



NATIONAL SCIENCE FOUNDATION
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NSF 21-011

Frequently Asked Questions (FAQs) for Sustainable Regional Systems (SRS)

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GENERAL TOPICS

1. **Where can we sign up for the SRS Research Networks (RNs) solicitation webinar, and where can I access a recording of this webinar?**

Registration for the SRS RN solicitation webinar to be held on October 27, 2020, from 2:30 - 3:30 pm EDT can be found at

https://nsf.zoomgov.com/webinar/register/WN_nh16JLVfQ3qzYtRqLlxA7g.

Once this webinar has occurred, a recording will be posted at: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301383&org=ENG.

2. **Is it possible to have a consultation with one of the SRS RNs program directors?**

Yes, via email. Email questions to SRS@nsf.gov.

ELIGIBILITY

3. Can non-profit or industry personnel serve as Lead PI?

Yes, provided that the submitting organization agrees that the individual can serve in that role and that the submitting organization meets the requirements to submit a proposal to NSF.

4. Are there restrictions on the number of partners in an SRS RN?

A proposed SRS RN must be multi-institutional, with a lead domestic organization and additional core partners. However, there is no maximum number of partners.

5. What qualifies as a minority-serving institution for an SRS RN?

The SRS RNs solicitation requires diverse institutional partners. In addition to other organizational requirements, the SRS RNs solicitation requires that at least one of the SRS RN core partner organizations must be a university that serves populations of traditionally underrepresented students interested in STEM (defined as minority serving institutions, women's colleges, or institutions where the majority of the students are students with disabilities) AND/OR at least one core research partner such as a community group, non-profit, or other group/organization that supports an underrepresented community within the scope of the proposed research project. The information at the following link may be helpful in identifying minority institutions: <https://www2.ed.gov/about/offices/list/ocr/edlite-minorityinst.html>.

6. Can a proposal with an educational focus be submitted as a Track 2 Planning Grant?

Yes.

7. What is meant by "geographical diversity" in this solicitation?

Geographical diversity can be reflected in the involvement of more than one geographical area in an SRS RN. For example, a proposal must span at least one urban area and a one rural area. There are, of course, different types of urban areas and rural areas in diverse geographical locations. For example, there are megacities, large cities, middle size cities, small cities, and towns, all in diverse geographical locations. There also are different types of rural areas, all in diverse geographical areas. Some might even consider "hinterlands" to be different from rural areas, an understandable distinction. Among rural (including hinterland) areas there are farmlands, forests, mining regions, coastal vs. inland areas, etc.

ABOUT DISCIPLINARY REQUIREMENTS

8. What is meant by interdisciplinary SRS RN research and education (Track 1 requirement)?

Proposals are expected to document that the proposed research and education is truly interdisciplinary by showing that the respective components are fully integrated and of high relevance for the successful execution of the proposed project. For Track 1 proposals, plans for integration of the research and education components must be clearly described in the proposal and reinforced within the management plan.

9. What is the preferred contribution level that should be provided by each project participant/discipline?

There are no specific requirements for the relative distribution of disciplinary expertise, yet each component should be included at a level commensurate with the problem scope. The project team should be developed in accordance with the specific project objectives. Strong and well-defined interdisciplinary integration is an important element of the SRS RN program. Multidisciplinary convergent research requires multidisciplinary expertise. The appropriateness of the research team's disciplinary composition and expertise will be factors in the merit review of the proposals. See Additional Review Criteria Section for more information.

ABOUT THE SCOPE OF RESEARCH AND EDUCATION

10. I noticed that throughout the solicitation, SRS are described in plural (i.e. systems versus system). Does this mean my project must study more than one system or can I focus on a single system?

The study of multiple aspects of a single "system" (e.g., the food supply chain, including food waste, or transportation) is allowed, as long as ecological, technological, and social aspects are considered in depth. It is important to define the specific system or systems to be studied, as well as why the system or systems are important in the understanding of SRS.

11. Can my SRS research be place-based, region-specific, or context-dependent?

Yes. However, the generalizability of models, solutions, and results is an important consideration of the SRS RN program. While studies of SRS in a single region are within the scope of the solicitation, proposals should articulate how the results and outcomes of such a project will be applicable or generalizable in a much broader context.

