proposals.

<u>Microbial communities and climate change:</u> In the United States, the two greatest sources of agricultural GHG emissions are agricultural soils and enteric fermentation from livestock. Most of the processes that control both sources and sinks (i.e. emissions and sequestration) of

greenhouse gases (primarily CO_2, N_2O, and CH_4) are largely microbial or strongly linked to microbial activity. At the same time, microbial activity is also central to processes that promote plant growth and ecosystem health. Thus one focus area of the 2015 ANRCVC Program will be on microbial communities, with the long-term goal to reduce GHG emissions and increase carbon sequestration in working lands while increasing or maintaining productivity through discovery and application of knowledge of microbial processes. The outcome will be discovery and application of knowledge of microbial processes leading to increased resilience of production systems to climate variability and change

Microbial communities are likely to be affected by a changing climate and climate extremes as well as rising levels of atmospheric carbon dioxide and other GHGs. They also have the capacity to respond adaptively to these changing conditions more rapidly than plants and animals, potentially affecting resilience of the whole production system. The structure and functions of these communities are also affected by forest and agricultural management practices. By understanding these microbial communities and their functions, identification or development of effective climate change adaptation and mitigation strategies could be determined and adopted. Some fundamental questions of interest are:

- Can responses of microbial communities to climate extremes confer resilience (ability to maintain productivity in the face of climate change and weather extremes) to plant and animal production systems, and how can management practices affect these responses?
- Can we manipulate microbial communities to reduce net GHG emissions or increase carbon sequestration or methane oxidation in agriculture and forestry?
- How will microbial communities be affected by changing climate, atmospheric composition and climate variability and can these affect whether the microbial process shifts from sink to source, accelerate processes of emissions, uptake or sequestration of carbon and greenhouse gases, or lead to thresholds or tipping points in terms of the adaptive capacity of agroecosystems?

<u>Land use change</u>: Land use choices for agricultural production and forestry shape the options for adaptation and mitigation in a changing and increasingly variable climate. The geographic distribution of different types of agricultural and forestry production systems across the country has changed drastically over the last century as a result of many factors, primarily as production moved from integrated to specialized causing the shift from small-scale to the large scale production systems we have today. Climate and resource availability and technological developments as well as regional comparative advantage drove the distribution of production system intensification and specialization. As climate changes and becomes more variable, this distribution may not be sustainable, especially in light of changing energy and resource availability as well as changing markets and consumer demands, and a burgeoning global population,. The 2015 ANRCVC Program therefore will have a focus on land use, in keeping the long-term goal to reduce the GHG footprint of U.S. agriculture and forestry as a whole while creating a resilient system of agroecosystem productivity.

C. Program Area Description

This RFA requests applications under the following program area priorities –

1.) Climate and Microbial Processes in Agroecosystems;
2.) Climate Resilient Land Use for Agriculture and Forestry; or
3.) Synthesis and Assessment of USDA NIFA's Climate Investments.

Applicants can only address one of the following program area priorities:

1. **Climate and Microbial Processes in Agroecosystems**

Program Code – A3143
Letter of Intent Deadline (optional but encouraged) – April 2, 2015, (5:00 p.m., Eastern Time)
Application Deadline – June 4, 2015 (5:00 p.m., Eastern Time)
Proposed Budget Requests –

- Standard grants will be funded at two levels:
  - Integrated standard grants not to exceed $750,000 per year ($3 million total per project, including indirect costs) for project periods of up to 4 years. This Program Area Priority anticipates making 2 awards at this level in FY 2015.
  - Research or integrated standard grants not to exceed $750,000 total per project (including indirect costs) for up to 4 years. This Program Area Priority anticipates making 3-4 awards at this level in FY 2015.
- Conference and Food and Agricultural Science Enhancement (FASE) grant proposals must adhere to the guidelines outlined beginning in Part II, D, 2.
- Requests exceeding the budgetary guidelines will not be reviewed.

Requested Project Type – Research and Integrated Projects
Requested Grant Type – Standard, Conference, and FASE Grants
Program Area Contact – Nancy Cavallaro, (202) 401-5176, (ncavallaro@nifa.usda.gov)

This priority area explores the role of microbial ecology and microbial communities within the lifecycle of animal production systems via both research and integrated project applications. Applications will address the interactions among livestock or combined livestock and crop production systems and climate in terms of microbial communities controlling greenhouse gas emissions and/or carbon sequestration. The ultimate goal is to maintain or increase productivity in the face of increasing climate variability and change while reducing net emissions of greenhouse gases or increasing carbon/nutrient sequestration.

The microbial systems/communities of interest for this priority area include soil and plant microbial communities in: grazed rangelands and grasslands, grazed woodlands, managed pastures and/or forage production systems, and manure-applied croplands (including soils).
Applicants must design projects that address one or both of the following questions:

- How do microbial communities in animal production systems impact GHG emissions under climate extremes (for example drought, high temperatures, flooding)? Does climate change or elevated CO_2 affect the microbial community's effect on health and productivity of the production system?
- How do weather extremes, and/or different land and livestock management practices and production systems affect the microbially mediated emissions and nutrient cycling? What practices are likely to lead to climate resilient productivity with greatest capacity to sequester carbon or create a net sink for or reduce greenhouse gases?

The expected outcome of this program area priority will be increased knowledge of microbial communities that both impact and are impacted by climate extremes and GHGs in land management systems related to animal production systems (e.g. grazed lands and manure-applied croplands). This knowledge relates directly to the resilience, responsiveness and possible manipulation of microbial communities, and to the potential to improve management practices with respect to productivity and GHG emissions in a climate-variable future. An increased understanding of agriculturally associated microbial communities can improve food security through adaption of systems to climate-related abiotic and biotic stresses and through climate change mitigation, thus decreasing the vulnerability of the nation's food supply by providing science-based information to support decisions by producers and natural resource managers.

Other project requirements:

- Justify why the specific production system is critical (e.g. strong or expanding national importance, high risk due to climate change, high potential to mitigate or exacerbate GHG emissions, etc.).

- Identify current or projected climatic or associated environmental changes that are being addressed (e.g. increasing atmospheric CO_2, rising temperatures, drought, floods).

- All applicants MUST make a clear connection to climate change and MUST explain how the results from the project will lead to potential changes in BOTH resilience/adaptation and mitigation. In addition, while the focus of this priority is on microbial communities, laboratory based studies cannot be the sole source of analysis and the context must be on a whole system of production.

- A data management plan is required of all standard and standard strengthening applications. See program priority 2 for suggestions of what to include in your data management plan.

- All applications must adhere to the requirements beginning in Part IV.

Please see other considerations for all priority areas below (page 18).

2. **Climate Resilient Land Use for Agriculture and Forestry**

Program Code – A3144
Letter of Intent Deadline (optional but encouraged) – April 2, 2015, (5:00 p.m., Eastern Time)
Application Deadline – June 4, 2015 (5:00 p.m., Eastern Time)
Proposed Budget Requests –

- Research and integrated standard grants must not exceed $450,000 total per project for up to 3 years. The Challenge Area anticipates making 2 awards in FY 2015
- Conference and FASE grants must adhere to the guidelines outlined beginning in Part II,.
- Requests exceeding the budgetary guidelines will not be reviewed.

Requested Project Type – Research or Integrated Projects
Requested Grant Type – Standard, Conference, and FASE Grants
Program Area Contact – Nancy Cavallaro, (202) 401-5176, (ncavallaro@nifa.usda.gov)

The primary goal of this program area priority is to better understand the strategic consequences of potential or projected agriculture, range and forestry-related shifts in land use with respect to climate mitigation and resilience of production systems. The desired outcome is to have a framework to support land management decisions of our agroecosystems at national or regional scales in order to inform decisions that will lead to increased sustainability of U.S. agriculture as a whole.

This priority calls for research or integrated proposals that will address the sustainability of US agriculture and forestry production under scenarios of projected climate and land use change in the context of resource availability, mitigation potential, consumer demands, and social, political and economic pressures. In general, this priority seeks an understanding of how to increase the resilience or sustainability of the nation's agricultural and forestry production systems through strategic land use decisions in light of projected future climate and global change. Proposals should address more than one production system and multiple commodities (including major and secondary or regional crop and animal systems).Projects should consider a national-level strategy for agriculture and forestry sustainability with the goal to inform national policies and the development of research directions for adaptation and resilience to changing climate (including atmospheric composition changes), net reductions in greenhouse gas emissions, and increases in carbon sequestration from the agriculture and forestry sector.

Within this context, proposals must address at least one of the following questions:

1. How do regional concentrations of crop and animal production systems contribute to climate-related risk and resilience of our food and fiber production systems? What may be the climate-related environmental, social and economic implications or consequences of land use changes such as, for example, shifting dominant production systems to different regions, or shifting towards more integrated crop and animal production systems or agro-forestry systems?

2. Can the diversity of our crop and animal types, varieties and lines, (including genetic diversity within a given crop), lend resilience to our agriculture in the face of a changing climate, changing public demands, and national and international political, social, and economic trends? Can crop and animal genetic diversification, systems using rotations and or cover crops, or integrated crop and livestock systems increase climate resilience?
3. How might a changing agricultural landscape in one region impact other regions and the nation's ability to increase overall production and sustainability of agricultural products in the face of a changing climate?

To accomplish these goals, projects may emphasize community networking and data management to facilitate ongoing analyses of such questions and to chart a path forward. The proposal should use data and information already available or being collected rather than spending a substantial portion of award funds to collect new data. The emphasis should be on analyzing current data to achieve new, broader knowledge.

The expected outcome of this program area priority will be a new understanding of major vulnerabilities in the nation's food production system with anticipated climate variability and changes, and options for increasing food security by adapting national and regional land use decisions and strategies for food production and natural resource management.

Applicants whose proposals do not incorporate climate variability and change in their meta-analysis should consider applying to the related priority in the AFRI Food Security RFA: *National Strategy for Sustainable Crop and Livestock Production in the United States*

Requirements for the Climate Resilient Land Use for Agriculture and Forestry Priority Area

- Projects must be interdisciplinary, with potential for making substantial contributions to a) the natural resource and environmental sciences, b) agricultural/forestry production science and/or engineering and/or food science, and c) social, behavioral and/or economic disciplines.

- Projects must propose products that will be publically available. For instance, a project might begin with a national workshop and might culminate in a national conference with proceedings and/or a white paper summarizing the proceedings.

- All proposals must include a project management plan and a data management plan that assures preservation of and ready access to information and data outputs from the project. Data management plans should:
    - Describe types of data, metadata, and other generated materials, formats and standards used, and whether it will change or be updated. Indicate if data is sensitive or proprietary;
    - Detail planned policies for access and sharing data, including provisions for appropriate protections of security, confidentiality and intellectual property, and mechanisms for obtaining access;
    - Address provisions for reuse, redistribution and production of derivatives, and plans for archiving data and other products for preservation of access.

- All applications must adhere to the requirements beginning in Part IV.

Please see other considerations for all priority areas below (page 18).

3. Synthesis and Assessment of USDA NIFA's Climate Investments

Program Code – A3145
Letter of Intent Deadline (optional but encouraged) – April 2, 2015, (5:00 p.m., Eastern Time)
Application Deadline – June 4, 2015 (5:00 p.m., Eastern Time)
Proposed Budget Requests –

- Research grants must not exceed $325,000 total per project for up to 2 years. The Challenge Area anticipates making 1 award in FY 2015
- Requests exceeding the budgetary guidelines will not be reviewed.

Requested Project Type – Research Projects
Requested Grant Type – Standard, Conference, and FASE Grants
Program Area Contact – Rachel Melnick, (202) 401-4980, (rmelnick@nifa.usda.gov)

The primary goal of this program area priority is to develop a synthesis of USDA NIFA's investments in climate change and agroecosystems from the advent of the ANRCVC in 2010 until the present. This priority calls for research proposals to provide a meta-analysis of ANRCVC and climate-related projects from other NIFA competitive and non-competitive (formula) funded programs. The analysis should also include NIFA investments in collaborative interagency programs such as:

- *Water Sustainability and Climate* with the National Science Foundation (NSF) http://nifa.usda.gov/fo/watersustainabilityandclimate.cfm
- *Decadal and Regional Climate Prediction using Earth System Models (EaSM)* with the U.S. Department of Energy (DOE) and NSF http://nifa.usda.gov/fo/earthsystemmodeling.cfm
- *Research Opportunities in Space and Earth Sciences (ROSES) Carbon Cycle Science* with the National Aeronautics and Space Administration (NASA), DOE, and the National Ocean and Atmospheric Administration (NOAA) http://www.csrees.usda.gov/fo/carboncyclescienceafri.cfm

This synthesis project will provide a robust picture of the outcomes, knowledge, educational curriculum, outreach, and tools that were developed with USDA NIFA support as well as determine gaps in research, education, and extension that were not addressed by USDA NIFA programs. The desired outcome is to have a comprehensive analysis to determine the impact of USDA NIFA support of research, education, and extension in climate variability and change as it relates to agroecosystems, as well as the impact within the broader field of climate change, both nationally and internationally.

