

Discussion Pertaining to New Frontiers (NF) Candidate List

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Should the New Frontiers (NF) Candidate List be Eliminated?

OPAG & SBAG have discussed eliminating this list in favor of an open competition

Two Options for MEPAG

1. MEPAG decides that NF missions should be openly competed with no restriction to target or goal. In that case no further decisions are needed.
2. MEPAG decides that candidate mission lists have value. Then,
 - What mission classes should be addressed?
 - Presently, this is (as the name implies) just NF.
 - How should the list be chosen, by whom, and how frequently?
 - Presently, this is by the Planetary Decadal Survey (i.e., each decade).
 - Should the Survey start with a new list each time? (The last DS said no.)
 - If created by the Decadal Survey, how should the list be updated?
 - Ocean Worlds was inserted by CAPS at the request of NASA, who had gone through an internal process



Should there be a New Frontiers candidate list at all?

- **NO:** Open competition can respond to rapidly changing priorities: no solar system object would be excluded (e.g., there is currently no Mars or Mercury candidate).
- **NO:** Removing the list would remove concern about how to keep the list up-to-date and fair.
- **YES:** Open competition could flood the system, potentially leading to poor proposals and over-stretching the technical talent pool needed in support
 - NF proposals are a lot of work, both for the proposers and the technical teams supporting them, and for the reviewers;
 - This could lead in practice to the selections being made internally by the key NASA centers (e.g., JPL, GSFC, JHU-APL), based on their perceptions of success.
- **YES:** A prioritized list of NF candidates enables scientific priorities to be set across the most expensive classes of missions, while retaining many advantages of open competition.

Issues if there is a Mission Candidate List (1 of 2)

What mission classes should have a candidate list?

- **Proposed:** There should be New Frontiers mission candidate list
 - Discovery and Small Spacecraft categories should continue to be fully competed.

How should the list be chosen and by whom?

- **Proposed:** The Planetary Decadal Survey should create the list
 - Discussion of NF candidates enables the Decadal Survey to look at priorities across the most expensive and technically challenging mission classes (i.e., NF & Flagships)
 - **Should the Survey start with a new list each time—no grandfathered candidates?**
 - **Yes:** This enables updates based on new discoveries, technical advances, and priorities
 - **No:** Former candidates were well-vetted at great expense and effort



Issues if there is a Mission Candidate List (2 of 2)

How should the list be updated (in or out of the Decadal Survey process)?

- NASA could ask the NAS Committee on Astrobiology and Planetary Science (CAPS) to add a mission candidate
 - The addition of Ocean Worlds to the NF list via this route raised concerns by many scientists about this process.
 - Prior to the CAPS review, NASA could ask the appropriate AG to assess the priority of the proposed mission candidate within their set of priorities. Or NASA could ask all the AGs to comment, providing inputs to CAPS, on the priority of the new proposal.
- NASA could ask the NAS Midterm Decadal Review Committee to consider a proposed update.
 - Should there be a call for other missions to be considered at the midterm?
 - This needs to be limited—otherwise, it is another (semi-)Decadal Survey
 - Most importantly: The process should be clear and fair.

Proposed MEPAG Executive Committee Draft Finding

- *The Planetary Decadal Survey should continue to create a NF Candidate List.*
- *The process for adding new candidates to this list between Decadal Surveys should be clearly communicated.*

- Questions for future discussion / clarification:
 - Should existing NF candidates be grandfathered in?
 - Should the candidate list be target inclusive (e.g., Mars) or process inclusive (e.g., networks), both or neither?
 - How should / will the studies selected in response to the Planetary Mission Concept call be used?