12. Can a region be defined as a single neighborhood?

No. A single neighborhood would not include the relevant interconnected systems that

make up a region. Proposals addressing neighborhoods should be directed to the Smart & Connected Communities solicitation.

13. Our team is considering proposing to SRS but we would like to clarify the differences between NSF's SRS Program and NSF's Smart and Connected Communities (S&CC) Program.

Both of these programs are part of NSF's portfolio of investments in interdisciplinary research that advances fundamental knowledge about urban, rural, and other communities and systems (<https://www.nsf.gov/ere/ereweb/urbansystems/>). Below is a comparison of some of the key differences between the SRS and S&CC programs. For additional clarity on the areas of interest within a given program as well as the structure of that program, please contact the cognizant program officers.

	NSF's S&CC Program	NSF's SRS Program
NSF's definition of the target systems	<p>A "smart and connected community" is defined as a community that synergistically integrates intelligent technologies with the natural and built environments, including infrastructure, to improve the social, economic, and environmental well-being of those who live, work, or travel within it.</p> <p>Communities are defined as having geographically-delineated boundaries — such as towns, cities, counties, neighborhoods, community districts, rural areas, and tribal regions — consisting of various populations, with the structure and ability to engage in meaningful ways</p>	<p>"Sustainable regional systems" are connected urban and rural systems, including all systems in between, designed with the goal of measurably advancing the equitable well-being of people and the planet.</p> <p>Regions are defined as networks of urban, rural, and all systems in between, that make up a dynamic, symbiotic system with complex social and physical interactions. Urban systems are geographical areas with a high concentration of human activity and interactions, embedded within multiscale interdependent social, engineered, and natural systems. Rural systems are any settlements with population, housing, economic activity, or areas not in an urban geographical area.</p>

	with proposed research activities.	
Interdisciplinarity and team requirements	Tight integration of technological and social science dimensions together with deep community engagement.	Interdisciplinary, multi-institutional teams of investigators and stakeholders working collaboratively to produce cutting-edge convergent research, education, and outreach.
Stakeholder participation	Community stakeholders should be integrated into the projects in order to co-create, pilot, and evaluate solutions that are directly informed by the needs, challenges, and opportunities of present and future communities. Note that piloting solutions together with the community is an essential component of the research activities for this program.	Meaningful engagement with practitioners, decision makers, and/or other community organizations or community members — that are considered integral to the research. May be through co-production, advisory councils or boards, citizen science, or other means. Additional details are in the answer to question #34 in the FAQs.
Research-impact time-horizon	Around 3-10 years.	Around 10+ years.
Full award size, duration, and expected number of awards	Two research tracks: (i) awards less than and (ii) greater than \$1.5M. Each track calls for awards of 3- to 4-year durations. Expected to support 10-15 awards in the current solicitation.	Awards of up to \$15M. Calls for awards of 5-year durations. Expected to support 1-3 awards in the current solicitation.

14. I would like to study the health dimensions of SRS. Is this allowable under the SRS RNs program?

Yes. You will need to make sure that the project meets NSF and the extra SRS RN solicitation requirements. For example, NSF supports research that examines the ecological, social, behavioral, and/or physical and engineering dimensions of systems that cause adverse health outcomes. SRS RN could support a project that includes a sociologist or an epidemiologist who plans to quantify adverse health outcomes of people within a regional system. Similarly, SRS RNs could support a project that incorporates plans to examine the hydrological, ecological, or behavioral processes that spread human pathogens or other contaminants (e.g. chemicals, nanoparticles, microplastics) within regional systems.

15. If a project explores social, behavioral, or economic solutions and/or linkages among SRS, does it meet the requirements of this solicitation?

Yes, so long as it includes research and education making the project interdisciplinary. SRS RN defines SRS very broadly, incorporating physical processes (such as built infrastructure and new technologies for more efficient resource utilization), natural processes (such as biogeochemical and hydrologic cycles), biological processes (such as urban-rural agroecosystem structure and productivity), and social and behavioral processes (such as decision making and governance). Therefore, proposals that examine social, behavioral, or economic solutions and/or linkages among SRS are encouraged as long as the projects sufficiently integrate across multiple disciplines for convergent research and education.