It is recommended that the following information sources be used in projects

- USDA Current Research Information System (CRIS, http://cris.nifa.usda.gov)

- USDA Research, Education, & Economics Information Systems (REEIS, http://www.reeis.usda.gov)
- USDA NIFA's Leadership Management Dashboard (LMD, https://portal.nifa.usda.gov)
- Federal agency's reporting system
- National reports from the National Academies of Science, Government, Accountability Office, US Global Change Research Program, etc.
- Journal articles and education and outreach materials and reports resulting from or related to NIFA projects

Proposals must address the all of following questions:

1. What are the key topical areas that have been covered by NIFA's climate investments over the last five years, and how effective have these investments been in achieving national, departmental, and agency goals? (This includes contributions to national climate initiatives, such as the President's Climate Action Plan, USDA Climate Change Adaptation Plan, and other federal policies and initiatives related to climate change and variability.)

2. What are the key findings and impacts of these NIFA-funded projects and what emerging directions are suggested by them? Did these projects address trends identified at the national and international level that have been identified by other major organizations?

3. Does this portfolio of projects adequately cover the many regions and disciplines of importance for the diverse agroecosystems types and for research, education and extension across the nation?

4. How effective have interagency collaborations been at leveraging NIFA resources to accomplish national, departmental, and agency goals, and are there opportunities for future collaborations that could help fill gaps in the NIFA portfolio?

5. Has NIFA funding led to greater opportunities for agricultural, natural resource, and forestry researchers from sources across the federal government?

6. What are the strengths and weaknesses in the portfolio that can give direction to future work at NIFA, and how can this program have the greatest impact within the broader context of climate change, both nationally and internationally?

Considerations and Requirement for the Synthesis and Assessment of USDA NIFA's Climate Portfolio Program Priority Area:

- Projects must propose products that will be publically available. For instance, a project might begin with a national workshop and might culminate in a national conference with proceedings and/or a white paper summarizing the proceedings.
- All proposals must include a project management plan and a data management plan that assures preservation of and ready access to information and outputs from the project.

- Proposals may include funds to support travel to USDA NIFA offices in Washington, DC to work with National Program staff and USDA systems on the topic.

Other Considerations for ALL priority areas in this RFA:

- Applicants are encouraged to coordinate or partner with ongoing research and extension/outreach centers, activities and programs. For example, projects may consider participation in the USDA Climate Hubs to address risk adaptation and mitigation to climate change (http://www.climatehubs.oce.usda.gov/). Other examples include NOAA's RISAs (http://cpo.noaa.gov/ClimatePrograms/ClimateandSocietalInteractions/RISAProgram), ARS's LTARs (www.ars.usda.gov/ltar), the North American Carbon Program (www.nacarbon.org), DOE's Ameriflux program (www.ameriflux.lbl.gov), Tribal Networks for Climate Change (http://tribalclimate.uoregon.edu), and eXtension (see below).

- Development of content suitable for delivery through the relevant existing or future eXtension Communities of Practice is encouraged but not required. If an application proposes to do this, a letter of acknowledgement from eXtension is required, and a letter of support may be required from the Community of Practice. For detailed guidance on how to "enhance an existing community of practice", go to http://create.extension.org/node/2057 and http://pbgworks.org/node/1066. Applicants must plan ahead and allow additional time to develop this partnership.

- The AFRI ANRCVC Program has a considerable investment in regional commodity-related CAPs and other large multi-institution regional projects that work toward climate adaptation and mitigation. As appropriate, linking with existing climate variability and change projects to promote synergies is highly encouraged. We will encourage all recipients of awards from this RFA to consider coordinating with these projects as appropriate.

- Applications from and collaborations with minority-serving institutions are strongly encouraged.

- Collaboration with international partners is encouraged when appropriate; however, applications must be submitted by eligible U.S. institutions.

PART II—AWARD INFORMATION

A. Available Funding

The amount available for NIFA support of this program in FY **2015** is approximately **$5 million**. The funds will be awarded through a **grant.** There is no commitment by USDA to fund any particular application or to make a specific number of awards.

Awards issued as a result of this RFA will have designated the Automated Standard Applications for Payment System (ASAP), operated by the Department of Treasury's Financial Management Service, as the payment system for funds. For more information see http://www.nifa.usda.gov/business/method_of_payment.html.

B. Types of Applications

In FY **2015**, you may submit applications to the Agriculture and Natural Resources Science for Climate Variability and Change (ANRCVC) Program as one of the following two types of requests:

(1) New application. This is a project application that has not been previously submitted to the ANRCVC program. We will review all new applications competitively using the selection process and evaluation criteria described in Part V—Application Review Requirements.

(2) Resubmitted application. This is an application that had previously been submitted to the ANRCVC Program but not funded. Project Directors (PD) must respond to the previous review panel summary (see Response to Previous Review, Part IV). Resubmitted applications must be received by the relevant due dates, will be evaluated in competition with other pending applications in appropriate area to which they are assigned, and will be reviewed according to the same evaluation criteria as new applications.

C. Project Types

Applications must identify one of the project types specified with the Program Area(s) and select the appropriate grant type (see subpart D. of this section) for the application within the constraints of the grant types solicited. The project and grant types solicited in the ANRCVC Change Challenge Area are indicated in the table below and described in the Program Area Descriptions beginning in Part I, C.

Project and Grant Types Solicited by this RFA												
		Grant Type										
		Standard	CAP	Other (Collabora-tive)	Conference	Food and Agricultural Science Enhancement (FASE) Grants[1]						
						New Investigator	Strengthening Grants					
							Sabbatical	Equipment	Seed	Standard	CAP	Conference
Project Type	Research	✓			✓	✓	✓	✓	✓	✓		✓
	Education											
	Extension											
	Integrated[5]	✓			✓	✓	✓	✓	✓	✓		✓

[1] FASE grants have special eligibility requirements. Refer to Part II, D. 3 for eligibility and additional information.

1. Research Projects

Single-function Research Projects support fundamental or applied research conducted by individual investigators, co-investigators within the same discipline, or multidisciplinary teams.

Fundamental research *means research that (i) increases knowledge or understanding of the fundamental aspects of phenomena and has the potential for broad application and (ii) has an effect on agriculture, food, nutrition, or the environment.*

Applied research *means research that includes expansion of the findings of fundamental research to uncover practical ways in which new knowledge can be advanced to benefit individuals and society.*

Multidisciplinary projects *are those in which investigators from two or more disciplines collaborate closely to address a common problem. These collaborations, where appropriate, may integrate the biological, physical, chemical, or social sciences.*

2. Integrated Research, Education, and/or Extension Projects

An Integrated Project includes at least two of the three functions of the agricultural knowledge system (research, education, and extension) within a project, focused around a problem or issue. The functions addressed in the project should be interwoven throughout the life of the project and act to complement and reinforce one another. The functions should be interdependent and necessary for the success of the project and <u>no more than two-thirds of the project's budget may be focused on a single component</u>.

a) The proposed **Research** component of an integrated project should address knowledge gaps that are critical to the development of practices and programs to address the stated problem.

b) The proposed **Education** (teaching and teaching-related) component of an Integrated Project should follow the same scope and principles as Education Projects. Note that

routine use of graduate students and postdoctoral personnel to conduct research is not considered education for the purposes of this program.

c) The proposed **Extension** component of an Integrated Project should follow the same scope and principles as Extension Projects. Please note that research-related activities such as publication of papers or speaking at scientific meetings are not considered extension for the purposes of this program.

Integrated Projects aim to resolve today's problems through the application of science-based knowledge and address needs identified by stakeholders. Integrated Projects clearly identify anticipated outcomes and have a plan for evaluating and documenting the success of the project.

Integrated Project applicants are encouraged to review www.nifa.usda.gov/funding/integrated/integrated.html for additional information on integrated programs, including tips for writing Integrated Project applications and an example of an integrated application.

Projects must budget sufficient resources to carry out the proposed set of research, extension, and/or education activities that will lead to the desired outcomes. No more than two-thirds of a project's budget may be focused on a single function.

Integrated Projects must include individuals on the project team with significant expertise in each component of the project (research, education, and/or extension).

AFRI encourages Integrated Projects that develop content suitable for delivery through eXtension. This content is for "end users" as opposed to staff development and must follow the eXtension Guiding Principles and guidelines for including eXtension in a proposal presented at http://about.extension.org/wiki/NIFA_RFA_Information. Funds may be used to 1) enhance an existing Community of Practice of Learning Networks (CoP) or 2) to establish a new CoP, as appropriate.

AFRI encourages Integrated Projects that are suitable for 4-H audiences and stakeholder groups while meeting identified program priorities. The 4-H Youth Development is the programmatic outreach of the land grant universities (LGU) and institutions to our youngest citizens in their communities and provides opportunities for youth to develop skills, practical knowledge, and wisdom with an emphasis on practical application of knowledge or "learning by doing." By engaging 4-H in AFRI projects, applicants engage young people as citizen scientists; increase their awareness of the role of agriculture; and prepare young people for higher education and the 21st century work environment. Opportunities for engaging 4-H in AFRI proposals should align with the 4-H Mission Mandates of Science, Engineering and Technology; Healthy Living; and Citizenship. See guiding principles at www.national4-hheadquarters.gov or contact your university Cooperative Extension headquarters and/or state 4-H program office.

D. Grant Types

Applications must propose one of the project types specified within the Program Areas and select the appropriate grant type for the application within the constraints of the grant types solicited.

1. Standard Grants

Standard grants support targeted, original scientific Research, Education, Extension, or Integrated Projects**.**

2. Conference Grants

Conference grants to support scientific meetings that bring together scientists to identify research, education, and/or extension needs. Support for a limited number of meetings covering subject matter encompassed by this solicitation will be considered for partial or, if modest, total support. Individual conference grants are not expected to exceed $50,000 for one year and are not renewable.

3. Food and Agricultural Science Enhancement Grants

FASE grants strengthen science capabilities in research, education, and/or extension programs. FASE grants are designed to help institutions develop competitive projects, and to attract new scientists and educators into careers in high-priority areas of national need in agriculture, food, and environmental sciences. FASE grants provide support for pre- and postdoctoral fellowships that will be solicited in a separate NIFA Fellowships Grant Program, New Investigators, and Strengthening grants. Specific eligibility requirements for these grants are described below.

a. Pre- and Postdoctoral Fellowship Grants

Doctoral candidates and individuals who will soon receive or have recently received their doctoral degree are encouraged to submit an application for a Pre- or Postdoctoral Fellowship grant, as appropriate, for research, education, extension, or integrated activities to the AFRI – Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative (AFRI ELI) competitive grants program (formerly known as AFRI NIFA Fellowships Grant Program). Program information, including the anticipated release date, is available at www.nifa.usda.gov/funding/afri/afri.html.

b. New Investigator Grants

An individual who is beginning his/her career, does not have an extensive scientific publication record, and has less than 5 years postgraduate, career-track experience is encouraged to submit an application for a New Investigator grant for research, education, and/or extension activities. The new investigator may not have received competitively awarded federal research funds with the exception of pre- or postdoctoral grants or USDA National Research Initiative (NRI) or AFRI Seed grants. The application must contain documentation that lists all prior federal support.

c. Strengthening Grants

These funds are expected to enhance institutional capacity with the goal of leading to future funding in the project area, as well as strengthen the competitiveness of the investigator's

research, education, and/or extension activities. Strengthening grants consist of Standard grant types (both single-function and multi-function projects) as well as Seed grants, Equipment grants, and Sabbatical grants. All applications submitted for Strengthening grants must fulfill the eligibility requirements described below.

1.Strengthening Grant Eligibility

Strengthening grants are limited to 1) small and mid-sized or minority-serving degree-granting institutions that previously had limited institutional success for receiving federal funds or 2) State Agricultural Experiment Stations or degree-granting institutions eligible for USDA Experimental Program to Stimulate Competitive Research (EPSCoR) funding and are eligible for reserved strengthening funds for Research, Education, Extension, and Integrated Project grants. See Figure 1 following Part VIII to assist with determining eligibility for Strengthening grants as well as the information below.

2.Strengthening Grant Eligibility Definitions

a. EPSCoR States

Every year, NIFA determines the states that are eligible for USDA EPSCoR funding. This list includes states having a funding level no higher than the 38th percentile of all States based on a 3-year rolling average of AFRI funding levels, excluding FASE Strengthening funds granted to EPSCoR States and small-mid-sized and minority-serving degree-granting institutions.

