

**NOAA**  
**WEATHER**  
PROGRAM OFFICE

# WHY WPO SOCIAL SCIENCE PROGRAM CARES ABOUT THIS WORKSHOP

April 11, 2023

# Social Science Program

## Our Challenge

Recent societal impacts from hurricanes, floods, wildfires, and other weather hazards shows a great need to understand the intersection of people and meteorology.

## Our Mission

The Social Science Program funds research that plays a critical role in connecting the improvements of NOAA's weather forecast information to the public's growing forecast needs.

## Our Focus Areas

1. Social Science Data & Research
2. Research to Applications (R2X)
3. Portfolio Analysis & Evaluation



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SOCIAL & BEHAVIORAL SCIENCE  
RESEARCH TO OPERATIONS  
WORKSHOP

Workshop Report

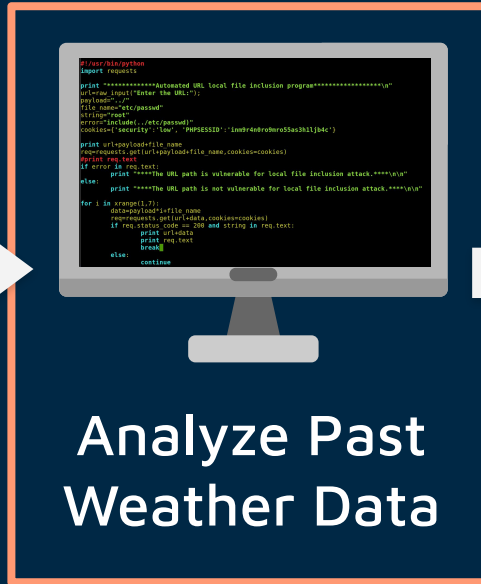
Published July 2020



WEATHER PROGRAM OFFICE  
National Oceanic and Atmospheric Research

“Workshop discussions revealed NOAA’s organizational structure primarily supports the collection, management, and archival of physical science data. Without similar infrastructure for social science, **NOAA cannot measure mission critical factors, such as performance metrics, impact, and change.**”

# HOW DO PHYSICAL SCIENTISTS KNOW THEY MADE A DIFFERENCE?



\*\*This is an oversimplified example to provide a comparison between what is needed to evaluate success for social science metrics.

Rectangular Snip

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“This finding illuminates an opportunity to build infrastructure for social science data collection, management, and archival, **which includes prioritizing collecting baseline and longitudinal data, encouraging data archival, and creating meta-data.**”

**Paperwork  
Reduction Act  
Data Issues**

**Personal  
Information &  
Ethical Issues**

**Demographic  
Data Issues**

**Cross-NOAA Needs:  
We Need to Unify Our Efforts**

**Archival  
Data Issues**

**Metadata  
Issues**

**Misconception  
of SBES Data**

# What Is WPO Doing?

## Translating Workshop Findings into Data Sharing Priorities:



Funding opportunities to reanalyze previously collected SBES data and/or longer awards



Incentivizing data and instrument publication, and more opportunities to reanalyze previously collected data



Addressing and acknowledging the community's (dis)comfort with publishing SBES data

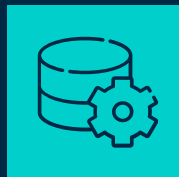


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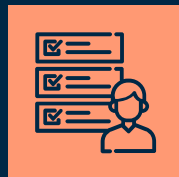
# Social Science Data & Research

Together with our partners, our Weather Ready Research Program supports quick-response research efforts for event-based data collection, and data and instrument publication.



17 

Datasets  
Published



18 

Instruments  
Published



410 

Total  
Downloads







How do we know  
we've made a  
difference or an  
impact?

# The Future of Social Data Analysis in NOAA: The Societal Data Insights Initiative

This *OneNOAA Initiative* will initialize infrastructure to enhance NOAA's capability to integrate and synthesize social and meteorological data and evaluate societal responses to products and services. **This Initiative serves as a space for co-creation with this diverse community!**



**Data Archivists:** Archives need to be more searchable for reuse; development of APIs

**Academia:** We need you to publish and provide more data and datasets

**Everyone:** We all need shared metadata and to determine those standards

This workshop is  
co-creation!

THANK YOU



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# NOAA's Definition of Environmental Data

## **NOAA Administrative Order (NAO) 212-15 defines Environmental Data as:**

“recorded and derived observations and measurements of the physical, chemical, biological, geological, and geophysical properties and conditions of the oceans, atmosphere, space environment, sun, and solid earth, as well as correlative data such as socio-economic data, related documentation, and metadata. Digital audio or video recordings of environmental phenomena (such as animal sounds or undersea video) are included in this definition. Numerical model outputs are included in this definition, particularly if they are used to support the conclusion of a peer-reviewed publication. Data collected in a laboratory or other controlled environment, such as measurements of animals and chemical processes, are included in this definition.”



# Infrastructure to Meet Our Needs

## NOAA Users

- Conduct program, portfolio, and product evaluation.
- Measure impact of products and services.
- Perform economic valuation of products and services.
- Others?

## Public Users

- Access Wx Dashboard & Survey Data
- Access social science data for replication studies or meta-analyses
- Access social science instruments to reuse, refine, improve, or replicate.
- Others?



# Projects Funded by NOAA's Social Science Program

## Information Sheet FY2023 NOAA/OAR/WPO/Social Science Program Competition

Social, behavioral, and economic science (SBES) is a critical component of meeting NOAA's mission. By finding, funding, and fostering high-quality and innovative SBES 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 lead [interdisciplinary](#) work, applied research, and SBES research that advances theoretical findings into applications for the operational forecast community.

### Elaboration of Science Emphases:

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 to collectively advance the needs of the research community and support SBES integration at the organizational level (See [NASEM, 2018](#)).

The SSP funding call intends to nurture SBES integration by focusing on methods, constructs, and the transfer of knowledge through research guided recommendations. SBES uses diverse methodologies, such as qualitative and quantitative data collection techniques, network analysis, and workshop methods, and more. Focusing on useable methods will help advance data collection to:

- Better understand forecaster 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 attributes) of effective Impact-Based Decision Support Services (IDSS), as well as understanding the needs of IDSS recipients and the socio-economic value of IDSS.
- Better understand how public(s) perceives weather risks and changes over time, for example.
- Better understand use of various graphical products and visual displays, such as: [Winter Weather Probability Graphics](#) (both for snow and/or freezing rain); [Experimental HeatRisk Product](#); [Experimental Graphical Hazardous Weather Outlook](#); [National Water Model information](#); [Experimental Flood Hazard Outlook](#); among others.
- Better understand how to convey uncertainty through verbal communication and language, for example, during flash flooding and/or snow squall wireless emergency alerts (WEA).
- Better understand how to convey and communicate weather risk and/or uncertainty through different scales, indices, categories, hazard naming systems, and risk and severity levels. Examples of scales and categories that are used to convey risk and/or uncertainty might include the following: [The Saffir-Simpson scale](#), [Space Weather scales](#), storm naming (for any hazard type), [Quantitative Precipitation Forecasts \(OPF\)](#), [Probabilistic Quantitative Precipitation Forecasts \(POPFs\)](#), [Excessive Rainfall Outlook](#), and [Experimental Graphical Hazardous Weather Outlook](#).

**PIs can satisfy the data sharing plan by submitting socio-economic data to NOAA's National Center for Environmental Information [...] other data archiving platforms are available to PIs for data publishing & 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.**

**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) [...] combining previously collected data with newly acquired is also encouraged.**

# Modernize the Use of Social Data