16. I am interested in proposing advanced cyberinfrastructure enabling research in SRS. Can you provide insights into the cyberinfrastructure aspects of the solicitation?

This solicitation encourages investments within Track 1 that would introduce new capabilities, advanced computation, and novel cyberinfrastructure approaches, especially with respect to (a) fully engaging stakeholders and public outreach, (b) addressing the computational challenges, and (c) data integration challenges inherent in SRS, leading to previously unattainable results. However, proposed projects must be interdisciplinary.

ABOUT THE TEAM

17. Is there a limit to how large my team can be?

The team size depends on the overall scope of the project, in addition to the project's

budgetary and practical constraints. There are no specific limits on the maximum number of participants or partners. However, a team with no partners is not a network.

18. Can a member of the project leadership team be listed as something other than a PI, co-PI, or Senior Personnel?

No. All members of the project leadership team must be listed as PI, co-PI or Senior Personnel. If a member of the leadership team is not being funded, they should be listed as "non-funded senior personnel". This will allow the submission of their required biographical sketch in the appropriate section. Current and Pending Support and Collaborators and Other Affiliations Information must also be provided for each individual identified as senior personnel.

19. I am a researcher at a Federally Funded Research and Development Center (FFRDC) or a federal agency. May I submit a proposal or serve as lead PI?

No. To be eligible for NSF funding or co-funding, you can participate on a proposal only as part of a subaward or via a letter of collaboration. In these instances, a researcher at an FFRDC can be listed as a co-PI or senior personnel.

20. Are PIs from the National Center for Atmospheric Research (NCAR), an NSF-sponsored FFRDC, permitted to submit proposals to SRS RN?

NCAR scientists are not permitted to submit proposals to SRS RN. NCAR participation can only be as a subaward (or via a letter of collaboration) and is subject to two conditions: (1) NCAR's participation must be consistent with the NCAR mission, (2) NCAR's participation is expected to be in partnership with non-FFRDC organizations with NCAR participation as a subaward. As an NSF-sponsored FFRDC, the letter of NSF commitment is not required.

21. Can an SRS RN project involve international research and/or involve international collaborators?

SRS RN projects can involve international research. International collaborators, however, should seek support from non-NSF sources. Funding guidelines for involving international collaborators (see Budgetary Information section of the SRS RN solicitation) allow only the following expenses to be included in the NSF budget: 1) Travel expenses for U.S. scientists and students participating in travel integral to the project; 2) Limited project-related expenses for international partners to engage in research activities while in the United States as project participants; 3) costs for specific services provided by an international partner that are essential to the success of the project and cannot be provided by a U.S. person or organization; and 4) project-related expenses for U.S. participants to engage in research activities while abroad. Services

listed under (3) above could be provided by a researcher from a developed country with their own sources of research funding, such a request that includes more than minimal and truly essential expenses(see question/answer 24 for more information). For projects that are partially or completely centered on an international location, the proposal must make the case on for why this research is beneficial to the United States.

22. **One of my team leaders is at an international institution. I have listed them as "non-funded senior personnel" as required so that I can include their biographical sketch in the appropriate section of the proposal. Do I need to include Current and Pending support or Collaborators and Other Affiliations information for this international participant?**

For this solicitation, information about Current and Pending Support is not required for international researchers designated as "non-funded senior personnel". Since this is a required section of an NSF proposal, however, please use the NSF fillable PDF form to indicate for each international investigator designated as "non-funded senior personnel" that Current and Pending Support information is not required. Additional information about NSF-approved formats for current and pending support is available at: <https://www.nsf.gov/bfa/dias/policy/cps.jsp>. Collaborators and Other Affiliations Information is required for all international researchers designated as "non-funded senior personnel".

23. **I would like to include undergraduate students in my project. How do I incorporate a Research Experiences for Undergraduates (REU) experience within my proposal?**

Incorporation of an REU experience within a proposal is an effective mechanism to integrate undergraduate educational activities into a research project. The Research Experiences for Undergraduates (REU) solicitation (NSF 19-582) notes that support for undergraduate students involved in carrying out research under NSF awards should be included as part of the research proposal itself instead of as a post-award supplement to the research proposal. Please consult the REU solicitation for further details.