FY 2015:

This is the seventh year of the AFRI program and while significant FY 2014 funds are unobligated, the eligibility determinations are based on the data obtained from grants made through the AFRI program from 2011 through 2013. For FY 2015, the following States meet the requirements for this category:

FY 2015 USDA EPSCoR States		
Alabama	Mississippi	South Carolina
Alaska	Montana	South Dakota
Arizona	Nevada	Utah
Connecticut	New Hampshire	Vermont
Idaho	New Mexico	Wyoming
Kentucky	North Dakota	
Maine	Rhode Island	

Other entities eligible for USDA EPSCoR funds in FY 2015 include the following United States commonwealths, territories, possessions and their successors, and the District of Columbia:

Other Entities eligible for USDA EPSCoR Funds	
American Samoa	Northern Mariana Islands
District of Columbia	Puerto Rico
Guam	Virgin Islands of the U.S.
Micronesia	

b. Small and mid-sized institutions are academic institutions with a current total enrollment of 17,500 or less, including graduate and undergraduate as well as full- and part-time students. An institution in this instance is an organization that possesses a significant degree of autonomy as defined by being independently accredited in the current version of the Higher Education Directory, published by Higher Education Publications, Inc., 1801 Robert Fulton Drive, Suite 340, Reston, VA 20191 (Phone: (888) 349-7715; www.hepinc.com).

c. Minority-serving institutions are academic institutions whose enrollment of a single minority group or a combination of minority groups (as defined in Part VIII, H.) exceeds 50 percent of the total enrollment, including graduate and undergraduate as well as full- and part-time students.

Applicants applying under this category should indicate the current percentage of applicable minority students enrolled at the institution in a cover letter. An institution in this instance is an organization that possesses a significant degree of autonomy as defined by being independently accredited in the current version of the Higher Education Directory, published by Higher Education Publications, Inc., 1801 Robert Fulton Drive, Suite 340, Reston, VA 20191 (Phone: (888) 349-7715; www.hepinc.com). A list of post-secondary minority-serving institutions is available at www2.ed.gov/about/offices/list/ocr/edlite-minorityinst.html.

d. Limited institutional success is defined as institutions that are not among the most successful universities and colleges for receiving federal funds for science and engineering research. See Table 1 following Part VIII for an alphabetical list of the most successful institutions.

All institutions grouped under one main campus as listed in Table 1 following Part VIII, unless located in an EPSCoR state, are excluded from eligibility for all strengthening funds. The institution may petition for an exemption to this rule as described in Part III, B.

3.Strengthening Grant Types

An individual applicant may submit only one of the following types of strengthening applications (Sabbatical grants, Equipment grants, and Seed grants) as PD this fiscal year. Investigators are encouraged to contact the Program Area Priority Contact of the appropriate program area priority, regarding suitability of project topics to verify that their submission is appropriate to the program area priority. For Equipment grants, investigators are also encouraged to contact the appropriate Program Area Priority

Contact regarding appropriateness of requested equipment for topics within program area priority requirements.

a. Sabbatical Grants

Sabbatical Grants are to provide an opportunity for faculty to enhance their research, education, and/or extension capabilities by funding sabbatical leaves. Collaborative arrangements are encouraged. Grants will be limited to one year of salary and funds for travel and supplies, where justified, and are not renewable.

NIFA also encourages and will support the concept of "mini-sabbaticals" for faculty and researchers desiring short-term training to learn new techniques that will improve their competitiveness. These short-term training opportunities generally follow all of the sabbatical requirements described beginning in Part IV, C, but for a shorter duration. These grants may be used to participate in short courses offered at various research institutions.

b. Equipment Grants

Equipment grants are designed to strengthen the research, education, and/or extension capacity of institutions by funding the purchase of one major piece of equipment. These grants are not intended to replace requests for equipment in individual project applications. Rather, they are intended to help fund items of equipment that will upgrade infrastructure. Requests for computer equipment are allowed only if the equipment is to be used in an activity integral to the proposed project. Requests for computer equipment will not be permitted if the equipment will primarily serve as a word processor or perform administrative functions.

Each request shall be limited to one major piece of equipment within the cost range of $10,000-$250,000 and is not renewable. The amount of federal funding requested shall not exceed 50 percent of the cost or $50,000, whichever is less. Unless a waiver is granted by NIFA using the criteria listed in Part III, C, it is the responsibility of the PD to secure required matching funds with non-federal funds (see Part III, C for more information). No installation, maintenance, warranty, or insurance expenses may be paid from these grants, nor may these costs be part of the matching funds. Indirect costs are not permitted on Equipment grant awards.

c. Seed Grants

Seed grants are to provide funds to enable investigators to collect preliminary data or perform other preliminary activities in preparation for applying for future AFRI grants. The grants are not intended to fund stand-alone projects, but rather projects that will lead to further work applicable to one of the AFRI program areas. Seed grant applications proposing an Integrated Project only need to include one of the three functions (research, education, extension) and justify how this Seed grant will allow the applicant to become competitive for future Integrated Project funding.

Seed grants are limited to a total of $150,000 (including indirect costs) for 2 year duration and are not renewable.

d. Strengthening Standard Grants

Standard grant applications that meet the eligibility requirements for Strengthening grants are eligible for reserved strengthening funds as a Strengthening Standard grant. The eligibility requirements only apply to the lead PD and are not required for co-PD(s) associated with the project.

e. Strengthening Conference Grants

Conference Grant applications that meet the eligibility requirements for Strengthening Grants are eligible for reserved strengthening funds as a Strengthening Conference Grant. The eligibility requirements only apply to the lead PD and are not required for co-PD(s) associated with the project.

E. Responsible and Ethical Conduct of Research

The responsible and ethical conduct of research (RCR) is critical for excellence, as well as public trust, in science and engineering. Consequently, we consider education in RCR essential to the preparation of future scientists. In accordance with sections 2, 3, and 8 of 7 CFR Part 3022, institutions that conduct USDA-funded extramural research must foster an atmosphere conducive to research integrity, bear primary responsibility for prevention and detection of research misconduct, and maintain and effectively communicate and train their staff regarding policies and procedures. In the event an application to NIFA results in an award, the Authorized Representative (AR) assures, through acceptance of the award that the institution will comply with the above requirements. Per award terms and conditions, grant recipients shall, upon request, make available to NIFA the policies, procedures, and documentation to support the conduct of the training.

Note that the training referred to herein shall be either on-campus or off-campus training. The general content of the ethics training will, at a minimum, emphasize three key areas of research ethics: authorship and plagiarism, data and research integration, and reporting misconduct. Each institution will be responsible for developing its own training system, as schools will need flexibility to develop training tailored to their specific student needs. Grantees should consider the Collaborative Institutional Training Initiative (CITI) program for RCR (https://www.citiprogram.org/rcrpage.asp). Typically this RCR education addresses the topics of: Data Acquisition and Management - collection, accuracy, security, access; Authorship and Publication; Peer Review; Mentor/Trainee Responsibilities; Collaboration; Conflict of Interest; Research Misconduct; Human Subject Research; and Use of Animals in Research.

PART III—ELIGIBILITY INFORMATION

A. Eligible Applicants

Applicants must respond to the Program Area Priorities and deadlines found in the FY 2015 RFA. Grant recipients may subcontract to organizations not eligible to apply provided such organizations are necessary for the conduct of the project. An applicant's failure to meet an eligibility criterion by the time of an application deadline may result in the application being excluded from consideration or, even though an application may be reviewed, will preclude NIFA from making an award.

Eligibility is linked to the project type requested in Program Area Descriptions beginning in Part I, C. All project types are described beginning in Part II, C. Additional information related to eligibility is found below:

1. Research Projects

Eligible applicants for Research Projects include:1) State Agricultural Experiment Stations; 2) colleges and universities (including junior colleges offering associate degrees or higher); 3) university research foundations; 4) other research institutions and organizations; 5) federal agencies; 6) national laboratories; 7) private organizations or corporations; 8) individuals who are U.S. citizens, nationals, or permanent residents; and 9) any group consisting of two or more entities identified in 1 through 8. Eligible institutions do not include foreign and international organizations.

2. Integrated Projects

Eligible applicants for Integrated Projects include: 1) colleges and universities, 2) 1994 land-grant institutions, and (3) Hispanic-serving agricultural colleges and universities.

For Integrated Projects, the terms "college" and "university" mean an educational institution in any state that 1) admits as regular students only persons having a certificate of graduation from a school providing secondary education, or the recognized equivalent of such a certificate; 2) is legally authorized within such state to provide a program of education beyond secondary education; 3) provides an educational program for which a bachelor's degree or any other higher degree is awarded; 4) is a public or other nonprofit institution; and 5) is accredited by a nationally recognized accrediting agency or association. A research foundation maintained by a college or university is eligible to receive an award under this program.

3. Hispanic-serving Agricultural Colleges and Universities

Section 7101 of the Food, Conservation, and Energy Act of 2008 (Pub. L. 110-246) amended section 1404 of NARETPA (7 U.S.C. 3103) to create a definition for a new group of cooperating institutions: Hispanic-serving Agricultural Colleges and Universities (HSACU). HSACUs are colleges and universities that qualify as Hispanic-serving institutions (HSI) and offer associate, bachelors, or other accredited degree programs in agriculture-related fields. HSACUs do not include 1862 land-grant institutions.

The 2014 Farm Bill required NIFA to establish an ongoing process allowing public colleges and universities that offer 4-year or advanced degrees in the food and agricultural sciences to apply for designation as Non-Land Grant College of Agriculture (NLGCA) institutions. HSACUs are given the opportunity to opt out of their status to be considered for designation as a NLGCA; however, this decision will be binding on them until September 30, 2018.

Pursuant to section 406 of the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA) (7 U.S.C. 7626), which authorized the Integrated Research, Education, and Extension Competitive Grant Program, all four-year HSIs are eligible to apply for integrated projects as identified in the FY 2014 AFRI RFA. Two-year HSIs may also be eligible to apply but only if the institution has been certified as a HSACU for the fiscal year in which funding is being provided.

A list of the institutions certified and therefore eligible to apply as HSACUs for grants under FY 2015 RFAs, including this RFA, will be made available at www.nifa.usda.gov/nea/education/in_focus/hispanic_if_hispanic_HSACU.html. Institutions appearing on this list are granted HSACU certification by the Secretary for the period starting October 1, 2014, and ending September 30, 2015. Certifications are valid for FY 2015 only. Additional questions on HSACU eligibility can be emailed to hsacu@nifa.usda.gov.

4. Food and Agricultural Science Enhancement Grants

The Food and Agricultural Science Enhancement (FASE) grants have additional eligibility requirements. See Part II, D, 3 for details.

B. Request for Determination

If an applicant's institution can be considered a minority-serving institution and wishes to be considered for a Strengthening Grant (as described in Part II, D. 3. b), but does not serve one or more of the minority groups specified in the Definitions section of this RFA (see Part VIII, H), the applicant must submit to NIFA documentation supporting the request. This documentation (see below) must be submitted as part of the requestor's Letter of Intent and the full application package (see Part IV, B. 3. g. 7)), and must be received by NIFA by the applicable program deadline. The Secretary of Agriculture or designated individual will determine whether the group or groups identified are eligible under this program.

The Request for Determination as a minority-serving institution must include the following and be provided in the order specified below:

1. A description of each minority group that is being submitted for determination;
2. Data or studies supporting this group's designation as a minority group; and
3. Data indicating that enrollment of the minority group(s) exceeds 50 percent of the total enrollment at the academic institution, including graduate and undergraduate and full- and part-time students.

All institutions grouped under one main campus as listed in Table 1 following Part VIII, unless located in an EPSCoR state (listed in Part II, D. 3. b. 1) a)), are excluded from eligibility for all strengthening funds. However, if any campus within a multi-campus listing can provide

information demonstrating that it is administratively independent or has an independent accreditation, then the institution may petition for an exemption to this rule and request eligibility for strengthening funds. The Letter of Intent and the application must include a letter indicating how the institution is independent of the main campus, either through accreditation or administration, how the institution is eligible as a small and mid-sized or minority-serving institution due to enrollment, and total federal funds received for science and engineering research and development. The letter must be signed by the Authorized Representative (AR) and included with the Letter of Intent and the full application (see Part IV, B. 3. g. 7)).

C. Cost Sharing or Matching

If a funded **applied Research or Integrated Project** is commodity-specific and not of national scope, the grant recipient is required to match the USDA funds awarded on a dollar-for-dollar basis from non-Federal sources with cash and/or in-kind contributions.

For Equipment Grants: The amount of Federal funds provided may not exceed 50 percent of the cost of the equipment acquired using funds from the grant, or $50,000, whichever is less. Grantees are required to match 100 percent of Federal funds awarded from non-Federal sources. The Secretary may waive all or part of the matching requirement if all three of the following criteria are met: 1) applicants must be a college, university, or research foundation maintained by a college or university that ranks in the lowest one third of such colleges, universities, and research foundations on the basis of Federal research funds received (see Table 2 following Part VIII for eligibility); 2) if the equipment to be acquired using funds from the grant costs not more than $25,000; and 3) has multiple uses within a single research project or is usable in more than one research project. If the institution believes it is eligible for the waiver for matching funds, the budget justification must include a letter signed by the institution's AR stating this information.

