

Summary of the presentations, discussion, and main outcomes of the 8th MEPAG virtual meeting (VM8)

February 28th, 2020, 1:30-3:30PM EST

Posted agenda and presentation files:

<https://mepag.jpl.nasa.gov/meetings.cfm?expand=vm8>

Notes primarily present an overview of discussion, with brief description of and links to presentation materials. Areas shaded **blue** are updates from more recent events – extensive in this case due to the rapidly evolving COVID-19 situation.

General MEPAG Announcements

- Please respond to all requests for general or meeting-specific MEPAG feedback via the email MEPAGmeetingOs@jpl.nasa.gov.
- The next [MEPAG meeting \(#38\)](#) has been converted to a series of virtual meetings on the same days, **April 15-17, 2020**. See the [updated 2nd Information Circular](#) for current information. The key deadlines:
 - ~~March 6: Early Career travel grant application deadline [Cancelled].~~
 - ~~March 16: Hotel room block deadline [Be sure to cancel any personal travel arrangements].~~
 - **March 19:** White paper concept submission deadline
 - **April 1:** ~~Registration deadline &~~ Community Forum topic suggestion deadline

Past and On-going MEPAG Activities

R. Aileen Yingst, MEPAG Chair (Planetary Science Institute), [presented](#) the agenda for this meeting and an overview of recent MEPAG activities.

- The next ~~face-to-face~~ MEPAG meeting (#38) will be **converted to a series of virtual meetings on the former in-person meeting dates**, April 15-17, 2020.
 - See the [2nd Information Circular](#) for the current agenda, information on how to submit white paper topics or items for the community forum. Key deadlines are also listed above. **This document has been updated and the new agenda for the 3-day virtual meeting (~4.5 hr./day) will be posted April 1.**
 - The meeting organizers recognize that the evolving coronavirus situation may affect travel plans to this meeting. The MEPAG ExCom has discussed options should travel be limited, and will update the community should meeting plans change. In all cases, there is a remote attendance option for MEPAG meetings. **On March 12th, it was decided to convert the in-person meeting to a virtual meeting format.**

Don Banfield, MEPAG Goals Chair (Cornell University), [presented](#) on the ongoing MEPAG Goals revisions. Following several opportunities for community feedback, revisions are nearly completed (see slides for an overview of updates from the 2018 MEPAG Goals Document; additional discussion points are outlined below).

- The Goals Committee is working to release the final 2020 MEPAG Goals Document by LPSC. LPSC was cancelled but the Goals document is still planned to be posted shortly.
 - ~~A poster on the Goals revisions will be presented, Tuesday, March 17 (Ab #2474).~~
- Within Goal I (Life), a key point of feedback is that the distinction between extant and extinct life investigations has been removed. This was asked about again at VM8. Goal I representative, Alphonso Davila, explained that that distinction has been made before as those investigations involve different mission implementing strategies, including considerations of planetary protection and contamination. Going into the details of those differences, including pro/cons of different approaches, were difficult to capture in the MEPAG Goals document without delving deeply into complicating factors. By combining both types of investigations within this document and leaving discussion of the strategy to other forums where specific concerns are a focus (e.g., a decadal survey, mission review community, or science mission team), this simplifies the content and scope of the MEPAG Goals document, with respect to Goal I.
- No comments were made about Goal II (Climate) during the telecon.
- Within Goal III (Geology), a question was raised about the removal of the 2018 sub-objective that focused on surface processes. Goal III representative, Rebecca Williams, explained that they had tried to incorporate those aims within other sub-objectives in the draft circulated for community feedback, but community feedback showed that a broader look at processes was still missing. Based on that feedback, they have now added an investigation (under sub-objective A4) that expands on modern and active surface processes, beyond what was included under volatile and aeolian focused sub-objectives.
- Within Goal IV (Human Exploration), several questions were asked to clarify the meaning of changes. No issues were raised.

MEP/PSD Update

Michael Meyer, Lead Mars Scientist at NASA HQ, presented on activities at NASA and the recently released [NASA FY21 budget request](#), associated with the U.S. President's budget proposal. (*No slides were shown.*)

- Within the NASA FY21 budget request:
 - This budget request has a line for future SMD missions, including Mars Sample Return missions (the lander and orbiter) and an Ice Mapper orbiter mission concept study.
 - Within MSR development work, trade studies are being completed with our European partners. An Architecture Review in January went well.
 - The budget includes support for the Sample Retrieval Lander, which will carry the fetch rover (an ESA contribution) and the Mars Ascent Vehicle, to be launched (at earliest) in 2026, with samples returned from Mars in 2031.
 - More information on MSR plans will be shared at the April **[now virtual]** MEPAG meeting.
 - The next major step would be a Mission/Campaign Concept Review in June.
 - The President's budget dramatically reduces budgets for most ongoing missions.