24. **My international collaborator is applying for funding from their country's research funding agency. How will this affect the success of my proposal?**

International collaborations are encouraged, and we appreciate that it is hard to synchronize funding. You should describe the research that your collaborator would do and how it improves the intellectual merit and broader impacts of your proposed efforts. However, since your collaborator's funding is not guaranteed, it would be best to ensure that their research effort is not essential for your project to be successful. For instance, it may be preferable to rely on their existing data or analyses that they can do without additional funding. You should explain that if they do receive funding your collaborative

efforts would go further, even though your efforts would not be fully integrated. If their efforts are required for your research to be successful and your foreign collaborator(s) does/do not already have funding, you are required to include a letter of collaboration where your foreign collaborator(s) must identify a point of contact in the foreign funding agency or agencies that is/are considering their proposal.

PROPOSALS AND PROPOSAL SUBMISSION

25. What is the anticipated start date of the SRS RNs awards for Fiscal Year 2021?

The anticipated start date of the SRS RNs awards is September 1, 2021.

26. Am I required to use a specific site to submit my proposal?

Full proposals can be submitted through FastLane (see the PAPPG) or Grants.gov. The policy and procedural guidance contained in the NSF Grants.gov Application Guide should be followed when preparing and submitting full proposals to NSF via Grants.gov. Please note that Research.gov will NOT accept proposals for this opportunity.

27. Should the project description contain the Results from Prior NSF Support?

No. As stated in the SRS RNs solicitation, "Results from NSF Prior Support" must be provided as a Supplementary Document (for both Track 1 and Track 2 proposals) and should follow the content requirements in the NSF PAPPG Chapter II.C.2.d.iii.

28. Will separately submitted collaborative proposals be accepted for this competition?

No. Separately submitted collaborative proposals will not be accepted for this competition. For each proposed SRS RN or Planning Grant, only one submission can be made by the lead institution with subawards to collaborating organizations. No "linked" collaboratives will be accepted.

29. Is the submission deadline flexible?

No.

30. This seems to be a very complicated solicitation with many required parts and pieces. Is there a checklist to ensure I have submitted all the necessary parts?

Yes. We recommend starting the proposal upload and submission process early and referring to the appropriate checklist (by Track) provided below.

SRS RNs PROPOSAL CHECKLIST

For Track 1 Proposals

- A. Cover Page
 - All Titles should start with "SRS RN:..."
 - Separately submitted (linked) collaborative proposals are NOT allowed
 - International considerations must be listed
 - Disclosure of pending human and/or animal subjects
- B. Project Summary - Requirements do not deviate from the PAPPG Requirements.
- C. Project Description (Not to Exceed 25 pages, a separate section for Broader Impacts is NOT required):

In addition to the PAPPG requirements, the following sections must be included:

 - Scope and Scale
 - Convergent Research
 - Partnerships and Stakeholder Engagement for Impact
 - Diversity and Culture of Inclusion
 - Education and Education Evaluation
- Note: The "Results from Prior NSF Support" section normally required in the Project Description should be submitted as a Supplementary Documents.
- D. Biographical Sketches - Biographical sketches for anyone listed as part of the project leadership team should also be included along with the PI, co-PIs, and Senior Personnel. If a member of the project leadership team is not to receive funding, they should be listed as "Non-funded Senior Personnel". This should allow for a Biographical Sketch to be placed in the proper section.
- E. Budget - In addition to standard budget requirements in the PAPPG, each Track 1 proposal must contain:
 - Appropriate funds to support broader impact activities
 - Funds for attendance at an annual SRS RN Awardee Conference
 - Funds to support an independent evaluator for the education plan
 - If applicable - funds for approved international collaborations
- F. Current and Pending Support - Requirements do not deviate from the PAPPG Requirements.
- G. Facilities, Equipment, and other Resources - Requirements do not deviate from the PAPPG Requirements.
- H. Supplementary Documents
 - Data Management Plan - Requirements do not deviate from the PAPPG Requirements.
 - Postdoctoral Mentoring Plan (if a postdoctoral researcher funds are requested): - The plan must offer mentoring beyond that which would normally occur as part of a project at a single site or single laboratory.
- I. Other Supplementary Documents