D. Centers of Excellence

Pursuant to Section 7214 of the Agricultural Act of 2014 (Pub. L. 113-79), beginning in Fiscal Year 2015, for applicable competitive research and extension programs, NIFA will be recognizing and providing priority in the receipt of funding to applications from "centers of excellence" that have been established for purposes of carrying out research, extension, and education activities relating to the food and agricultural sciences. In July of 2014, NIFA held listening sessions and accepted written comments from stakeholders to inform NIFA's implementation of the centers of excellence provision. Information from the webinars and a summary of the input gathered are available on NIFA's website at http://www.nifa.usda.gov/about/offices/legis/cntr_ex_webinar_documents.html

A center of excellence (COE) is composed of 1 or more of the following entities that provide financial or in-kind support to the center of excellence. Therefore, an eligible applicant who wishes to be considered as a center of excellence must be one of the following entities that provides financial or in-kind support to the Center being proposed, as described in the grant application.

(A) State agricultural experiment stations;
(B) colleges and universities;
(C) university research foundations;

(D) other research institutions and organizations;
(E) Federal agencies;
(F) national laboratories;
(G) private organizations, foundations, or corporations;
(H) individuals; or
(I) any group consisting of 2 or more of the entities described in (A) through (H).

Only CAP grants and standard grant applicants may be considered for COE designation. See Part IV, C. of this RFA for additional requirements that eligible applicants must meet to be considered a center of excellence.

PART IV—APPLICATION AND SUBMISSION INFORMATION

A. Letter of Intent (LOI) Instructions

Applicants are encouraged to submit a "Letter of Intent to Submit an Application" by the Letter of Intent due date specified in this RFA. This does not obligate the applicant in any way, but will provide useful information to NIFA in preparing for application review.

Although a letter of intent is not required, is not binding, and does not enter into the review of a subsequent application, the information that it contains allows program staff to estimate the potential review workload and plan the review.

Please follow the guidelines below for LOI submission

1. The Letter of Intent must adhere to the following formatting guidelines:
   a. Font size must be at least 12 point
   b. Margins must be at least one inch in all directions
   c. Line spacing must not exceed six lines of text per vertical inch
   d. Page size must be letter (i.e., 8.5 inches × 11 inches)

2. The Letter of Intent is limited to **three pages** for CAP grants and **two pages** for all other grant types.
   a. On Page 1, provide **only** the following information:
      i. the name, professional title, department, institution, and *e*-mail address of the lead project director (PD) and name, professional title, department, and institution of all collaborating investigators
      ii. the Program Area or the Program Area Priority that is most closely addressed in the application
   b. On Page 2, include:
      i. a descriptive title
      ii. rationale
      iii. overall hypothesis or goal
      iv. specific objectives
      v. approach
      vi. potential impact and expected outcomes

3. When submitting LOI, NIFA will only accept LOI in the portable document format (PDF). Attach the PDF LOI to an e-mail addressed to the appropriate Program Area *e*-mail address for Submission of Letter of Intent indicated in this RFA. In the e-mail subject line, write: Letter of Intent [Program Area Code] _ [PDs Last Name].

4. A Letter of Intent is encouraged for all grant types, except Conference Grant applications.

5. Submission of more than one Letter of Intent to a program is discouraged.

6. An acknowledgement receipt will be sent via email by replying to the sender within five business days.

7. Please notify the appropriate Program Area Contact of any changes to key project personnel, title, or objectives between the submission of the LOI and the full application.

B. Electronic Application Package

Only electronic applications may be submitted via Grants.gov to NIFA in response to this RFA. We urge you to submit early to the Grants.gov system. For an overview of the Grants.gov application process see http://www.grants.gov/web/grants/applicants/grant-application-process.html.

New Users of Grants.gov

Prior to preparing an application, we recommend that the Project Director/Principal Investigator (PD/PI) first contact an Authorized Representative (AR, also referred to as Authorized Organizational Representative or AOR) to determine if the organization is prepared to submit electronic applications through Grants.gov. If not (e.g., the institution/organization is new to the electronic grant application process through Grants.gov), then the one-time registration process must be completed **PRIOR** to submitting an application. It can take as long as 2 weeks to complete the registration process so it is critical to begin as soon as possible. In such situations, the AR should go to **"Register" in the top right corner of the Grants.gov web page (or go to** http://www.grants.gov/web/grants/register.html**) for information on registering the institution/organization with Grants.gov.** Part II, 1 of the NIFA Grants.gov Application Guide contains detailed information regarding the registration process. Refer to item 2 below to locate the "NIFA Grants.gov Application Guide".

Steps to Obtain Application Package Materials

To receive application materials:

1. You must download and install a version of Adobe Reader compatible with Grants.gov to access, complete, and submit applications. For basic system requirements and download instructions, see http://www.grants.gov/web/grants/support/technical-support/software/adobe-reader-compatibility.html. Grants.gov has a test package that will help you determine whether your current version of Adobe Reader is compatible.

2. To obtain the application package from Grants.gov, go to http://www.grants.gov/web/grants/applicants/apply-for-grants.html. Under Step 1 click on "Download a Grant Application Package," and enter the funding opportunity number

   Funding Opportunity Number: USDA-NIFA-AFRI-004919

   in the appropriate box and click "Download Package." From the search results, click "Download" to access the application package.

Contained within the application package is the "NIFA Grants.gov Application Guide." This guide contains an introduction and general Grants.gov instructions, information about how to use a Grant Application Package in Grants.gov, and instructions on how to complete the application forms.

If you require assistance to access the application package (e.g., downloading or navigating Adobe forms) **or submitting the application,** refer to resources available on the Grants.gov website (http://www.grants.gov/web/grants/applicants/applicant-resources.html). Grants.gov assistance is also available at:

Grants.gov customer support
800-518-4726 toll-free or 606-545-5035
Business Hours: 24 hours a day, 7 days a week. Closed on federal holidays.
Email: support@grants.gov

Grants.gov iPortal (see https://grants-portal.psc.gov/Welcome.aspx?pt=Grants): Top 10 requested help topics (FAQs), searchable knowledge base, self-service ticketing and ticket status, and live web chat (available 7 a.m.-9 p.m. ET). Get help now!

Have the following information available when contacting Grants.gov:

- Funding Opportunity Number (FON)
- Name of agency you are applying to
- Specific area of concern

See http://www.nifa.usda.gov/funding/electronic.html for additional resources for applying electronically.

C. Content and Form of Application Submission

You should prepare electronic applications following Parts V and VI of the NIFA Grants.gov Application Guide. This guide is part of the corresponding application package (see Section A. of this Part). The following is **additional information** needed to prepare an application in response to this RFA. **If there is discrepancy between the two documents, the information contained in this RFA is overriding.**

Note the attachment requirements (e.g., PDF) in Part III, Section 3 of the guide. ANY PROPOSALS THAT ARE NON-COMPLIANT WITH THE REQUIREMENTS (e.g., content format, PDF file format, file name restrictions, and no password protected files) WILL BE AT RISK OF BEING EXCLUDED FROM NIFA REVIEW. Partial applications will be excluded from NIFA review. We will accept subsequent submissions of an application until close of business on the closing date in the RFA (see Part V, 2.1 of the NIFA Grants.gov Application Guide for further information).

Grants.gov provides online tools to assist if you do not own PDF-generating software. You will find PDF conversion software at http://test.grants.gov/web/grants/support/technical-support/software/pdf-conversion-software.html.

For any questions related to the preparation of an application, review the NIFA Grants.gov Application Guide and the applicable RFA. If assistance is still needed for preparing application forms content, contact:

- Email: electronic@nifa.usda.gov
- Phone: 202-401-5048
- Business hours: Monday through Friday, 7 a.m. – 5 p.m. ET, excluding federal holidays.

1. **SF 424 R&R Cover Sheet**
   a. Information related to the questions on this form is dealt with in detail in Part V, 2. of the NIFA Grants.gov Application Guide.

2. **SF 424 R&R Project/Performance Site Location(s)**

Information related to the questions on this form is dealt with in detail in Part V, 3. of the NIFA Grants.gov Application Guide.

3. **R&R Other Project Information Form**

Information related to the questions on this form is dealt with in detail in Part V, 4. of the NIFA Grants.gov Application Guide.

a. Field 7-Project Summary/Abstract. The summary should also include the relevance of the project to the goals of Agriculture and Natural Resources Science for Climate Variability and Change (ANRCVC). See Part V, 4.7 of NIFA Grants.gov Application Guide for further instructions and a link to a suggested template.

b. Field 8-Project Narrative.

Page Limits

For **Standard Research, Standard Integrated, New Investigator, Strengthening Standard Grant, Conference, and Strengthening Conference applications**, the Project Narrative section **may not exceed a total of 18 pages**, including all figures and tables.

For **Sabbatical, Equipment, and Seed Grant** applications, the Project Narrative section **may not exceed a total of 7 pages**, including all figures and tables.

To ensure fair and equitable competition, applications exceeding the applicable page limitation will **not** be reviewed.

Each Project Narrative is expected to be complete; however, preprints (see section g.6) below) related to the Project Narrative are allowed if they are directly germane to the proposed project. Information may not be appended to an application to circumvent page limitations prescribed for the Project Narrative. **Extraneous materials will not be used during the peer review process**.

Project Narrative Attachment must include all of the following:

1) ***Response to Previous Review (if applicable)***
This requirement *only* applies to Resubmitted Applications as described in Part II, B. The Project Narrative attachment should include two components: 1) a one-page response to the previous review panel summary titled "Response to Previous Review" included as the first page of the attachment **and** 2) the 7-page or 18-page Project Narrative, as required (see Part IV, C.3 C above). The one-page Response to Previous Review does not count against the 7- or 18-page limit of the Project Narrative.

2) ***Project Narrative***

a. Introduction

Include a clear statement of the long-term goal(s) and supporting objectives of the proposed project. Summarize the body of knowledge or past activities that substantiate the need for the proposed project. Describe ongoing or recently completed activities significant to the proposed project including the work of key project personnel. Include preliminary data/information pertinent to the proposed project. All works cited should be referenced (see Bibliography & References Cited in section d below).

b. Rationale and Significance

- Concisely present the rationale behind the proposed project;
- Describe the specific relationship of the project's objectives to one or more of the particular Program Area Priorities. Applications that do not address at least one Program Area Priority will not be reviewed; and

c. Approach (this section is not applicable to Conference grants)

The activities proposed or problems being addressed must be clearly stated and the approaches applied are to be clearly described. Specifically, this section must include:

- A description of the activities proposed and the sequence in which the activities are to be performed;
- Methods to be used in carrying out the proposed project, including the feasibility of the methods;
- Expected outcomes;
- Means by which results will be analyzed, assessed, or interpreted;
- How results or products will be used;
- Pitfalls that may be encountered;
- Limitations to proposed procedures;
- A full explanation of any materials, procedures, situations, or activities related to the project that may be hazardous to personnel, along with an outline or precautions to be exercised to avoid or mitigate the effects of such hazards; and
- A timeline for attainment of objectives and for production of deliverables that includes annual milestones with specific, measurable outcomes. All applications submitted must also include a data management plan.

✔ *For Integrated Project Applications* – Project Narratives for these applications also should:

- Include at least two of the three functions of the agricultural knowledge system (i.e., research, education, and extension). Each function should be represented by one or more objectives within the application.
- Include a plan for evaluating progress toward achieving project objectives must be included. The plan must include milestones, which signify the completion of a major deliverable, event, or accomplishment and serve to verify that the project is on schedule and on track for successful conclusion. The plan should also include descriptions of indicators that you will measure to evaluate whether the research, education, and/or extension activities are successful in achieving project goals and in contributing to achievement of the stated program goals and outcomes.
- Clearly articulate:
  - Stakeholder involvement in project development, implementation, and evaluation, where appropriate;
  - Objectives for each function included in the project (note that extension and education activities are expected to differ and to be described in separate project objectives; see enumerated descriptions in Part II, C; and
  - A dissemination plan describing the methods that will be used to communicate findings and project accomplishments.
- AFRI encourages Integrated Projects that develop content suitable for delivery through eXtension. This content is for "end users" as opposed to staff development and must follow the eXtension Guiding Principles and guidelines for including eXtension in a proposal presented at http://about.extension.org/wiki/NIFA_RFA_Information. Funds may be used to 1) enhance an existing Community of Practice or 2) to establish a new Community of Practice, as appropriate.

✔ *For Conference Grant Applications* – In addition to the Project narrative requirements above, substitute the following in the Approach section:

- A justification for the meeting;
- Recent meetings on the same subject with dates and locations;
- Names and organizational affiliations of the chair and other members of the organizing committee;
- A proposed program (or agenda) for the conference, including a listing of scheduled participants and their institutional affiliations; and
- The method of announcement or invitation that will be used.

