



# ALMA BOARD

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**Subject:** Science Committee Response to the October 2025 ASAC Report

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## **ALMA Board Science Committee Response to the ASAC October 2025:**

The ALMA Board thanks the ASAC for a very clear and concise report summarizing their response to the Board charges and bringing other issues related to science to the attention of the Board. As in April, the Board thanks ASAC for providing the report under increased time pressure, with the ASAC and Board meetings occurring less than two weeks apart. The ASAC Chair, Stefanie Milam, summarized the Report to the Board's Science Committee on November 12, 2025, and then to the entire Board during the Ordinary Session of the Board meeting on November 13, 2025. The Science Committee expresses its deep thanks to Stefanie for her expert chairing of the ASAC and her clear reporting to the Board over the last two years.

The ASAC report contains many comments in support of the efforts of the JAO and ALMA. This response highlights ASAC's major recommendations and concerns. The ASAC comments are shown in blue font and the Board responses are in black.

### **General Considerations:**

- ASAC is due for a new Chair and Vice Chairs starting in 2026. Stefanie Milam (NA) is rotating off, and the next chair should be from East Asia. Recommendations came from the regional SACs and were voted on during the ASAC meeting. The following are recommended for consideration:
  - Chair, EA: Hideo Sagawa
  - Vice Chair, NA: Sean Andrews
  - Vice Chair, EU: Arnaud Belloche

The Board endorses this recommendation from the ASAC and welcomes the incoming Chair and Vice-Chairs into their new roles.

- ASAC strongly encourages ALMA to proceed with the organization and initiation of the ALMA2030 Archive Vision Working Group. ASAC recognizes the significance of having the Science Archive upgrade occur and be prioritized in parallel with WSU, this includes ensuring how the archive aligns with all software being developed for WSU, including Data Processing. ASAC supports the scope and vision of the working group charter, the community representation anticipated for this group, as well as the deliverables and timeline described in the charges. Additionally, ASAC is willing to help identify community members for consideration.

The Board believes that the ALMA archive will play an increasing role in producing breakthrough science for the astronomical community with the continued high oversubscription rates and the expanded capabilities of the WSU. The Archive Vision Working Group will play a critical role in ensuring that the ALMA archive is flexible and powerful, with an interface that is accessible to users beyond the traditional ALMA user community.

- ASAC would like to thank the ALMA Proposal Handling Team, namely John Carpenter and Andrea Corvillón, for the thorough analysis and discussion of Distributed Peer Review with ASAC. The dedicated effort to collect the community's concerns on DPR and provide detailed analytical insights to help address these concerns is greatly appreciated. ASAC strongly encourages this work move towards publication and for ALMA to make these details available to users through various ways to appease users of the process and fair evaluation it offers with respect to community peer review panels. Dissemination of details could be done through the ALMA webpage, community forums at conferences, and through email lists.

The Board also expresses its thanks to John Carpenter and Andrea Corvillón for the detailed analysis of DPR, which was presented to the Science Committee at a September virtual meeting and to the Board in November. The Committee emphasizes the importance of community trust and buy-in of the DPR process, and supports the recommendation that the results of the DPR analysis be made available to the ALMA user community, preferably through the ALMA webpage or ALMA newsletters.

- ASAC continues its strong support of WSU as its impact on the scientific capabilities of ALMA will be transformational. Achieving the 4x bandwidth increase is essential to unlocking the full scientific potential of WSU and should remain as the priority for planning and implementation as WSU advances. Finally, continued efforts to inform the community of WSU progress and impact on future Cycles are greatly appreciated.

The Board echoes the support of the ASAC regarding the WSU science impact and informing the community of progress of this hugely important upgrade of ALMA.

**Permanent Charge #1: Assessment of the performance of ALMA scientific and technical capabilities: The Joint ALMA Observatory (JAO) shall provide the appropriate information needed to perform this assessment.**

The Board endorses the many positive comments that ASAC has made in response to this charge.

**Permanent Charge #2: Recommendation of ways to maximize ALMA's scientific impact: This includes review of the scientific effectiveness of the ALMA Archive, proposal tools, and the Proposal Review Process as well as the current scientific impact of ALMA.**

In addition to the comments related to this charge in the general considerations section above, the Science Committee flagged the following two issues for discussion:

- ASAC considers that enhancing the effectiveness of Stage-2 is one way to improve the quality of the DPR. ASAC recommends that the JAO continue to raise awareness within the community about the significance and importance of Stage-2, and also consider making its participation mandatory.

The Board endorses the idea that DRP proposal reviewers be given strong encouragement to participate in the stage 2 reviews in the hopes that this will lead to an improvement in the level of the comments sent back to the proposal PIs. It would also be useful to remind proposers that they are the ones who provide the reviews in DPR.

- ASAC considers it necessary to update the discussion on the role of Large Programs (LPs) in the context of WSU's parallel deployment cycles and WSU's commissioned years. There is a very high likelihood that LPs cannot be conducted in their current format due to the limited observing resources available during WSU deployment. In addition, with the unprecedented observational capabilities that will be achieved with WSU, LPs may have a different scientific significance compared with the current situation. Future evaluation of LP impact in the WSU era should be conducted after commissioning and general science begins.

The dialog on whether or not to eliminate LPs during WSU implementation needs to continue. The Board and Science Committee are not unanimous in their opinions on this topic, and note that there are both good arguments to contract or expand the LP program during times of more limited PI access to the observatory. In particular, the latter would provide more homogenous data sets to the archive for the community to use, but may also cause additional stresses on ALMA operations. The Board looks forward to continuing the discussion with ASAC on the role of LPs when the WSU is in place.

**Permanent Charge #3: Reporting on operational or scientific issues raised by the wider community as communicated by the three regional Science Advisory Committees (ANASAC, ESAC and EASAC).**

The Board welcomes the opportunity to read through the individual regional reports as appended to the ASAC report. The Board finds that these reports give clarity to the concerns from the different regions, and endorses continuing to append the regional SAC reports to the ASAC report for distribution to the Board.

**Permanent Charge #4: Assessment of the scientific impact of the ALMA Development Program, with focus on the Wideband Sensitivity Upgrade (WSU) capabilities as well as its implementation.**

- Many supportive comments about WSU progress and communication since last meeting
- Concerns about Procurement of the hardware necessary for extending ATAC to 4x bandwidth
- Would like continued view of schedule and impact on PI science in future cycles

The Board notes the supportive comments from the ASAC for the WSU as well as the ASAC concerns relating to hardware procurement and the WSU schedule. The Board is confident that ALMA will take all actions necessary to mitigate procurement issues stemming from the unavailability of key hardware components. The Board encourages ALMA to provide transparent

communication to the community, but emphasizes the importance of providing timelines only once they can be reliably met. It is extremely important that the ALMA partnership be seen as having clear control over this impressive program.

**Permanent Charge #5: Providing comments on community initiatives regarding ALMA capabilities beyond ALMA 2030 once a year.**

- The community in the EU and EA regions are actively engaged in long-term planning for ALMA in the 2040s, carried out through regional workshops, establishment of working groups and grant applications. However, there is concern that NA community has encountered unavoidable challenges in matching this progress. ASAC would like to communicate in the strongest possible terms the need for (and its enthusiasm to support) a planning strategy for NA. It is imperative that ASAC, the Board and the regions all prioritize facilitating and promoting these activities in their relative capacities.

The Board is very pleased to see growing engagement in future ALMA planning, but notes that each region has its own timescales, evaluation processes, and constraints regarding future upgrades to ALMA beyond the WSU. The community discussions and ideas are ambitious and demonstrate the strong interest in ALMA.