- A list of partner organizations and project personnel Project Management Plan (up to 5 pages)
 - Results from Prior NSF Support (up to 5 pages)
 - Letters of Collaboration - This section should include any letters of collaboration from individuals or organizations that are integral parts of the proposed network, such as collaborating organizations, organizations granting permission to access sites, materials, or data for research. In addition, if one of the senior personnel is a foreign collaborator(s) who does/do not already have funding, a letter of collaboration is required in which the foreign collaborator(s) must identify a point of contact in the foreign funding agency or agencies that is/are considering their proposal.
- J. Single Copy Documents
- Collaborators and Other Affiliations Documents.

Track 2 Planning Grant Proposals

- A. Cover Page
- All Titles should start with "SRS RN:..."
 - Separately submitted (linked) collaborative proposals are NOT allowed
 - International considerations must be listed
 - Disclosure of pending human and/or animal subjects
- B. Project Summary - Requirements do not deviate from the PAPPG Requirements.
- C. Project Description (Not to Exceed 6 pages):
- In addition to the PAPPG requirements, the following sections must be included:
- Convergent Research Plan
 - Partnerships and Impact
 - Diversity and Culture of Inclusion
- Note: The "Results from Prior NSF Support" section normally required in the Project Description should be submitted as a Supplementary Documents.
- D. Biographical Sketches - Biographical sketches for anyone listed as part of the project leadership team should also be included along with the PI, co-PIs, and Senior Personnel. If a member of the project leadership team is not to receive funding, they should be listed as "Non-funded Senior Personnel". This should allow for a Biographical Sketch to be placed in the proper section.
- E. Budget - In addition to standard budget requirements in the PAPPG, each Track 2 proposal must contain:
- Funds for attendance at one annual SRS RN Awardee Conference
- F. Current and Pending Support - Requirements do not deviate from the PAPPG Requirements.
- G. Facilities, Equipment, and other Resources - Requirements do not deviate from the

PAPPG Requirements.

H. Supplementary Documents

- Data Management Plan - Requirements do not deviate from the PAPPG Requirements.
- Postdoctoral Mentoring Plan (if a postdoctoral researcher funds are requested): The plan must offer mentoring beyond that which would normally occur as part of a project at a single site or single laboratory.

I. Other Supplementary Documents

- A list of partner organizations and project personnel Results from Prior NSF Support (up to 5 pages)
- Letters of collaboration

J. Single Copy Documents

- Collaborators and Other Affiliations Documents

31. I see a deadline for submission is indicated in this solicitation. Does this deadline mean I can submit to either of the two tracks up until 5 pm (local time) on that date?

Yes. You are only able to submit proposals up to the deadline. Please note that proposals will not be accepted after the deadline. Starting the submission process early is strongly encouraged to ensure that you meet the deadline.

32. Can I submit the same proposal to SRS RN and other programs or solicitations at NSF?

No. NSF prohibits PIs from submitting the same proposal to more than one program or solicitation at NSF. Please be aware that submission of duplicate or substantially similar proposals concurrently for review by more than one program at NSF without prior NSF approval will result in the return of the redundant proposals.

33. Can I obtain a waiver of the page limitation for the project description if my project is large and complex, or if my project includes multiple organizations?

No. All proposals must adhere to the page limit given in the solicitation (25 pages for Track 1, and 6 pages for Track 2). Note that "Results from Prior NSF Support" has been moved to "Supplementary Documents" for this solicitation.

34. Can you provide some guidance on partnership and/or stakeholder participation plans?

The ACERE SUS report cited earlier recommends "developing the science of knowledge co-production among researchers, communities, industry groups,

practitioner groups, and governments at multiple levels, leveraging real-world experimentation ongoing in urban areas." As an outcome of a study hosted by the NSF-funded National Socio-Environmental Synthesis Center (NSF award DBI-1052875), Lemos et al. published an article (Nature Sustainability, Vol. 1, December 2018, pages 722-724), stating "...scientists, stakeholders and funders increasingly believe that collaborating to co-produce knowledge will increase its use in policy, decision-making and practice... In the process of co-production, stakeholders and researchers often have complementary and overlapping knowledge that are essential for problem-solving... The evidence that co-production increases the likelihood that knowledge will be used in decision-making is compelling... We need a stronger understanding of how to foster the kind of knowledge production and use that yield sustainability outcomes, and we can only achieve that through deeper integration of research and practice." Co-production is one possible form of stakeholder participation. Some other forms include advisory councils or boards, citizen science, etc. Stakeholder participation is defined, for the purposes of this solicitation, as meaningful engagement of researchers along with practitioners, decision makers, and/or other community organizations or community members – where the latter are considered integral to the research.