✔ *For Sabbatical Grant Applications* – In addition to the Project narrative requirements above, substitute the following in the Approach section: A general description of the research, education, and/or extension interests and goals of the applicant in order to provide perspective for the application;

- A description of the project to be pursued while on the sabbatical leave;
- A statement of how the sabbatical leave will enhance the capabilities of the applicant; and
- A statement of future research goals and objectives once the sabbatical is complete and how the sabbatical will enable the applicant to pursue these goals.

- *For Equipment Grant Applications* – In addition to the Project Narrative requirements above, include a general description of the project(s) for which the equipment will be used, how the equipment will fit into or enhance the research, education, and/or extension program, and how the equipment will allow the applicant to become competitive for future funding or move into new research areas. Also include a description of other similar or complementary equipment available to the PD at the institution and why the requested equipment is necessary.

- *For Seed Grant Applications* – Include all of the components detailed in the Project Narrative section above and present enough detail to allow adequate evaluation. In order to be competitive, long-term goals and a statement describing how this Seed Grant will allow the applicant to become competitive for future funding must be included.

d. Center of Excellence Justification

Only CAP grants and standard grant applicants may be considered for COE designation.

In addition to meeting the other requirements detailed in Part IV, C., of this Request for Application (RFA), eligible applicants who wish to be considered as centers of excellence must provide a brief justification statement, as part of their Project Narratives and within the page limits provided, describing how they meet the standards of a center of excellence, based on the following criteria:

(A) the ability of the center of excellence to ensure coordination and cost effectiveness by reducing unnecessarily duplicative efforts regarding research, teaching, and extension in the implementation of the proposed research and/or extension activity outlined in this application;

(B) in addition to any applicable matching requirements, the ability of the center of excellence to leverage available resources by using public-private partnerships among agricultural industry groups, institutions of higher education, and the Federal Government in the implementation of the proposed research and/or extension activity outlined in this application. Resources leveraged should be commensurate with the size of the award;

(C) the planned scope and capability of the center of excellence to implement teaching initiatives to increase awareness and effectively disseminate solutions to target audiences through extension activities in the implementation of the proposed research and/or extension activity outlined in this application; and

(D) the ability or capacity of the center of excellence to increase the economic returns to rural communities by identifying, attracting, and directing funds to high-priority agricultural issues in support of and as a result of the implementation of the proposed research and/or extension activity outlined in this application.

Additionally, where practicable (not required), center of excellence applicants should describe proposed efforts to improve teaching capacity and infrastructure at colleges and universities (including land-grant colleges and universities, cooperating forestry schools, certified Non-Land Grant Colleges of Agriculture (NLGCA) (list of certified NLGCA is available at http://www.nifa.usda.gov/funding/pdfs/nlgca_colleges.pdf), and schools of veterinary medicine).

c. Field 9-Bibliography & References Cited – PDF Attachment. No Page Limit. **Title the attachment as 'Bibliography & References Cited' in the document header and save file as 'BibliographyReferencesCited'.**

All work cited in the text should be referenced in this section of the application. All references must be complete; include titles and all co-authors; conform to an acceptable journal format; and be listed in alphabetical order using the last name of the first author or listed by number in the order of citation.

d. Field 10-Facilities & Other Resources – PDF Attachment. No Page Limit. **Title the attachment as 'Facilities & Other Resources' in the document header and save file as 'FacilitiesOtherResources'.**

e. Field 11-Equipment – PDF Attachment. No Page Limit. Title the attachment as 'Equipment' in the document header and save file as 'Equipment'.

In addition to describing available equipment, items of nonexpendable equipment necessary to conduct and successfully complete the proposed project for which funds are requested to purchase should be listed in Field C. of the R&R Budget and described in the Budget Justification (Field K. of the R7R Budget, for more information see section 6 below).

f. Field 12-Other Attachments

1. **Project Type –** PDF Attachment. 1-Page Limit. Title the attachment as 'Project Type' and save file as 'ProjectType'.

   Identify the type of project and the type of grant you are submitting by completing the Project Type template located at: www.nifa.usda.gov/funding/templates/project_type.doc. Before doing so, please refer to Part I, C of this RFA for project type descriptions requested under each Program Area Description and Part II of this RFA for a full description of each project and grant type.

2. **Key Personnel Roles –** PDF Attachment. 2-Page Limit. Title the attachment as 'Key Personnel' and save file as 'KeyPersonnel'.

   Clearly describe the roles and responsibilities of the PD, co-PD(s), collaborator(s), and other key personnel. Biographical sketches for key personnel should be attached in the R&R Senior/Key Person Profile described in Part IV, C, 5. If it will be necessary to enter into formal consulting or collaborative arrangements with others, such arrangements should be fully explained and justified. If the consultant(s) or collaborator(s) are known at the time of application, a biographical sketch should be provided in the R&R Senior/Key Person Profile. Collaborators simply providing services or materials should not be listed in the R&R Senior/Key Person Profile and a biographical sketch is not required. Evidence (letters of support) for this type of collaboration should be provided in the 'Documentation of Collaboration' (see number 5 below). These signed letters should provide evidence that the collaborators

involved have agreed to render these services. For Integrated Grant Applications – state for key personnel an estimate of the percent of time devoted to research, education, and/or extension activities.

3. **Logic Model –** PDF Attachment. Required Integrated Project Grants Only; it is allowable for Research Projects. Two-Page Limit. Title the attachment as 'Logic Model' and save file as 'LogicModel'.

   Applications proposing Education, Extension, or Integrated projects must include the elements of a logic model detailing the activities, outputs, and outcomes of the proposed project. The logic model planning process is a tool that should be used to develop your project before writing your application. This information may be provided as a narrative or formatted into a logic model chart. More information and resources related to the logic model planning process are provided at www.nifa.usda.gov/funding/integrated/integrated_logic_model.html.

4. **Project Management Plan –** PDF Attachment. Required for all Standard Research and Integrated Projects. Three-Page Limit. Title the attachment as 'Management Plan' and save file as 'ProjectManagementPlan'.

   The application must contain a clearly articulated project management plan to ensure efficient functioning of the team that includes an organizational chart, administrative timeline, and a description of how the project will be governed, as well as a strategy to enhance coordination, collaboration, communication, and data sharing and reporting among members of the project team and stakeholder groups. Applications must include a plan for sustaining the program beyond the termination of the project.

   The management plan should also include an advisory group of principal stakeholders, partners, and professionals to assess and evaluate the quality, expected measurable outcomes, and potential impacts for the proposed research, education, and/or extension. Please include letters of commitment (in Documentation of Collaboration below), rationale for their role, and how they will function effectively to support the goals and objectives of the project. The plan must demonstrate how partners and stakeholders contribute to project assessment on an annual basis.

5. **Data Management Plan –** PDF Attachment. Required for all Standard Research and Integrated projects. Two-page Limit. **Title the attachment as 'DataManagementPlan' and save file as 'DataManagementPlan'.**

6. **Documentation of Collaboration –** PDF Attachment. No Page Limit. Title the attachment as 'Documentation of Collaboration' in the document header and save file as 'Collaboration'.

Evidence, e.g., letter(s) of support, should be provided that the collaborators involved have agreed to render services. The applicant also will be required to provide additional information on consultants and collaborators in the budget portion of the application.

√ *For Sabbatical Grant Applications* – Provide documentation that arrangements have been made with an established investigator(s) to serve as host, including:

- A letter from the home institution detailing the particular arrangements at the home institution with respect to salary and date and duration of sabbatical;
- A letter from the scientific host(s) indicating willingness to serve in this capacity and a description of the host's contribution to the proposed activities both scientifically and with regard to use of facilities and equipment; and
- A statement signed by the department head or equivalent official at the host institution indicating a commitment to provide research space and facilities for the period of the applicant's presence.

√ *For Equipment Grant Applications* – The application must contain a letter(s) from the organization(s) committed to providing the non-federal matching funds. Provide evidence of institutional commitment for operation and maintenance of requested equipment. Arrangements for sharing equipment among faculty are encouraged. However, it must be evident that the PD is a principal user of the requested equipment.

7. **Preprints –** PDF Attachment. Limited to 2 preprints. Title the attachment as 'Preprints' in the document header and save file as 'Preprints'.

   Preprints related to the Project Narrative are allowed if they are directly germane to the proposed project. Information may not be appended to an application to circumvent page limitations prescribed for the Project Narrative. Extraneous materials will not be used during the peer review process. Only manuscripts in press for a peer-reviewed journal will be accepted and must be accompanied by letters of acceptance from the publishing journals). Preprints attached in support of the application must be single-spaced. Each preprint must be identified with the name of the submitting organization, the name(s) of the PD(s), and the title of the application.

8. **Minority-Serving Institution Documentation –** PDF Attachment. Title the attachment as 'MinorityInfo' in the document header and save file as 'MinorityInfo'.
   (a) Letter identifying percentage of applicable minority students – see Part II, D. 3. b. 1) c).
   (b) Request for Determination – see Part III, B.

9. **Non-Land Grant College of Agriculture (NLGCA) Certification – PDF Attachment.** Applicants claiming exemption from the new matching requirement as NLGCA, must attach the NLGCA certification letter they requested and received from NIFA. Title attachment 'NLGCA Certification' and save file as 'NLGCACertification'. To request certification as an NLGCA, complete the form at

http://www.nifa.usda.gov/form/form.html. Note that certification can take up to 30 days from submission of request form.

4. R&R Senior/Key Person Profile (Expanded)
Information related to the questions on this form is dealt with in detail in Part V, 5. of the NIFA Grants.gov Application Guide. This section of the guide includes information about the people who require a Senior/Key Person Profile, and details about the Biographical Sketch and the Current and Pending Support, including a link to a suggested template for the Current and Pending Support.

5. R&R Personal Data – As noted in Part V, 6. of the NIFA Grants.gov Application Guide, the submission of this information is voluntary and is not a precondition of award.

6. R&R Budget
Information related to the questions on this form is dealt with in detail in Part V, 7. of the NIFA Grants.gov Application Guide.

If a project is funded, beginning in the first year of funding, the project director will be required to attend annual investigator meetings for the duration of the award (excluding Conference, Sabbatical, and Equipment Grant applications). The project directors for Seed Grant applications are required to attend beginning in the second year of funding. Reasonable travel expenses should be included as part of the project budget.

a. Matching Funds

If you conclude that matching funds are not required as specified under Part III, B. Cost-Sharing or Matching, you must include a justification in the Budget Narrative. We will consider this justification when ascertaining final matching requirements or in determining if required matching can be waived. NIFA retains the right to make final determinations regarding matching requirements.

For grants that require matching funds as specified under Part III, B., the Budget Narrative should include written verification of commitments of matching support (including both cash and in-kind contributions) from third parties. Written verification means:

(a) For any third party cash contributions, a separate pledge agreement for each donation, signed by the authorized representatives of the donor organization (and the applicant organization ONLY if provided after submission of the application), must include: (1) The donor's name, address, and telephone number; (2) the name of the applicant organization; (3) the title of the project; (4) the dollar amount of the cash donation (the budget narrative must describe how the cash donation will be used); (5) a statement that the donor will pay the cash contribution during the grant period; and (6) whether the applicant can designate cash as the applicant deems necessary or the cash contribution has been designated to a particular budget item.

(b) For any third party in-kind contributions, a separate pledge agreement for each contribution, signed by the authorized representatives of the donor organization (and the

applicant organization ONLY if provided after submission of the application), must include: (1) The donor's name, address, and telephone number; (2) the name of the applicant organization; (3) the title of the project; (4) a good faith estimate of the current fair market value of the third party in-kind contribution and a description of how the fair market value was determined; and (5) a statement that the donor will make the contribution during the grant period.

Summarize on a separate page the sources and amount of all matching support from outside the applicant institution and place that information in the proposal as part of the Budget Narrative. You must place all pledge agreements in the proposal immediately following the summary of matching support.

Establish the value of applicant contributions in accordance with applicable cost principles. Refer to OMB Circular A-21 (2 CFR Part 220), Cost Principles for Educational Institutions, for further guidance and other requirements relating to matching and allowable costs.

7. <u>Supplemental Information Form</u>
Information related to the questions on this form is dealt with in detail in Part VI, 1. of the NIFA Grants.gov Application Guide.

a) **Field 2. Program to which you are applying.** Enter the Program (Area Priority) Code Name and the Program (Area Priority) Code for the Program Area Priority to which you are applying from the information provided in the Program Area Descriptions beginning in Part I, C. An application can only be submitted to one program (Area Priority). It is extremely important that the Program (Area Priority) Code Name and Program (Area Priority) Code are spelled correctly and match this RFA. If you have a question about which topic area is appropriate for your application, please contact the Program Area Priority Contact.

b)

Program Area Priority	Program Code:
Climate and Microbial Processes in Agroecosystems	A3143
Climate Resilient Land Use for Agriculture and Forestry	A3144
Climate Synthesis and Assessment	A3145

c) **Field 8. Conflict of Interest List**. See Part VI, 1.8 of the NIFA Grants.gov Application Guide for further instructions and a link to a suggested template.

