ISFM Program Review

Mission Support Council Decision Meeting
March 18, 2021
Louis Barbier
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## Overall Responses / Assessments

### DECISION CRITERION ASSESSMENT (REQUIRED):

More Details

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1. ISFM has yielded an improved focus of NASA civil servant scientists on research, and reduced internal...

2. HQ leads, Center leads, and NASA scientists are satisfied with the improved working environment...

3. ISFM has not compromised the quality of NASA science.

4. ISFM has not compromised the level of research funding provided to the external community.
Recommendations – uniformly Concur

OVERALL RECOMMENDATION

More Details

- Non-concur
- Let's discuss
- Concur

Convert the Internal Scientist Funding Model to a permanent program, with SMD monitoring for...
Summary of Comments

• Most all comments expressed support for ISFM, expanded on local issues, or provided additional information

• **Criteria #1**: Five comments. GSFC notes how “uneven” ISFM has been across divisions / centers. This is echoed by MSFC, noting that the impact on earth science was minimal. OCFO commented on reviewers (see later chart)

• **Criteria #2**: Two comments from GSFC and MSFC. MSFC notes the sensitivity of hiring decisions, GSFC notes “significant progress”

• **Criteria #3**: Four comments, response to OCFO on later chart.

• **Criteria #4**: Three comments, all positive.
Two comments, by the OCFO on Decision Criteria #1 and #3 require a response:

• Criteria #1 – OCFO: *Due to the delay in 2019 data (slide 17), it is difficult to properly assess review panel participation. A drop in participants could impact quality.*

• Response: The data shows that review panel participation has not increased in any significant way. This is why OCS is recommending SMD engage the center managers to improve participation. We have no data on the quality of reviews.
Comments (cont’d)

• Criteria #3 - OCFO: The assessment on slide 21 states “No drops in publications”. However, slide 18 indicates Year 2020 is the lowest in data provided (1733) which is a significant decrease from 2019 (1927). Are these numbers correct?

• Response: 2020 data is incomplete as it takes time for publications to be written, submitted to journals, reviewed, and published. This statistic normally “lags”. Further, see chart on COVID impacts to ISFM.
ISFM – COVID impacts

• Review panels
  • Virtual panels have made it easier to recruit external reviewers (no travel or conflicts with teaching duties) – so fewer civil servants may have been required [same is true for AO Step-2 site visits]
  • Some panels were delayed a few weeks to months (at most) so there may have been fewer review panels, but not a significant number

• Lab access – “Stage 3” status across the Agency means no access to on-site labs, so all work has stalled → this is true for all Center research, it is not unique to ISFM

• Less research impacted publications – fewer publications were written or submitted to journals (there were 1461 fewer manuscripts/preprints comparing March 2019 – March 2020 with March 2020 – March 2021)

• Six R&A programs had their due dates postponed and one program was cancelled
  • Three programs delayed proposals
    • Health and Air Quality Applied Science
    • Theoretical and Computational Astrophysics
    • Astrophysics Data Analysis
  • Three programs delayed “Step-1 Proposals”
    • Emerging Worlds
    • Solar System Observations
    • Yearly Opportunities for Research in Planetary Defense
  • One Solicitation, Interdisciplinary Science for Eclipse, was cancelled due to travel restrictions
    • Eclipse was only visible from South America (Chile)
OCS Recommendations

- NASA should continue with the highly successful ISFM program.
- The funding distribution between internal and external research should be rigorously monitored and adhered to by SMD.
- SMD should ensure a uniform process for ISFM across all five SMD divisions.
- Program scientists are expected to invite more CS scientists to serve on review panels.
Backup charts
The Mission Support Council met on December 12, 2016 and evaluated the proposed Implementation Plan for Internal Scientists.

Based on this review, the Mission Support Council decided to approve implementation plan of the Internal Scientist Funding Model (ISFM) with the provision for a status review in 3 years.

- Improves efficiency and satisfaction of civil servant scientists workforce
- Provides for strategic hiring of scientific staff
- Early career scientists will be better integrated into NASA projects and will not have the burden of writing R&A proposals
- Recruitment (& retention) of scientists will be improved
- External review panels will need to be set up to review research and ensure quality is maintained
- External community may be reluctant to embrace new model due to perceived loss of funding
- Allows time to evaluate program and ensure quality research is maintained
Internal Funding Model for NASA Civil Servant Scientists

Context

• NASA has approximately 1000 civil servant scientists (this does not include JPL)
• The role of NASA’s civil servant scientists is to
  – Contribute to the Agency’s many missions by serving as program and project scientists, instrument scientists, mission planners, scientific data archivists and analysts, and leading researchers in their fields
  – Conduct a broad variety of activities in original research, in technology development, and in service to the outside scientific community, bringing to bear the unique facilities and capabilities of NASA Centers
  – Participate with their community colleagues in competition and peer review to keep NASA scientists up-to-date and on the forefront of their respective fields
• It is in the national interest that these activities be conducted and supported in a way that optimizes the NASA workforce’s productivity and realizes its leadership potential
• Of the 1000 scientists, ~150 FTE (spread over ~350 scientists) are funded through competed research awards
  – The majority of the funding for civil servant scientists comes from other sources, such as flight projects and instruments, science teams, community service, directed supporting research and technology, and Center internal funding
Internal Funding Model for NASA Civil Servant Scientists

**CHANGES**

- NASA is adjusting its internal funding model for civil servant scientists to include more directed work for critical-sized groups
  - This is an internal realignment to use NASA civil servant scientists more efficiently
  - It focuses on work that can best be done or only be done at NASA Centers
  - It does not affect the balance between internal and external funding
  - All directed work will be externally reviewed

- **Objectives and benefits of this new model**
  - Enhance the value of Agency funds by having the NASA civil servant scientists work on tasks that are substantial, strategic, focused, and that enable the broader science community, rather than compete with the external science community
  - Ensure that NASA civil servant scientists advance tasks that meet NASA objectives and can best/only be done at NASA Centers, resulting in science, technology, capabilities, and missions that are tightly integrated
  - Ensure a critical mass of selected capabilities necessary to conduct complex research on key topics
  - Adopt a strategic implementation that will reduce the number of proposals written by NASA civil servant scientists and improve the efficiency of inherently governmental work

- **There will be no change in the balance of the research budget allocated between NASA civil servant scientists and the external community**
  - The new funding model is designed to be neutral regarding the fraction of funding going to the external scientific community
Internal Funding Model for NASA Civil Servant Scientists

GOALS

• The amount of directed Research and Analysis (R&A) work at the Centers will be increased
  – This will result in a decrease in R&A proposals from NASA Center scientists
  – NASA civil servant scientists may still compete for R&A, but in reduced numbers
  – Mission AOs and mission-funded guest observer (GO) programs will not be directed

• All directed R&A work will be collaboratively planned between the Centers and HQ/SMD Divisions
  – The amount and type of directed work will vary between individual Centers and Divisions

• All directed R&A work will be peer reviewed
  – This will include both initial and periodic external peer reviews

• The fraction of R&A funding going to the Centers will remain consistent with historical levels and the increase in directed R&A work at the Centers will not impact the balance between internal and external funding
Dec 2016 – approval to proceed with a 3 year pilot program

Plan for implementation – assemble team, work out financial metrics, develop baseline survey

Timeline

CY 2016/ FY 2017

FY 2018

FY 2019

FY 2020

FY 2021

Implementation – 3 years

Q1: Final decision

Transition year if not approved to continue
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