Researchers and stakeholders are encouraged to work closely throughout the project, including during project inception and proposal design. Stakeholder partners may also have leadership roles and can serve as a PI or co-PI as appropriate for the project, subject to the policies of the submitting organization. Additionally, industry stakeholders can be added as a co-PI through the "Grant Opportunity for Academic Liaison with Industry (GOALI) opportunity (please see the PAPPG GOALI section at https://www.nsf.gov/pubs/policydocs/pappg20_1/pappg_2.jsp#IIE4). However, industry stakeholders can be included in the project through other means besides the specific GOALI mechanism. A stakeholder participation plan should identify stakeholder partners and make clear the role of the partners in research, education, and outreach, including articulation of rationale, engagement strategies, tasks, expected outputs, and timetable. Proposed compensation for participating stakeholders may be included in the plan. Letters of collaboration from the partners should be provided in Supplementary Documents. Research on social equity issues is highly recommended to be included in a stakeholder participation plan. Resources that may assist in formulating a stakeholder participation plan are available, for example, at [https://www.usdn.org/index.html#/,](https://www.usdn.org/index.html#/) and elsewhere, such as city and regional non-profit organizations and community groups (e.g., see <https://www.cnt.org>).

35. For Track 1 Proposals, there is a lot of emphasis on the Education Plan and the Education Evaluation Plan. What are some examples of activities that are appropriate for the SRS Education Plan?

Some example elements (not an exhaustive listing, and not in any particular order) are:

- Development of courses/degree programs in SRS or adapting existing ones
- Development of new modules on convergent scientific and engineering knowledge with incorporated societal issues such as attention to social equity and environmental justice
- Development of innovative teaching and learning practices and resources
- Faculty professional development to increase the use of evidence-based practices in teaching and learning
- Incorporation of research/experiential learning activities that are grounded in research on learning into SRS courses
- Research on advancing educational innovation: For example, utilizing/mining large data sets from regional systems to enhance traditional teaching and learning methods
- Research on students' learning and conceptual development in SRS science and engineering
- Comparison of modalities for citizen science in regional systems: Development of new ways of learning from the rich experiments ongoing in many communities in the US and across the world
- Developing knowledge of the science of co-production among researchers, communities, industry groups, practitioners, and the government
- Generation of new knowledge on how to transform SRS education programs in institutions to be more inclusive, equitable, and innovative
- Outreach and mentoring activities to enhance scientific and engineering literacy or involve students from groups that have been traditionally underrepresented in science and engineering
- Application of SRS convergence education practices to inform, advance, and energize STEM education in general.

36. Do all proposals require a Data Management Plan?

All proposals submitted to Tracks 1 and 2 are required to have a Data Management Plan (Supplementary Document).

37. Do all proposals require a Project Management Plan?

Track 1 - All proposals submitted to Track 1 are required to have a Project Management Plan submitted as a Supplementary Document.

Track 2 - Track 2 proposals do not require a Project Management Plan

38. The solicitation requires a Collaborators and Other Affiliations (COA) information as well as 2 separate tables in the Supplementary Documents section that list (1) participating project personnel and affiliations and (2) participating organizations

for both Track 1 and Track 2 proposals. These seem redundant. Why are they all necessary?

Both lists are necessary because they are used for different purposes. The COA is available only to NSF and is used to manage reviewer selection. The Personnel Table and the Organization Table are provided to ad hoc reviewers and panelists to assist with project evaluation. Both tables should be submitted as Supplementary Documents and formatted as described in the instructions contained in the solicitation. Collaborators & Other Affiliations (COA) information specified in the PAPPG should be submitted as a Single Copy Document using the instructions and spreadsheet template found on the Collaborators and Other Affiliations Information website.