A Conflict of Interest List is required for all applications submitted to the AFRI. The Conflict of Interest List should be provided as a separate PDF attachment and not included in the vitae or resume. A Conflict of Interest List must be completed individually for all personnel who have submitted a Biographical Sketch in the R&R Senior/Key Personnel Profile. **Collate all individual Conflict of Interest lists into a single document file.** The lists can only be submitted as a single PDF attachment.

A recommended template for the Conflict of Interest List can be found at: www.nifa.usda.gov/funding/templates/conflict_of_interest.doc.

D. Submission Dates and Times

1. **Letter of Intent**
   a. *Deadline* **– April 2, 2015 (5:00 p.m., ET).**
   b. Attach the PDF Letter of Intent (LOI) to an email addressed to: Climate@nifa.usda.gov. In the email subject line, write: *Letter of Intent A3143 or A3144_ [PDs Last Name]*.
   c. An acknowledgement receipt will be sent via email by replying to the sender within 5 business days after submission.
   d. LOIs will be reviewed by scientific program staff in order to plan for appropriate expertise for the application peer review panel and ensure that the proposed project fits appropriately within the Program Area Priorities.

2. **Full Application**

Prior to electronic submission of the application via Grants.gov, it is strongly recommended that an administrative review be conducted to ensure that an application complies with all application preparation instructions. An application checklist is included in Part VII of the NIFA Grants.gov Application Guide to assist with this review.

Instructions for submitting an application are included in Part IV, Section 1.9 of the NIFA Grants.gov Application Guide.

Applications must be received submitted via Grants.gov by **5:00 p.m. Eastern Time on June 4, 2015**. **Applications received after the applicable deadline will not be reviewed unless extenuating circumstances exist (Part III, Section 6.1 of the NIFA Grants.gov Application Guide).**

If you have trouble submitting an application to Grants.gov, you should FIRST contact the Grants.gov Help Desk to resolve any problems. Keep a record of any such correspondence. See Part IV. A. for Grants.gov contact information.

We send email correspondence to the AR regarding the status of submitted applications. Therefore, applicants are strongly encouraged to provide accurate e-mail addresses, where designated, on the SF-424 R&R Application for Federal Assistance.

If the AR has not received correspondence **from NIFA** regarding a submitted application within 30 days of the established deadline, contact the Agency Contact identified in Part VII of the applicable RFA and request the proposal number assigned to the application. **Failure to do so may result in the application not being considered for funding by the peer review panel. Once the application has been assigned a proposal number, this number should be cited on all future correspondence.**

E. Funding Restrictions

Section 716 of the Consolidated and Further Continuing Appropriations Act, 2015 (H.R. 83) indirect costs to 30 percent of the total Federal funds provided under each award. Therefore, when preparing budgets, you should limit your request for the recovery of indirect costs to the

lesser of your institution's official negotiated indirect cost rate or the equivalent of 30 percent of total Federal funds awarded.

If your institution does not have, or cannot obtain, a negotiated rate, you must calculate an indirect cost rate in order to request indirect costs. You should calculate an indirect cost rate based on actual costs for the entire organization from the most recently completed accounting year. If no prior cost history exists, you should use budgeted costs for the entire organization. You should follow the example(s) found at: http://nifa.usda.gov/business/indirect_cost_process.html for information regarding this process. You may elect not to charge indirect costs and, instead, use all grant funds for direct costs. If indirect costs are not charged, the phrase "None requested" should be written in this space."

Funds made available for grants under the AFRI program shall not be used for the construction of a new building or facility or the acquisition, expansion, remodeling, or alteration of an existing building or facility (including site grading and improvement, and architect fees).

F. Other Submission Requirements

You should follow the submission requirements noted in Part IV, Section 1.9 in the document entitled "NIFA Grants.gov Application Guide."

For information about the **status of a submitted application**, see Part III, Section 6. of the NIFA Grants.gov Application Guide.

PART V—APPLICATION REVIEW REQUIREMENTS

A. General

We evaluate each application in a two-part process. First, we screen each application to ensure that it meets the administrative requirements as set forth in this RFA. Second, a review panel will technically evaluate applications that meet these requirements.

We select reviewers based upon their training and experience in relevant scientific, extension, or education fields, taking into account the following factors: (a) The level of relevant formal scientific, technical education, or extension experience of the individual, as well as the extent to which an individual is engaged in relevant research, education, or extension activities; (b) the need to include as reviewers experts from various areas of specialization within relevant scientific, education, or extension fields; (c) the need to include as reviewers other experts (e.g., producers, range or forest managers/operators, and consumers) who can assess relevance of the applications to targeted audiences and to program needs; (d) the need to include as reviewers experts from a variety of organizational types (e.g., colleges, universities, industry, state and federal agencies, and private profit and non-profit organizations) and geographic locations; (e) the need to maintain a balanced composition of reviewers with regard to minority and female representation and an equitable age distribution; and (f) the need to include reviewers who can judge the effective usefulness of each application to producers and the general public.

When each peer review panel has completed its deliberations, the responsible program staff of **Agriculture and Natural Resources Science for Climate Variability and Change (ANRCVC)** program will recommend that the project: (a) be approved for support from currently available funds or (b) be declined due to insufficient funds or unfavorable review.

ANRCVC program reserves the right to negotiate with the Project Director/Principle Investigator (PD/PI) and/or with the submitting organization or institution regarding project revisions (e.g., reductions in the scope of work, funding level, period, or method of support) prior to recommending any project for funding.

For more information on the peer review process, see www.nifa.usda.gov/business/competitive_peer_review.html.

B. Evaluation Criteria

We will use the evaluation criteria below to review applications submitted in response to this RFA:

Projects supported under this program shall be designed, among other things, to accomplish one or more of the purposes of agriculture research, education, and extension, subject to the varying conditions and needs of states. Therefore, in carrying out its review, the peer review panel will take into account the following factors.

1. Research Project Applications

These evaluation criteria will be used for the review of all single-function Research Project applications.

a. Scientific Merit of the Application for Research

1) Novelty, innovation, uniqueness, and originality;
2) Conceptual adequacy of the research and suitability of the hypothesis, as applicable;
3) Clarity and delineation of objectives;
4) Adequacy of the description of the undertaking and suitability and feasibility of methodology;
5) Demonstration of feasibility through preliminary data; and
6) Probability of success of the project is appropriate given the level of scientific originality, and risk-reward balance.

b. Qualifications of Project Personnel, Adequacy of Facilities, and Project Management

1) Qualifications of applicant (individual or team) to conduct the proposed project, including performance record and potential for future accomplishments;
2) Demonstrated awareness of previous and alternative approaches to the problem identified in the application;
3) Institutional experience and competence in subject area;
4) Adequacy of available or obtainable support personnel, facilities, and instrumentation; and
5) Planning and administration of the proposed project, including: time allocated for systematic attainment of objectives; and planned administration of the proposed project and its maintenance, partnerships, collaborative efforts, and the planned dissemination of information for multi-institutional projects over the duration of the project.

c. Project Relevance

Documentation that the research is directed toward specific Program Area Priority identified in this RFA and is designed to accelerate progress toward the productivity and economic, environmental, and social sustainability of U.S. agriculture with respect to natural resources and the environment, human health and well-being, and communities.

d. Center of Excellence Status

All eligible applicants will be competitively peer reviewed (as described in Part V, A. and B. of this RFA), and ranked in accordance with the evaluation criteria. Those that rank highly meritorious and requested to be considered as a center of excellence will be further evaluated by the peer panel to determine whether they have met the standards to be centers of excellence (Part III D. and Part IV C.). In instances where they are found to be equally meritorious with the application of a non-center of excellence, based on peer review, selection for funding will be weighed in favor of applicants meeting the center of excellence criteria. NIFA will effectively use the center of excellence prioritization as a "tie breaker". Applicants that rank highly meritorious but who did not request consideration as a center of excellence or who are not deemed to have met the centers of excellence standards may still receive funding.

In addition, the applicant's Notice of Award will reflect that, for the particular grant program, the applicant meets all of the requirements of a center of excellence. Entities recognized as centers of excellence will maintain that distinction for the duration of their period of performance or as identified in the terms and conditions of that award.

2. Integrated Project Applications

These evaluation criteria will be used for the review of all multi-function Integrated Project applications.

a. Merit of the Application for Science Research, Education, and/or Extension

1) Project objectives and outcomes are clearly described, adequate, and appropriate. All project components (research, education, extension) – at least two are required – are reflected in one or more project objectives;
2) Proposed approach, procedures, or methodologies are innovative, original, clearly described, suitable, and feasible;
3) Expected results or outcomes are clearly stated, measurable, and achievable within the allotted time frame;
4) Proposed research fills knowledge gaps that are critical to the development of practices and programs to address the stated problem or issue;
5) Proposed extension leads to measurable, documented changes in learning, actions, or conditions in an identified audience or stakeholder group; and
6) Proposed education (teaching) has an impact upon and advances the quality of food and agricultural sciences by strengthening institutional capacities and curricula to meet clearly delineated needs and train the next generation of scientists and educators.

b. Qualifications of Project Personnel, Adequacy of Facilities, and Project Management

1) Roles of key personnel are clearly defined;
2) Key personnel have sufficient expertise to complete the proposed project, and where appropriate, partnerships with other disciplines (e.g., social science or economics) and institutions are established;
3) Evidence of institutional capacity and competence in the proposed area of work is provided;
4) Support personnel, facilities, and instrumentation are sufficient;
5) A clear plan is articulated for project management, including time allocated for attainment of objectives and delivery of products, maintenance of partnerships and collaborations, and a strategy to enhance communication, data sharing, and reporting among members of the project team; and
6) The budget clearly allocates sufficient resources to carry out a set of research, education (teaching), and/or extension activities that will lead to desired outcomes, with no more than two-thirds of the budget focused on a single project component. Supporting funds for CoP core functions and project-specific activities are included for partnerships with eXtension.

c. Project Relevance

1) Documentation that the project is directed toward specific Program Area Priority(ies) identified in this RFA and is designed to accelerate progress toward the productivity and economic, environmental, and social sustainability of U.S. agriculture with

respect to natural resources and the environment, human health and well-being, and communities;

2) Project components (research, education, and/or extension) – at least two are required – are fully integrated and necessary to address the problem or issue;
3) The proposed work addresses identified stakeholder needs;
4) Stakeholder involvement in project development, implementation, and evaluation is demonstrated, where appropriate;
5) Plan and methods for evaluating success of project activities and documenting potential impact against measurable short and mid-term outcomes are suitable and feasible;
6) For extension or education (teaching) activities, curricula and related products will sustain education or extension functions beyond the life of the project; and
7) For extension or education (teaching) activities, the resulting curricula or products share information and recommendations based on knowledge and conclusions from a broad range of research initiatives.

d. Center of Excellence Status

All eligible applicants will be competitively peer reviewed (as described in Part V, A. and B. of this RFA), and ranked in accordance with the evaluation criteria. Those that rank highly meritorious and requested to be considered as a center of excellence will be further evaluated by the peer panel to determine whether they have met the standards to be centers of excellence (Part III D. and Part IV C.). In instances where they are found to be equally meritorious with the application of a non-center of excellence, based on peer review, selection for funding will be weighed in favor of applicants meeting the center of excellence criteria. NIFA will effectively use the center of excellence prioritization as a "tie breaker". Applicants that rank highly meritorious but who did not request consideration as a center of excellence or who are not deemed to have met the centers of excellence standards may still receive funding .

In addition, the applicant's Notice of Award will reflect that, for the particular grant program, the applicant meets all of the requirements of a center of excellence. Entities recognized as centers of excellence will maintain that distinction for the duration of their period of performance or as identified in the terms and conditions of that award.

3. Conference Grant Applications

a. Relevance of the proposed conference to agriculture and food systems in the U.S. and appropriateness of the conference in fostering scientific exchange;
b. Qualifications of the organizing committee and appropriateness of invited speakers to topic areas being covered; and
c. Uniqueness, timeliness of the conference, and appropriateness of budget requests.

4. New Investigator, Strengthening Standard, and Strengthening Grant Applications

Refer to the review criteria listed above for the applicable Project Type (Research, Education, Extension or Integrated) to which you are applying.

5. Sabbatical Grant, Equipment Grant, and Seed Grant Applications

- **a.** The merit of the proposed activities or equipment as a means of enhancing the capabilities and competitiveness of the applicant and/or institution;
- **b.** The applicant's previous experience and background along with the appropriateness of the proposed activities or equipment for the goals proposed; and
- **c.** Relevance of the project to long-range improvements in and sustainability of U.S. agriculture, the environment, human health and well-being, and rural communities.

