



SCIENCE

Key Items from the NF4 AO

Dr. Curt Niebur

Lead Program Scientist for New Frontiers

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Reducing the Workload



- Some of the changes to the AO were intended to reduce the workload on both proposers and evaluators.
- Some content was limited:
 - Schedule content
 - Heritage appendix
- Some content was deferred to Step 2, notably but not limited to:
 - Student Collaborations
 - Science Enhancement Options
 - Technology Demonstrations



Highlighted Items from NF4 AO



- NASA wishes to draw your attention to certain aspects of the NF4 AO:
 - Mission themes
 - Descoping to Threshold mission
 - Co-Investigators and Collaborators
 - Deputy PI
 - Diversity and Code of Conduct
 - Contributions and PI Responsibility
 - KDP B
 - Data Analysis vs. Data Management vs. Data Archiving plans



Mission Themes

- The term “mission theme” was deliberately chosen to reinforce the messages in the AO that:
 - NASA does not prescribe the form of mission implementation and views the mission studies conducted in support of the Decadal Survey (DS) as a proof of concept, and
 - The linkage between the science content of the DS and the proposed mission is of greater importance than matching the implementation described in the DS.
- To that end:
 - Science objectives listed in the AO may be reworded but the proposal must define clear traceability to the objectives in the AO, and
 - Proposal must demonstrate enhanced linkage to the DS beyond that done in previous AOs.



Descoping to Threshold Mission



- The differences between the Baseline and Threshold missions are intended to provide resiliency to address resource growth during the mission lifecycle.
- The decision to descope to the Threshold mission invariably has a negative science impact; this degradation should be counterbalanced with adequate resource savings (e.g., mass, power, schedule, budget) that enable the project to address serious resource challenges in other areas.

Sections 5.1.4 and 5.3.6; Requirement 53



Co-Investigators and Collaborators



- The identity, role, and necessity of all Co-Is and Collaborators must be provided in the proposal.
 - “A Co-Investigator is defined as an investigator who plays a necessary role in the proposed investigation...the necessity of that role must be justified.”
 - Experience shows that for each Co-I this requires more than a single sentence fragment plus a CV.
 - “The identification of any unjustified Co-Is may result in the downgrading of an investigation and/or the offer of only a partial selection by NASA.”
 - The review panel will be thoroughly and firmly instructed on this matter.
- The annual time commitments and funding source of all Co-Is and Collaborators must be specified.
 - Proposers are strongly encouraged to include a table containing this information.

Sections 5.4.2 and 5.4.3; Requirements 57-60



Deputy PI



- A deputy PI is required.



Diversity



- “NASA recognizes and supports the benefits of having diverse and inclusive scientific, engineering, and technology communities and fully expects that such values will be reflected in the composition of all proposal teams as well as peer review panels (science, engineering, and technology), science definition teams, and mission and instrument teams.”
 - Diversity is not the same as tokenism
- The selected flight mission will incorporate a Code of Conduct into its Science Management Plan or equivalent document:
 - Treat others, including their opinions, contributions, emotions, and bodies, with respect;
 - Demonstrate respect in your actions, and expect respect (both toward yourself and to others) in the actions of others;
 - Intercede for your teammates unwilling or unable to advocate for themselves;
 - Consider calmly your actions when challenged by someone who feels disrespected by them; and
 - Seek mediation, and participate fully in it.



Contributions and PI Responsibility



- Contributions are welcome within the restrictions defined in the AO:
 - No non-US nuclear power sources,
 - Sum of all contributions is not to exceed 1/3 of PI-Managed Mission Cost, and
 - Contributions to science instruments are not to exceed 1/3 of PI-Managed Instrument Cost (WBS 4 & 5).
- “A contribution does not alleviate the responsibility of the PI and management team to exert penetrating and timely oversight on the development, delivery, and performance of the contribution. The PI remains accountable to NASA for the success of the entire investigation, including contributions, with full responsibility for its scientific integrity and for its execution within committed cost and schedule.”

Section 5.6.7; Requirement 76



KDP B



- Unlike previous AOs, the Step-2 downselection will not serve as KDP B. A standalone KDP B with the SRB will be held some months after the downselection.



Data Plans



- The Data Archive Plan is about data processing to create science products and both the data and the products.
- The Data Analysis Plan is about how the science products and data obtained will be used to meet the objectives.
 - A “Plan” implies the presentation in a consolidated manner of well-organized activities, people, and products linked with science objectives.
 - A “Plan” is not an unconnected list of activities, people, products, and science objectives scattered throughout the proposal.
 - Please plan accordingly as experience has shown this is a common shortcoming and the review panel will be thoroughly and firmly instructed on this matter.
- The Data Management Plan is part of the Archive Plan and its purpose and content are described in the document *NASA Plan: Increasing Access to the Results of Scientific Research*.

Sections 4.4.1, 5.1.2, & 5.5.2; Requirements 9, B-16, & B-23; Evaluation Factor B-3¹

Questions?



**Image of Jupiter acquired by the
JunoCam instrument on Juno**