

Ocean Observing and Monitoring Division – Monitoring Program FY18 Information Sheet

High-quality data sets for enhancing predictions and informing stakeholders

OOM's mission is to provide long-term, high quality, timely, global observational data, information and products in support of the climate, Arctic, weather, and ocean research communities, forecasters, and other service providers and users. The **Monitoring program** within OOM focuses on producing long time series and higher level data products of essential climate (ocean, atmosphere and terrestrial) variables, from both instrumental and proxy records, and analyzing trends, variability and patterns within these records to better inform our understanding of important processes in the climate system, particularly those processes connected to weather and climate extremes and other societally relevant impacts. The program funds work that documents variations in climate on time scales ranging from days to a century, and longer. Past work funded by the monitoring program has contributed to developing authoritative, peer-reviewed research, data and information for several national and international climate assessment products. This competition seeks projects that will produce research results and authoritative data sets that can continue this important role of the program.

In FY18 the OOM Monitoring Program is soliciting projects that will develop, or significantly improve existing long term, climate-quality data sets and products that contribute to the assessment, monitoring, understanding, and projections of important climate phenomena, with a focus on the Climate Program Office priorities of weather and climate extremes and water resources. Projects are being solicited in three areas:

- (1) **Development of data sets for the climate research community** that address key uncertainties in observed climate processes and feedbacks; in particular we are seeking project that will address uncertainties identified by the Intergovernmental Panel on Climate Change (IPCC) during their 5th Assessment cycle.¹ Projects should produce new or improved datasets of essential climate variables that will reduce our uncertainty in observed trends, variability, extremes, or spatial patterns of climate characteristics and processes, and may address biases, inconsistencies, and/or gaps in currently available or produce new records based on newly available observations, data synthesis or blending, or by defining new indices or derived products. Projects should include an analyses component that aims to demonstrate the value of the new or improved data set – e.g. comparisons of key characteristics of the produced data product (e.g. trend, variability, uncertainty) with other climate records, or with model output.
- (2) **Projects that develop or improve datasets suitable for periodically updated assessments or monitoring products for weather and climate extremes and impacts on water resources.** Developed products should extend back in time to provide an assessment of current trends and variability in weather and climate, and should be based on sustained observations and data that are expected to continue to be available in the future. (E.g. A product developed from data collected over a short term field campaign or a satellite record that does not have follow on plans would not be appropriate for this solicitation.) Projects are encouraged to consider utilizing and synthesizing from multiple observing systems or sensors, and to thoughtfully consider how innovative technology or measurements may be incorporated in maintaining the records through time. This solicitation prioritizes projects that will make available datasets/products that demonstrate a focus on the CPO-wide priority of integrated water resources and information needs of ongoing regional

¹ https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_TS_FINAL.pdf, p. 114-115

and/or national assessment assessments and monitoring efforts currently supported by CPO, specifically CPO's two Integrated Information Systems² and the sustained assessment efforts of the US Global Change Research Program³.

(3) Applied paleoclimate studies that provide new benchmarks in extreme events and climate variability to evaluate present day occurrences and future projections. We are specifically soliciting projects that exploit or evaluate the CPO-funded Last Millennium Climate Reanalysis (LMR)⁴ products and the resources housed by NOAA at the World Data Service (WDS) for Paleoclimatology.⁵ Studies utilizing these resources may address either of the following foci: (1) characterizing historical extreme events that have severely stressed human or natural systems and the variability of these extremes, including individual climate events that could indicate “tipping points” or relatively rapid shifts to new climatic conditions; or (2) studies that generate more accurate estimates of climate modes and natural forcings, including those that use the LMR to better describe large-scale (e.g. hemispheric) changes in extreme events and the linkage of these changes (either contemporary or pre-cursor) to large-scale natural modes of climate variability. Projects that focus on the CPO/OOMD priorities of drought, extreme heat, sea level, or Arctic change will be prioritized. Proposals solely to develop new proxy records without a connection to (e.g. to evaluate or supplement) the LMR or WDS resources are not appropriate for this solicitation.

Projects should be two years in length, and will be funded at a maximum of \$150,000 per year. Collaborative proposals must also adhere to the \$150,000 per project limit.

Data Management Guidance

Proposals must include a Data Management Plan of up to two pages aligned with the following Data Management Guidance.

Responsible NOAA Official: For questions regarding this guidance and for verifying accessibility of data produced by funding recipients: David Legler (david.legler@noaa.gov, 301-427-2460)

Data Accessibility: The Monitoring Program requires that public access to grant/contract-produced data be enabled in one of the following ways:

- Funding recipients may submit data to NOAA National Centers for Environmental Information (NCEI), which will provide public access and permanent archiving⁶. Proposers seeking to utilize this option should contact NCEI in advance of submission. Point of Contact for NCEI is Nancy Ritchey (Nancy.Ritchey@noaa.gov).
- Data can be submitted to a public data repository appropriate to this scientific domain--describe

² <http://cpo.noaa.gov/AboutCPO/IntegratedInformationSystems.aspx>

³ <http://www.globalchange.gov/what-we-do/assessment/sustained-assessment>

⁴ <http://atmos.washington.edu/~hakim/lmr/>

⁵ <https://www.ncdc.noaa.gov/data-access/paleoclimatology-data>

⁶ NCEI supports the creation of adequate metadata and data ingest into long term repository holdings using tools such as Send2NCEI (www.nodc.noaa.gov/s2n, for small volume, one-time only data collections) and Advanced Tracking and Resource tool for Archive Collections or ATRAC (www.ncdc.noaa.gov/atrac, for recurring and/or large volume data collections).

in proposal. (Options could include Dryad, Figshare, DataVerse, Pangaea, etc.)

- Funding recipients can establish their own data hosting capability (describe in proposal).

Technical recommendations: The Program is not offering specific technical guidance. Proposals are to describe their proposed approach. Use of open-standard formats and methods is encouraged.

Resources: Proposals are permitted to include the costs of data sharing or archiving in their budgets.

General Guidelines for FY2018 OOM Competition proposal submission

Principal Investigators submitting a proposal in response to this COM announcement are required to follow the Letters of Intent and Proposal preparation and submission guidelines described in the Climate Program Office FY2018 Federal Funding Opportunity announcement.

Investigators are strongly encouraged to submit a Letter of Intent prior to developing and submitting a full proposal. Letters of Intent should be sent via email directly to the Competition Manager, David Legler (david.legler@noaa.gov).

Administrative questions regarding the Federal Funding Opportunity (e. g. proposal formatting or submission guidelines) should be directed to Diane Brown (diane.brown@noaa.gov)

Questions regarding details of the solicitation should be directed to David Legler (david.legler@noaa.gov).