C. Conflicts of Interest and Confidentiality

During the peer evaluation process, we take extreme care to prevent any actual or perceived conflicts of interest that may impact review or evaluation. For the purpose of determining conflicts of interest, we determine the academic and administrative autonomy of an institution by reference to the current Higher Education Directory, published by Higher Education Publications, Inc., 1801 Robert Fulton Drive, Suite 555, Reston, VA, 20191. Phone: (888) 349-7715. Web site: http://www.hepinc.com.

Names of submitting institutions and individuals, as well as application content and peer evaluations, are kept confidential, except to those involved in the review process, to the extent permitted by law. In addition, the identities of peer reviewers will remain confidential throughout the entire review process, to the extent permitted by law; therefore, the names of the reviewers will not be released to applicants.

D. Organizational Management Information

Specific management information relating to an applicant shall be submitted on a one time basis, with updates on an as needed basis. This requirement is part of the responsibility determination prior to the award of a grant identified under this RFA, if such information has not been provided previously under this or another NIFA program. We will provide you copies of forms recommended for use in fulfilling these requirements as part of the pre-award process. Although an applicant may be eligible based on his/her status as one of these entities, there are factors that may exclude an applicant from receiving federal financial and nonfinancial assistance and benefits under this program (e.g., debarment or suspension of an individual involved or a determination that an applicant is not responsible based on submitted organizational management information).

E. Application Disposition

An application may be withdrawn at any time before a final funding decision is made regarding the application; however, withdrawn applications normally will not be returned. One copy of each application that is not selected for funding, including those that are withdrawn, will be retained by **ANRCVC** for a period of 3 years.

PART VI—AWARD ADMINISTRATION

A. General

Within the limit of funds available for such purpose, the NIFA awarding official shall make grants to those responsible, eligible applicants whose applications are judged most meritorious under the procedures set forth in this RFA. The date specified by the NIFA awarding official as the effective date of the grant shall be no later than September 30 of the federal fiscal year in which the project is approved for support and funds are appropriated for such purpose, unless otherwise permitted by law. The project need not be initiated on the grant effective date, but as soon thereafter as practical so that project goals may be attained within the funded project period. All funds granted by NIFA under this RFA may be used only for the purpose for which they are granted in accordance with the approved application and budget, regulations, terms and conditions of the award, applicable federal cost principles, USDA assistance regulations, and NIFA General Awards Administration Provisions at 7 CFR part 3430, subparts A through E.

B. Award Notice

The award document will provide pertinent instructions and information including, at a minimum:

(1) Legal name and address of performing organization or institution to which the director has issued an award under the terms of this request for applications;

(2) Title of project;

(3) Name(s) and institution(s) of PDs chosen to direct and control approved activities;

(4) Identifying award number and the Federal Agency Identification Number assigned by NIFA;

(5) Project period, specifying the amount of time NIFA intends to support the project without requiring recompetition for funds;

(6) Total amount of financial assistance approved for the award;

(7) Legal authority(ies) under which the award is issued;

(8) Appropriate Catalog of Federal Domestic Assistance (CFDA) number;

(9) Applicable award terms and conditions (see http://www.nifa.usda.gov/business/awards/awardterms.html to view NIFA award terms and conditions);

(10) Approved budget plan for categorizing allocable project funds to accomplish the stated purpose of the award; and

(11) Other information or provisions deemed necessary by NIFA to carry out its respective awarding activities or to accomplish the purpose of a particular award.

C. Administrative and National Policy Requirements

Several federal statutes and regulations apply to grant applications considered for review and to project grants awarded under this program. These include, but are not limited to the ones listed below.

2 CFR Part 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

2 CFR Part 400 —USDA implementation of 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

2 CFR Part 415 – USDA General Program Administrative Regulations.

7 CFR Part 1, subpart A—USDA implementation of the Freedom of Information Act.

7 CFR Part 3—USDA implementation of OMB Circular No. A-129 regarding debt collection.

7 CFR Part 15, subpart A—USDA implementation of Title VI of the Civil Rights Act of 1964, as amended.

2 CFR Part 180 and Part 417--OMB Guidelines to Agencies on Government-Wide Debarment and Suspension (Nonprocurement) and USDA Nonprocurement Debarment and Suspension.

7 CFR Part 331 and 9 CFR Part 121—USDA implementation of the Agricultural Bioterrorism Protection Act of 2002.

2 CFR Part 416—USDA General Program Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

2 CFR Part 418—USDA implementation of Restrictions on Lobbying. Imposes prohibitions and requirements for disclosure and certification related to lobbying on recipients of federal contracts, grants, cooperative agreements, and loans.

2 CFR Part 421—USDA Implementation of Governmentwide Requirements for Drug-Free Workplace (Grants).

2 CFR Part 422—Research Institutions Conducting USDA-Funded Extramural Research; Research Misconduct.

7 CFR Part 3407—USDA procedures to implement the National Environmental Policy Act of 1969, as amended.

7 CFR 3430—Competitive and Noncompetitive Non-formula Financial Assistance Programs--General Award Administrative Provisions.

29 U.S.C. 794 (section 504, Rehabilitation Act of 1973) and 7 CFR Part 15b (USDA implementation of statute) —prohibiting discrimination based upon physical or mental handicap in federally-assisted programs.

35 U.S.C. 200 et seq. —Bayh Dole Act, controlling allocation of rights to inventions made by employees of small business firms and domestic nonprofit organizations, including universities, in federally-assisted programs (implementing regulations are contained in 37 CFR Part 401).

44 U.S.C. 3541 et seq. (Pub. L. 107-347) - Federal Information System Security Management Act of 2002 (FISMA), to improve computer and network security within the Federal Government. Applies to awardees if it will collect, store, process, transmit, or use information on behalf of NIFA.

D. Expected Program Outputs and Reporting Requirements

Grantees are to use REEport, NIFA's electronic, web-based inventory system to submit an initial project initiation that documents expected products and outcomes of the project. Additionally, annual progress report documenting realized project outcomes must be submitted to the electronic system. The web-based system facilitates an electronic workflow between grantees and NIFA for project accomplishments to be easily searchable and allows for public access to information on Federally-funded projects. The details of these reporting requirements, including those specific to the annual and final technical reports, are included in the award terms and conditions.

PART VII—AGENCY CONTACT

Applicants and other interested parties are encouraged to contact:

For general questions related to the AFRI programs, applicants and other interested parties are encouraged to contact:

AFRI Program Office:
Dr. Luis Tupas Deputy Director, Institute of Bioenergy, Climate, and Environment
Dr. Dionne Toombs, Acting Deputy Director, Institute of Food Safety and Nutrition
Dr. Muquarrab Qureshi, Deputy Director, Institute of Youth, Family, and Community
Dr. Parag Chitnis, Deputy Director, Institute of Food Production and Sustainability

Telephone: (202) 401-5022
Fax: (202) 401-6488
E-mail: AFRI@nifa.usda.gov

Programmatic Contact –
Nancy Cavallaro
National Program Leader, Climate Division
Email: ncavallaro@nifa.usda.gov
Telephone: (202) 401-5176

Rachel Melnick
National Program Leader, Climate Division
Email: rmelnick@nifa.usda.gov
Telephone: (202) 401-4980

Administrative/Business Contact –
Rochelle McCrea
Team Leader, Awards Management Division
(202) 401-5050
rmccrea@nifa.usda.gov

Sondra Watkins
Team Leader, Awards Management Division
(202) 401-5050
swatkins@nifa.usda.gov

PART VIII—OTHER INFORMATION

A. Access to Review Information

We will send copies of reviews, not including the identity of reviewers, and a summary of the panel comments to the applicant project director (PD) after the review process has been completed.

B. Use of Funds; Changes

1. Delegation of Fiscal Responsibility

Unless the terms and conditions of the award state otherwise, awardees may not in whole or in part delegate or transfer to another person, institution, or organization the responsibility for use or expenditure of award funds.

2. Changes in Project Plans

a. The permissible changes by the awardee, PD(s), or other key project personnel in the approved project shall be limited to changes in methodology, techniques, or other similar aspects of the project to expedite achievement of the project's approved goals. If the awardee or the PD(s) is uncertain as to whether a change complies with this provision, the question must be referred to the Authorized Departmental Officer (ADO) for a final determination. The ADO is the signatory of the award document, not the program contact.

b. The awardee must request, and the ADO must approve in writing, all changes in approved goals or objectives prior to effecting such changes. In no event shall requests be approved for changes that are outside the scope of the original approved project.

c. The awardee must request, and the ADO must approve in writing, all changes in approved project leadership or the replacement or reassignment of other key project personnel, prior to effecting such changes.

d. The awardee must request, and the ADO must approve in writing, all transfers of actual performance of the substantive programmatic work in whole or in part and provisions for payment of funds, whether or not federal funds are involved, prior to instituting such transfers, unless prescribed otherwise in the terms and conditions of the award.

e. The project period may be extended without additional financial support, for such additional period(s) necessary to complete or fulfill the purposes of an approved project, but in no case shall the total project period exceed any applicable statutory limit or expiring appropriation limitation. The terms and conditions of award include information about no-cost extensions of the award and when ADO’s prior approval is necessary.

f. Changes in Approved Budget: Unless stated otherwise in the terms and conditions of award, changes in an approved budget must be requested by the awardee and approved in writing by the

ADO prior to instituting such changes, if the revision will involve transfers or expenditures of amounts requiring prior approval as set forth in the applicable Federal cost principles, Departmental regulations, or award.

C. Confidential Aspects of Applications and Awards

When an application results in an award, it becomes a part of the record of NIFA transactions, available to the public upon specific request. Information that the Secretary determines to be of a confidential, privileged, or proprietary nature will be held in confidence to the extent permitted by law. Therefore, any information that the applicant wishes to have considered as confidential, privileged, or proprietary should be clearly marked within the application. The original copy of an application that does not result in an award will be retained by the agency for a period of 3 years. Other copies will be destroyed. Such an application will be released only with the consent of the applicant or to the extent required by law. An application may be withdrawn at any time prior to the final action thereon.

D. Regulatory Information

For the reasons set forth in the final Rule related Notice to 7 CFR Part 3015, Subpart V (48 FR 29114, June 24, 1983), this program is excluded from the scope of the Executive Order 12372 which requires intergovernmental consultation with State and local officials. Under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35), the collection of information requirements contained in this notice have been approved under OMB Document No. 0524-0039.

E. Definitions

Please refer to 7 CFR 3430, Competitive and Noncompetitive Non-formula Financial Assistance Programs--General Award Administrative Provisions, for applicable definitions for this NIFA grant program.

For the purpose of this program, the following additional definitions are applicable:

Director means the Director of the National Institute of Food and Agriculture (NIFA) and any other officer or employee of NIFA to whom the authority involved is delegated.

Food and Agricultural Science Enhancement (FASE) Grants mean funding awarded to eligible applicants to strengthen science capabilities of PDs, to help institutions develop competitive scientific programs, and to attract new scientists into careers in high-priority areas of national need in agriculture, food, and environmental sciences. FASE awards may apply to any of the three agricultural knowledge components (research, education, and extension). FASE awards include Pre- and Postdoctoral Fellowships, New Investigator grants, and Strengthening grants.

Integrated project means a project incorporating two or three functions of the agricultural knowledge system (research, education, and extension) around a problem or activity.

Limited institutional success means institutions that are not among the most successful universities and colleges for receiving federal funds for science and engineering research. A list of successful institutions will be provided in the RFA.

Minority-serving institution means an accredited academic institution whose enrollment of a single minority or a combination of minorities exceeds 50 percent of the total enrollment, including graduate and undergraduate and full- and part-time students. An institution in this instance is an organization that is independently accredited as determined by reference to the current version of the Higher Education Directory, published by Higher Education Publications, Inc., 6400 Arlington Boulevard, Suite 648, Falls Church, VA 22042.

Minority means Alaskan Native, American Indian, Asian-American, African-American, Hispanic American, Native Hawaiian, or Pacific Islander. The Secretary will determine on a case-by-case basis whether additional groups qualify under this definition, either at the Secretary's initiative, or in response to a written request with supporting explanation.

Multidisciplinary project means a project on which investigators from two or more disciplines collaborate to address a common problem. These collaborations, where appropriate, may integrate the biological, physical, chemical, or social sciences.

Small and mid-sized institutions are academic institutions with a current total enrollment of 17,500 or less including graduate and undergraduate and full- and part-time students. An institution, in this instance, is an organization that possesses a significant degree of autonomy. Significant degree of autonomy is defined by being independently accredited as determined by reference to the current version of the *Higher Education Directory*, published by Higher Education Publications, Inc., 6400 Arlington Boulevard, Suite 648, Falls Church, VA 22042 (703-532-2300).

Strengthening Grants mean funds awarded to institutions eligible for FASE grants to enhance institutional capacity, with the goal of leading to future funding in the project area, as well as strengthening the competitiveness of the investigator's research, education, and/or extension activities. Strengthening grants consist of Standard and Coordinated Agricultural Project grant types as well as Seed grants, Equipment Grants, and Sabbatical Grants.

