

Information Sheet

FY2021 NOAA/OAR/WPO/Social, Behavioral, and Economic Sciences Competition

Social, behavioral, and economic sciences (SBES) are a critical component of meeting NOAA's mission. By finding, funding, and fostering high-quality and innovative SBE research, the Weather Program Office (WPO) Social Science Program (SSP) supports [NOAA's Research and Development \(R&D\) Vision Areas](#) (2020–2026) to integrate SBES into products, tools, and services that improve weather and air quality forecasting and societal outcomes. This program strongly encourages and supports SBES led [interdisciplinary](#) work, applied research, and more broadly, SBE research that will advance theoretical findings into applications for the operational forecast community.

While there is growing interest in SBES research to improve forecast communication and develop specific products, there has been less focus on research-related infrastructure that collectively advances the needs of the research community and supports SBE integration at the organizational level (See [NASEM, 2018](#)). The SSP intends to nurture these aspects of SBES integration by focusing this funding call on methods, constructs, and the transfer of knowledge through research guided recommendations. SBES uses a diverse set of methodologies, such as qualitative and quantitative data collection techniques, network analysis, using grounded theoretical approaches to provide organizational processes and guidance to better integrate SBE research, and more. Focusing on useable methods will help advance data collection to:

- Better understand forecast collaborations, such as between local National Weather Service (NWS) Weather Forecast Offices and/or River Forecast Centers with NWS National Centers or among the [Unified Forecast System](#) modeling community.
- Better understand the definition (and related constructs) of effective Impact-Based Decision Support Services (IDSS), as well as the needs for IDSS recipients.
- Better understand how public(s) perceives weather risks and changes over time, for example.

Further, transferring knowledge is a fundamental feature of all research transitions and is particularly important for social science integration. Transferring knowledge may impact the people, processes, and products surrounding 24/7 operational forecasting. The SBES funding call intends to nurture this aspect of research transitions by emphasizing project outputs that offer research guided recommendations. These recommendations may provide suggestions for how to:

- Improve verbal and/or visual uncertainty messaging, such as for Winter Weather Probability Graphics (both for snow and/or freezing rain), Hazardous Marine Weather forecasts (e.g., gale, storm, hurricane-force wind warnings, heavy freezing spray warnings), and Flash Flood alerts.
- Increase understanding of how public(s) perceive two or more types of uncertainty, such as for winds vs. inundation for tropical cyclones, or hail vs. tornadoes for severe weather.
- Better utilize scales, indices, categories, and risk levels, such for NWS National Center outlooks (i.e., Excessive Rainfall Outlook), the Saffir-Simpson scale, Quantitative

Precipitation Forecasts (QPF), Probabilistic Quantitative Precipitation Forecasts (PQPFs), Probabilistic Wave Heights, and Probabilistic Wind Speed Products.

Transferring methods and knowledge produced by these ideas could result in many applications to the weather and water community. The SSP encourages applicants to identify more than one possible research application (e.g., for the NWS, private weather industry, and/or other researchers), while focusing on their primary research output.

NWS Collaborations

While not required, the SSP strongly encourages NWS collaborations. Although transition and implementation decisions lie with the NWS, collaborative efforts help convey the potential value of the project output(s). The SSP strongly encourages applicants to connect with a potential collaborator early in the proposal process, regardless of the readiness level (RL) of the project. Depending upon the project output, collaborators may include NWS Headquarters personnel who can guide transitions, NWS National Centers and/or River Forecast Centers, or local Weather Forecast Offices. If the collaborator(s) will contribute a significant amount of time to research and development, a NOAA Collaborator Acknowledgment Form is required (see Section IV.B.2.d.9 of the associated NOFO).

For early feedback on a collaborative proposal idea, please submit a letter of intent (LOI). LOIs are strongly encouraged for proposals submitted to this competition. LOIs must be submitted in accordance with Section IV.B.1 of the WPO FY21 Funding Notice. The LOI should be submitted no later than 22 September 2020 via email to oar.wpo.competitions@noaa.gov.

Readiness Levels and Transition Plans

Given the wide range of projects that could fall under this funding call, research projects may range from early applied research (RL2) to mature stages of demonstration (RL7). While the [NAO 216-105B](#) and the associated [handbook](#) provide more information on how NOAA uses RLs and transitions plans, the formal RL definitions do not easily apply to the SBE sciences. As such, the SSP suggests thinking about RLs as increasing generalizability and/or ecological validity of a particular project—or the extent to which research results can be extrapolated to the relevant population in real-world settings for use by the beneficiary (e.g., the NWS). Research projects may span different RLs depending on the relevancy of the research environment and sample size and quality. However, generalizability and ecological validity may be different for the various SBE methods. Thus, the SSP strongly encourages providing supporting evidence or reasoning for the chosen RL.

Additionally, depending upon the project output(s), a project may also have more than one RL. For example, initial research guided recommendations informed by the research results may end at RL6 or 7, but research results may also uncover other avenues for theoretical development, which may end closer to an RL3 or 4. The SSP encourages projects that result in both theory advancement *and* applications.

For RL 4-7, the [NAO 216-105B](#) language emphasizes the word “environments,” specifically experimental, relevant, and test environments. While some projects may utilize a [NOAA testbed](#) to demonstrate the viability of research output(s), the use of a testbed is not required for this competition. Projects must outline their methods and activities that guide the research and development process, and as such, the SSP encourages rigorous, creative, and innovative methodological approaches.

Like NWS collaborations, transition plans also help convey the potential value of the project output by creating a space to discuss and document how the project output could be used. Per the NAO 216-105B, if the project has potential to progress beyond RL4, the PI is required to submit a transition plan along with the first progress report. However, the SSP encourages writing a transition plan for *any* project regardless of RL.

Data and Data Management

Applicants are strongly encouraged to use currently available data (e.g., publicly available datasets and/or data previously collected as part of a past research effort). However, principal and/or co-investigators may also collect new data for their proposed project. Combining previously collected data with newly acquired is also encouraged.

As stated in section VI.B. *Data Sharing Plan*, data collected must be accessible to the general public typically within two years. PIs can satisfy the data sharing plan by submitting socio-economic data to NOAA’s National Center for Environmental Information (NCEI; see the [NCEI Archive Collecting Policy](#)). Other data archiving platforms are available to PIs for data publishing and sharing, including (but not limited to) [Converge/DesignSafe-CI](#) and [Harvard Dataverse](#). If the chosen data platforms allow the PI to submit their methodological instrument(s) in addition to their data, the SSP highly recommends publishing, and subsequently, sharing instruments, if appropriate.

While the project duration may not exceed two years, projects may have shorter timelines. For example, projects analyzing previously collected data may only require one year, while research encompassing survey development, deployment, and analysis may require the full two year period.

Social science transcends all NOAA scientific missions and thus may have application to all WPO funding opportunities. Applicants may submit proposals to multiple competitions if the proposals are on different topics and the Lead PI is eligible for each competition. If submitting multiple proposals with the same PI, please acknowledge the other application(s) and, if they are similar, describe the differences between them.

Competition Contact Information.

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