- It includes just \$1M for ODY in FY21 and *no* budget beyond that, meaning that close-out of that mission would have to start this year (FY20). This would terminate their long record of atmospheric observations and potentially the ongoing Phobos observation campaign.
- MSL has a reduction of \$9M in FY21 and *no* budget beyond that.
 - This seriously jeopardizes the mission's ability to characterize the sulfate unit and the apparent "hydro-boundary" that appears to mark a major transition in Mars climate. The rover has sufficient power to continue at its present pace until FY23 or later. Budget would be the limiting factor.
 - Due to associated reduced operation and budget for MSL in FY21, there are currently no plans for a new call for participating scientists (PS). Selection, onboarding, and training of PSs is an extensive process, that cannot be done in one year. This cancellation was stated officially at the March 9-10 Planetary Science Advisory Committee (PAC) meeting.
- A question was asked about if the Senior Review results were folded into the President's budget request for the extended missions; this question also came up at the later PAC meeting. MSL and MRO were rated excellent and ODY scored very good/excellent in the Senior Review. With a modest over-guide ODY would also have earned an "excellent", as judged by the review. The response from both PSD and MEP was that this was the unfortunate result of a tight budget.
- A question was also asked if ODY was needed to support relay for the Mars 2020 rover. The answer provided is that the other assets around Mars (e.g., MRO, TGO, MVN) are expected to provide sufficient communication capabilities. Additionally, the Sample Return Orbiter that is planned to be built by ESA colleagues would provide additional communication capability in support of Sample Return. However, ODY is the primary relay orbiter for the InSight lander and it currently has the capability to provide support to the ExoMars Rover and Surface Platform, whose arrival is now planned for 2023. If it is not available, other orbiters will have to take up the load while supporting M2020.
- Regarding Mars 2020 development:
 - The Participating Scientists call for Mars 2020 yielded 195 mandatory notices of intent. Proposals are due in mid-March.
 - The Mars 2020 system integration is on track with the flight system sent to Cape Canaveral. The only systems not yet integrated are the sample tubes and part of the adaptive caching assembly, still at JPL for further testing; this testing will be done in April and the system will be sent to the Cape in May, reducing the time when inadvertent contamination might occur.
- NASA has been looking at the Terms of Reference for all of the AGs (i.e., Analysis/Assessment Groups). The aim was to understand how different AGs are approaching the community and how they are being supported by HQ, and then to create more consistency between them.

Mars Architecture Strategic Working Group (MASWG)

Bruce Jakosky, Chair of MASWG (University of Colorado, Boulder/LASP), [reported](#) on this group's activities. Work is ongoing through telecons with a key meeting in April.

Mars study opportunities with the James Webb Space Telescope (JWST)

Stephanie Milam (NASA Goddard SFC) [presented](#) on the status of JWST and current calls for observation proposals (cycle 1 proposals are due May 1, 2020).

- JWST can image the surface of Mars in moments because Mars is such a bright astronomical target. Within cycle 1, Mars would be visible L_s 289 (Aug 2022) to L_s 333 (Nov 2022).
- Proposals can be submitted under the Guaranteed Time Observations (GTO), which includes time for observations by the Solar System community (including Mars).
 - Many workshops and tools are available to help people understand how to use or apply for JWST time (see slides for details and links).
 - Amanda Hendrix is the Solar System representative on the JWST Users Committee; she along with Stephanie can accept feedback and answer questions.
- A question was asked about mechanisms for reacting to planetary events (e.g., a dust storm or methane detection). There are ways to request target opportunities that can be triggered and supported within 48 hrs, if the view geometry is acceptable to JWST. Discussions can also occur to increase consideration of observations of new phenomenon.

Planetary Data System (PDS) Update

Ray Arvidson, PDS Geosciences Node Manager (Washington University in St. Louis), [presented](#) on the recent PDS update. He went over a few examples of the data available within the PDS, and the resources available for those accessing data in the PDS or compiling data for inclusion.

Introducing the New Planetary Science Journal (PSJ)

Ross Beyer, DPS Publications Subcommittee Chair (SETI), [presented](#) on the new Planetary Science Journal (PSJ).

- This journal is gold open access (i.e., all articles are freely available online immediately after publication) and will be using dual-anonymous reviewing by default.
- The presentation clarified that DPS continues to endorse Icarus, but this new journal provides an alternative; e.g., avoiding Elsevier or seeking a fully open access journal.
- Questions were asked about
 - if the PSJ would consider publishing workshop reports (answer: yes),
 - if it's online only (yes, as this is one way of keeping costs lower), and
 - if people with limited financial means can apply for a waiver of the open-access fee (yes, write to the editor if your paper has been reviewed and accepted, but you can't pay for it; PSJ can support a limited number of publication fee waivers that will be assessed on a case-by-case basis — this is also true for Icarus).