USDA EPSCoR States (Experimental Program to Stimulate Competitive Research) means states that have been less successful in receiving funding from AFRI, having a funding level no higher than the 38th percentile of all states based on a 3-year average of AFRI funding levels, excluding FASE

TABLE 1. Most Successful Universities and Colleges Receiving Federal Funds*.
Use to Determine Eligibility for Strengthening Grants

Arizona State University (all campuses)	Princeton University	University Maryland, College Park
Baylor College of Medicine	Purdue University (all campuses)	University Massachusetts, Amherst
Boston University	Rutgers, The State University New Jersey (all campuses)	University Massachusetts, Worcester
Brown University	Scripps Research Institute, The	University Miami
California Institute of Technology	Stanford University	University Miami (all campuses)
Carnegie Mellon University	State University of New York, Stony Brook (main campus)	University Minnesota (all campuses)
Case Western Reserve University	Texas A&M University (main campus)	University Missouri, Columbia
Colorado State University	Tufts University	University New Mexico (all campuses)
Columbia University	University Alabama, Birmingham	University North Carolina, Chapel Hill
Consortium for Ocean Leadership	University Alaska, Fairbanks	University of Medicine & Dentistry New Jersey
Cornell University (all campuses)	University Arizona	University Pennsylvania
Dartmouth College	University California, Berkeley	University Pittsburgh (all campuses)
Duke University	University California, Davis	University Rochester
Emory University	University California, Irvine	University South Florida
Florida State University	University California, Los Angeles	University Southern California
George Washington University, The	University California, San Diego	University Texas, Austin
Georgia Institute of Technology (all campuses)	University California, San Francisco	University Texas Health Science Center, Houston
Harvard University	University California, Santa Barbara	University Texas Health Science Center, San Antonio
Indiana University - Purdue University, Indianapolis	University Chicago	University Texas M. D. Anderson Cancer Center
Iowa State University	University Cincinnati (all campuses)	University Texas Medical Branch
Johns Hopkins University, The	University Colorado (all campuses)	University Texas Southwestern Medical Center
Louisiana State University (all campuses)	University Connecticut (all campuses)	University Utah
Massachusetts Institute of Technology	University Corporation for Atmospheric Research	University Virginia (main campus)
Medical College, Wisconsin	University Delaware	University Washington
Medical University, South Carolina	University Florida	University Wisconsin, Madison
Miami State University	University Georgia	Vanderbilt University
Mount Sinai School of Medicine	University Hawaii, Manoa	Virginia Commonwealth University
New York University	University Illinois, Chicago	Virginia Polytechnic Institute and State University
North Carolina State University	University Illinois, Urbana-Champaign	Wake Forest University
Northwestern University	University Iowa	Washington University, St. Louis
Ohio State University (all campuses)	University Kansas (all campuses)	Woods Hole Oceanographic Institution
Oregon Health & Science University	University Kentucky (all campuses)	Yale University
Oregon State University	University Maryland, Baltimore	Yeshiva University
Pennsylvania State University (all campuses)		

*****Data obtained from the table of Federal obligations for science and engineering research and development to the 100 universities and colleges receiving the largest amounts, ranked by total amount received in FY 2009 of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions (National Science Foundation). Campuses that are part of a larger university system as listed in Table 1 may petition for an exemption to this rule (see Part III, B for information).

TABLE 2. Lowest One Third of Universities and Colleges Receiving Federal Funds*.

Use to Determine Eligibility for Possible Waiver of Matching Funds Requirement for Equipment Grants

A. T. Still University of Health Sciences	Hendrix College	Regis University
Abilene Christian University	HI Pacific University	Rhodes College
Agnes Scott College	Highline Community College	RI College
AK Pacific University	Hinds Community College	Ridgewater College
Albright College	Hood College	Roanoke College
Allegheny College	Houston Community College	Rocky Mountain College
American Indian Higher Ed. Consortium	Hudson Valley Community College	Rollins College
American University Puerto Rico	IL College of Optometry	Roosevelt University
Angelo State University	IL Wesleyan University	Saginaw Valley State University
Anne Arundel Community College	Immaculata University	Saint Augustine's College
Antioch University all campuses	IN University-Purdue University Ft. Wayne	Saint Cloud State University
AR Tech University	IN Wesleyan University	Saint Edward's University
Arapahoe Community College	Independent College Fund	Saint Lawrence University
Arizona Western College	Indian River State College	Saint Mary's College (Notre Dame, IN)
Arrowhead Community Colleges	Institute of American Indian and Alaska Native Culture and Arts Development	Saint Mary's College CA
Art Ctr. College of Design	Iona College	Saint Mary's College MD
Assumption College	Ithaca College	Saint Mary's University (San Antonio, TX)
Atlanta Metropolitan College	Ivy Tech Community College IN all campuses	Saint Mary's University MN
Atlantic College	John Brown University	Saint Michael's College
Augusta State University	John Carroll University	Saint Norbert College
Augustana College (Rock Island, IL)	Johnson & Wales University (Providence, RI)	Saint Vincent Catholic Medical Ctrs. NY
Augustana College (Sioux Falls, SD)	Juniata College	Saint Vincent College
Austin College	Kalamazoo College	Salem State University
Austin Community College	Kansas City KS Community College	Salisbury University
Avila University	Kansas City University of Medicine and Biosciences	Salve Regina University
Babson College	Kean University	San Diego Mesa College
Baker University	Keene State College	Sarah Lawrence College
Baltimore City Community College	Kenyon College	SC Sea Grant Consortium
Bard College	Knox College	Seattle Community Colleges all campuses
Bard College at Simon's Rock	Kutztown University PA	Seattle Pacific University
Bay Mills Community College	LA Universities Marine Consortium	Seminole State College
Beaufort County Community College	Lake Forest College	Seminole State College FL
Beloit College	Lake Superior State University	Shawnee State University
Benedictine University	Lakeshore Technical College	Simmons College
Bennett College	Landmark College	Skagit Valley College
Bennington College	Laramie County Community College	Slippery Rock University PA
Bentley University	Lasell College	Sojourner-Douglass College
Bethany College (Bethany, WV)	Le Moyne College	South Mountain Community College
Bethune-Cookman University	Lebanon Valley College	Southeast MO State University
Birmingham-Southern College	Lee College	Southeastern OK State University
Bismarck State College	Lehigh Carbon Community College	Southern CT State University
Bowie State University	LeMoyne-Owen College	Southern Polytechnic State University
Bridgewater State University	LeTourneau University	Southern UT University
Butler County Community College (Butler, PA)	Lewis-Clark State College	Southwest FL College

Butler University	Lock Haven University PA	Southwestern Assemblies of God University
Butte College	Longwood University	Southwestern College (Chula Vista, CA)
Cabrini College	Loras College	Southwestern Indian Polytechnic Institute
Calhoun Community College	Los Rios Community College District (all campuses)	Southwestern OK State University
Canisius College	Lyndon State College	Springfield College (Springfield, MA)
Capitol College	Lyon College	Springfield Technical Community College
Carl Albert State College	MA College of Liberal Arts	State University of New York College Old Westbury
Carroll College	Manhattan College	State University of New York College Oswego
Carroll University	Mansfield University PA	State University of New York College Potsdam
Central Arizona College	Marietta College	State University of New York Empire State College
Central College	Marist College	State University of New York Farmingdale
Central Community College	Martin University	State University of New York Fredonia
Central CT State University	Mary Baldwin College	State University of New York Institute of Technology Utica-Rome
Central OR Community College	Marygrove College	State University of New York New Paltz
Centre College	Maryville University Saint Louis	State University of New York Purchase College
Chadron State College	McNeese State University	Stevenson University
Chestnut Hill College	Mercyhurst College	Stonehill College
Christian Brothers University	Mesa State College	Suffolk University
Clarion University PA all campuses	Mesabi Range Community and Technical College	Susquehanna University
Clark State Community College	Metropolitan State College Denver	Sweet Briar College
CO College	Middle TN School of Anesthesia	Taylor University
CO State University all campuses	Mid-South Community College	Thiel College
Cochise College	Midwestern State University	Tohono O'odham Community College
Coe College	Midwestern University (Chicago, IL)	Tri-College University
College of Lake County	Millersville University PA	Troy University main campus
College of Saint Benedict	Millsaps College	Truckee Meadows Community College
College of Saint Elizabeth	Milwaukee School of Engineering	TX A&M University-Texarkana
College of Saint Scholastica	Misericordia University	TX College
College of the Atlantic	Mohave Community College	TX Wesleyan University
College Southern NV	Monmouth College	Tyler Jr. College
College Wooster	Montgomery County Community College	Union Graduate College
Columbia College (Columbia, MO)	Mountain State University	University AK System of Higher Ed.
Columbia College (Columbia, SC)	MS University for Women	University AR Monticello
Columbia College of Nursing	MT State University Billings	University Central MO
Columbus State University	MT Tech College of Technology	University Charleston
Commonwealth Medical College, The	MT University System all campuses	University Consortium for Geographic Information Science
Concord University	Mt. Saint Mary's University	University Dallas
Concordia College (Moorhead, MN)	Muhlenberg College	University Evansville
CUNY Bronx Community College	Nashville State Community College	University Hartford
CUNY Kingsborough Community College	National College of Natural Medicine	University Houston Clear Lake
Cuyahoga Community College all campuses	National-Louis University	University IL Springfield
Dakota State University	NE Indian Community College	University Indianapolis
Del Mar College	Neumann University	University Mary Washington
Dickinson State University	New England School of Acupuncture	University MD Ctr. for Environmental Science
Doane College	Nicholls State University	University MD University College

Dominican University	North GA College & State University	University ME Augusta
Drury University	North IA Area Community College	University NE Kearney
East Stroudsburg University PA	Northampton Community College	University North AL
Eastern Arizona College	Northeast Community College	University of Saint Mary
Eastern IL University	Northeast TX Community College	University of the Incarnate Word
Eastern Mennonite University	Northern MI University	University of the South
Eastern OR University	Northern WY Community College District	University Phoenix
Eastern University	Northwest FL State College	University PR, Cayey
East-West University	Northwest MO State University	University Puget Sound
Eckerd College	Northwestern Health Sciences University	University Redlands
Edison State College	Northwestern MI College	University Rio Grande
Edward Via College of Osteopathic Medicine	Northwestern OK State University	University Sagrado Corazón
El Camino College Compton Ctr.	Northwestern State University	University Tampa
Elgin Community College	NY Institute of Technology all campuses	University West GA
Elon University	NY Law School	University WI-Parkside
Emerson College	Ocean County College	University WI-River Falls
Emporia State University	OH Northern University	University WI-Whitewater
Essex County College	OH Wesleyan University	University S. Naval Academy
Fairleigh Dickinson University all campuses	Orangeburg-Calhoun Technical College	VA Military Institute
Fayetteville Technical Community College	Otterbein University	Valdosta State University
Ferrum College	PA College of Technology	Victoria College
Fitchburg State University	Pace University all campuses	Viterbo University
FL State College Jacksonville	Pacific Lutheran University	VT Technical College
Florence-Darlington Technical College	Pacific States University	Wabash College
Fox Valley Technical College	Paine College	Warren Wilson College
Francis Marion University	Palau Community College	Washburn University
Franciscan University Steubenville	Pasadena City College	Washington and Lee University
Fresno City College	Pearl River Community College	Washington State Community College
Ft. Hays State University	Peninsula College	Waukesha County Technical College
Ft. Lewis College	Pepperdine University Malibu	Weber State University
GA Southwestern State University	Philadelphia College of Osteopathic Medicine	Western Carolina University
Gadsden State Community College	Philadelphia University	Western New England College
Gainesville State College	Philander Smith College	Western University of Health Sciences
Galveston College	Pikes Peak Community College	Westfield State College
Gateway Technical College	Pitzer College	Westminster College (New Wilmington, PA)
Gettysburg College	Plymouth State University	Westmont College
Gonzaga University	Polk State College	Wheaton College (Norton, MA)
Gordon College (Wenham, MA)	Portland Community College	Wheaton College (Wheaton, IL)
Goucher College	Presbyterian College	White Earth Tribal and Community College
Grand View University	Prescott College	Widener University all campuses
Greenville Technical College	Providence College	Wiley College
Hamilton College (Clinton, NY)	Quinsigamond Community College	William Carey University
Hamline University	Radford University	Winona State University
Haywood Community College	Red Rocks Community College	Wofford College
Heartland Community College	Reed College	Worcester State University

*Data obtained from the table of Federal obligations, including American Recovery and Reinvestment Act obligations for science and engineering research and development to universities and colleges, ranked by total amount received, by agency from the FY 2009 Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions (National Science Foundation).

FIGURE 1. Flow Chart for Strengthening Grant Eligibility.