Earth Venture Mission - 2 Solicitation

Applications Requirements

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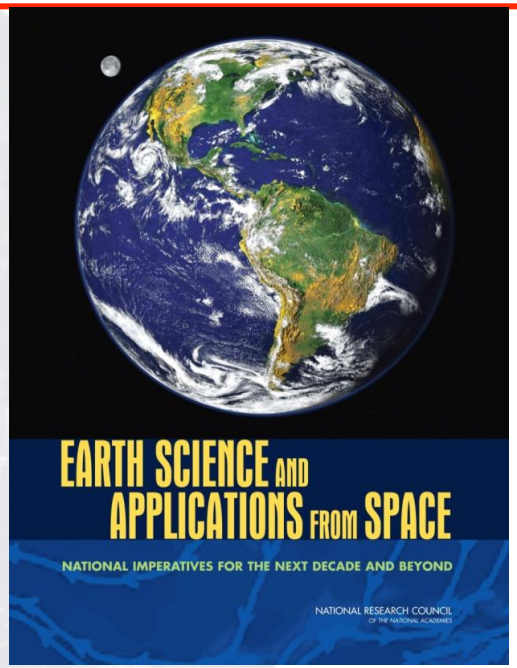
Earth Science & Applications from Space

"The national strategy outlined here has as its overarching objective a program of scientific discovery and development of applications that will enhance economic competitiveness, protect life and property, and assist in the stewardship of the planet for this and future generations."

Earth Science Decadal Survey



NASA has been looking for ways to increase support of applications and non-research users of its data products. NASA is interested in broad use of its data.

NASA has pursued several activities to engage applications-oriented users into mission planning, and they have provided feedback as part of the mission development, such as on data formats for non-research users.

These efforts can further expand the benefits of the Earth science missions and research, increasing the overall return of the investment.

"The Early Adopters program has gotten whole other organizations and industries enthusiastic about the mission. Their early engagement with the mission insures their benefits will be available much sooner than would otherwise be the case."

– Kent Kellogg, *SMAP*

EVM-2 AO and Applications

In the AO, NASA defines science to include research, applied research, and applications.

- » the relative emphasis on each is unique to an individual investigation.

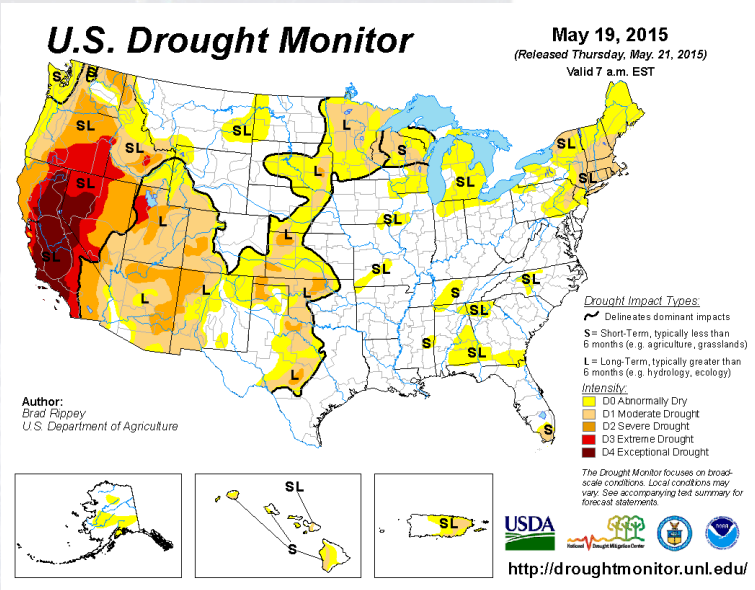
Applications: Uses of data and information products to support and inform decision-making duties of organizations for non-research purposes, such as policy, business, and management activities.

Applications projects enable near-term uses of Earth observations. Applications integrate Earth obs. and related data products within practitioners' decision-making, and a key aspects is the transition of the application for sustained use of the data by the organizations.

Projects often done in partnership with public and private organizations, such as NGOs, companies, government agencies, regional associations, multinational financial institutions, tribal organizations, and not-for-profit organizations).

The goal is for the organizations to achieve sustained use of and benefits from the Earth observations.

Example:



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EVM-2 Has A Research Emphasis … with Data Sharing & Applications Enablement

For this EVM-2 solicitation, NASA places a strong emphasis on research and innovation for Earth system science issues, while expecting appropriate attention to applications-oriented aspects to further the overall value of the mission. (Section 2.3)

The ability to develop and operate spaceborne missions and instruments enables NASA to provide a broad, integrated set of uniformly high-quality data covering all parts of the planet. NASA shares this unique knowledge with the global community including members of the science, government, industry, education, and policy-maker communities. (Section 2.2)

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Applications-related Portions and References within the AO

- Section 5.1.4, Applications Requirements, *Requirement 10*
- Section 4.4.3, Delivery of Data to Archive
- Section 5.3.5, Management and Organization Experience and Expertise
- Section 5.4.1, Science Team
- Section 7.2.2, Scientific Merit of the Proposed Investigation
  - Factors A-1 & A-2
- Section 7.2.3, Scientific Implementation Merit and Feasibility of the Proposed Investigation
  - Factors B-1 & B-3
- Appendix B – Section 2 (Req. B-16, B-17)
- Appendix B – Section 5 (Req. B-24)

EVM-2 AO: Section 5.1.4 & Requirement 10

Applications Requirement: Text from AO

Among NASA's strategic goals is to enable the use of Earth system science to inform decisions, strengthen the economy, and improve the quality of life. The Earth Venture Program element is intended to provide data and information products, to the extent possible, to key applications communities to increase the overall value and benefits of a mission. The ability to determine how a proposed mission can serve relevant applications communities depends on an on-going, multidirectional information exchange and an adequate plan and attention to applications-oriented issues, such as feedback on data products from skilled, sophisticated users outside the research community.

