

# NASA Earth Science Research & Analysis Program

## Earth Science Research Results Reporting Database

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### Purpose

The purpose of the Earth Science Research Results Database is to create a centralized repository of timely, compelling research results that can be mined and molded into innumerable internal and external communications and reporting products. The database would also serve as a way to simplify and streamline the different ways in which Earth science research results are currently conveyed, reduce the reporting burden on scientists, and increase transparency between NASA centers and HQ about how research results are used.

### Challenge

There is currently no formalized way to collect or store Earth science research results across NASA. Different NASA centers use different formats to convey different types of information to NASA HQ and others at different times. The majority of information that does exist sits on individuals' desktops, hard drives, and within their email inboxes, which are difficult to access and search. As a result, the science that is shared is dependent upon the requisite individuals' memory, responsiveness, and availability. This leads to science falling through the cracks and missed opportunities to tell integrative and important stories highlighting our science.

### Proposed Solution

An Earth Science Research Results Database that is internally accessible, easily searchable, and captures all the information necessary to benefit multiple end users. Ultimately, the database will be populated by scientists using a standardized Webform that collects multiple levels of information that helps scientists think differently about communicating their research results and helps end users deduce which results might best suit their needs. It will also serve as an important internal historical record of NASA Earth Science research results.

### End users:

- **HQ-level ESD leadership:** The ESD Director, Deputy Director, Associate Directors, Focus Area Leads, Program Managers and Program Scientists could mine the database for content to use in various monthly and annual reports to ESD, SMD, and agency-wide leadership, including Monthly Status Review inputs, SMD Weekly inputs, GPRA reporting, OMB reporting, and more. They could also mine the database for interesting results to include in professional presentations and talks.
- **Center-level ESD leadership:** Center-level ESD Directors, Deputy Directors, Division Heads, Branch Chiefs, Lab Chiefs, Project Scientists, and more can use the database to find content for various monthly and annual reports, including center-level weeklies and monthly highlights, Monthly Status Review inputs, and

more. They could also mine that database for interesting results to include in professional presentations and talks.

- **Earth science communicators and content producers:** Center-level Public Affairs Officers, the Earth Science News Team, mission-oriented science communicators, communications leads within ESD, and more can mine the database for content for feature news stories, press releases, handouts, and more.

## Methods and Findings

I met with the heads of Earth science for ARC, GSFC, JPL, LaRC, and MSFC and their deputies to determine the mechanisms currently in place to convey Earth science results and how they could be improved. I mapped their internal mechanisms and worked with them to brainstorm more formalized ways to collect this information that would increase transparency. I also met with Earth science communicators, including some center PAOs and the Earth Science News Team as well as HQ R&A Program Managers to determine how they would like to receive this information. A full list of these informal advisors is listed below:

Informal group of advisors: Ryan Spackman and Matt Fladeland (ARC); Jim Irons, Steve Platnick, Steven Pawson, Matt Rodell, Patrick Lynch, Samson Reiny, Ellen Grey, Kevin Ward (GSFC); Duane Waliser, Susan Owen, Carmen Boening, Victor Zlotnicki, Alan Buis, Carol Rasmussen (JPL); Rosemary Baize, Bruce Doddridge, Ali Omar, Don Garber (LaRC); Gary Jedlovec and Paul Tatum (MSFC); Jack Kaye, Christine Mataya, Elizabeth Yoseph, Sarah Hemmings, and all R&A Program Managers (HQ)

### Findings:

- **Center-level ESD leadership and scientists:** Interested in adopting a new standardized reporting mechanism for Earth science research results that:
  - Increases transparency between centers and HQ regarding how their information is used, what information is most useful, and why.
  - Helps combat “highlight fatigue” and reduces the burden on scientists to create specially formatted products, including highlights slides, unless they know their information is going to be used.
  - Creates a better platform for center-level results rather than just the MSR, which they understand is selective and limited to a short amount of time, that is easily accessible and useable by others within NASA.
- **HQ-level ESD leadership and Program Managers:** Interested in using a centralized internal database for Earth science research results that:
  - Provides easy access to compelling and timely research results including published and unpublished results that they can bring to the attention of ESD, SMD, and agency-wide leadership.

- Quickly and easily identifies information that is suitable for up-and-out internal and external communications to better showcase science within their programs.
- **Earth Science Communicators and Content Producers (so far):** Interested in using a centralized internal database for Earth science research results that:
  - Identifies the publication stage of the research result to ensure timely press releases, news stories, and media pushes, etc.
  - Allows them to easily understand why a result is “newsworthy” not only so they can angle their stories, but also so scientists can begin to think about how better to communicate their results.
  - Has high quality imagery or a data visualization.

Lingering questions and challenges:

- Ensuring the database doesn’t overburden scientists, add more work, or unnecessarily duplicate information that scientists currently report in other ways.
- Ensuring upfront that the database infrastructure allows for maximum integration with other existing and future platforms.
- Deciding when to “capture” results, or asking scientists when to submit, to ensure we’re getting high quality published and unpublished results.
- Providing the necessary training for scientists on how to use the database and teaching them what types of answers we’re looking for in the “Key Findings,” “Significance,” and “Plain Language Summary” sections.