For this EVM-2, NASA places the highest priority on research and innovation for Earth system science issues. However, proposals must also articulate, to the extent possible, a plan to address applications-oriented users for their measurements, investigation, and data products. NASA recognizes that, in some science investigations, applications are not possible. In such cases, the proposer must explain and justify why there is no viable application dimension to the investigation.

Highlights

- Intention is to provide data and info products to key applications user groups
- Proposed investigation does not need to "conduct an applications project"
- Expectation is a plan to support and enable applications projects by others
- Encourage proposal team to engage, talk with, and listen to people from relevant applications communities
- If no applications are possible, burden of proof is on proposer to justify

EVM-2 AO: Section 5.1.4 & Requirement 10 (cont.)

Requirement 10: Text from AO

The proposal shall describe a plan and budget for the applications dimension of the mission. The proposal shall describe applications as part of the overall mission concept.

The applications program plan shall address approach(es) and interaction with applications-oriented users and organizations.

The ability to adapt to new opportunities and to coordinate with NASA shall also be addressed. Proposal teams are strongly encouraged to identify a point of contact for applications to coordinate with NASA.

NASA recognizes that, in some science investigations, applications are not possible. In such cases, the proposer shall explain and justify why there is no viable application dimension to the investigation.

Highlights

- Applications is part of overall mission concept
- Need to have a specific plan and budget to address applications aspect of mission
- Engagement with applications users and key communities is expected as part of mission development (engagement in proposal development is up to the proposing teams)
- Post award, NASA Earth Science will work with awardee on applications aspects
- If no applications are possible, burden of proof is on proposer to justify

EVM-2 AO: Section 4.4.3

Delivery of Data to Archive: AO Text

As part of the applications aspect of a mission, data products may be proposed that serve users beyond the primary research field of the proposed mission. Proposals may include funding for data products in forms, units, and widely used formats to serve key applications communities of the mission.

Highlights

Data products could be a part of an applications plan. For example:

- Efforts might establish data products specially intended for applications users as part of an identified applications program, though this is not required
- Data products in formats to serve applications-oriented users (e.g., GeoTIFF, KML/KMZ) could be part of a plan and program of activities, though this is not required

EVM-2 AO: Sections 5.3.5 & 5.4.1

Management & Experience

The qualifications and experience of the PI, PM, PSE, Project Scientist (PS) (if named), Project Manager Alternate (if named), Project Applications (PA) lead (if named), and other key members of the PI-led investigation team must be commensurate with the technical and managerial needs of the proposed investigation.

Science Team

Requirement 45. Proposals shall clearly define the science team necessary to successfully conduct the science investigation. Science teams may include qualified representatives from applications communities.

Highlights

» Per Req. 38, proposals shall identify the management positions. While the Program Applications lead is not required, proposals can identify such a role, if desired and commensurate.

» Representatives from the applications community can provide breadth, depth, and expertise on technical and end user/management aspects.
They can provide linkages to networks of end users and practitioners.

EVM-2 AO: Section 7.2 Evaluation Criteria

Scientific Merit of Investigation (7.2.2)

Factor A-1 on investigations goals & obj.:

Includes, … how well they reflect program, Agency, and National priorities; the potential scientific impact of the investigation on program, Agency, and National research and applications objectives; …

Factor A-2 on programmatic value:

Includes, … how well the mission may support key applications communities and inform decisions; …

Scientific Implem. Merit & Feasib. (7.2.3)

Factor B-1 on instruments and mx design:

Includes, … how well they reflect program, Agency, and National priorities; the potential scientific impact of the investigation on program, Agency, and National research and applications objectives; …

Factor B-3 on merit of data analysis, availability, and archiving plan:

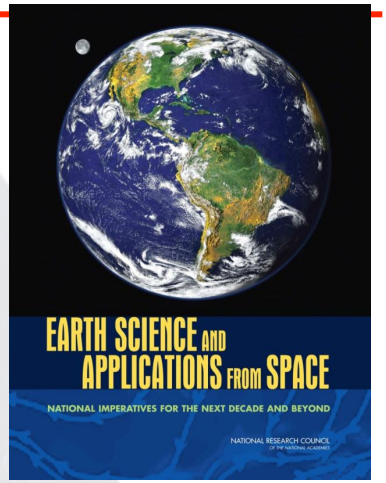
Includes, … to serve and support key applications communities;

Note on Factors A and B:
"For this EVM-2 solicitation, emphasis and consideration of research objectives outweighs applications.

EVM-2 AO and Applications

The ability to determine how a proposed mission can serve relevant applications communities benefits from on-going, multidirectional information exchanges.

NASA encourages proposal team to engage, talk with, and listen to people from relevant applications communities.



Some possible items to discuss:

- What decision(s) do user organizations make and what kind of analysis supports those decisions?
- What types of actions do they take based on the decisions?
- How timely is the data needed?
- What units do they use and prefer?
- What grid spacings do their models use?
- What data formats do they prefer? Which can they use?

Frequently Asked Questions

NASA Earth Science has compiled a list of FAQs and will update throughout the period of the AO.

FAQs will be place in the AO library on Monday, 1.Jun.2015