



# NATIONAL RADIO ASTRONOMY OBSERVATORY

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## **Response from NAASC and NRAO to the ANASAC Report from the Face-to-Face Meeting, held September 2008, NRAO Charlottesville**

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The NAASC staff and the Director of NRAO would like to thank the ANASAC for its extensive report and its careful consideration of the last set of charges, and for the 3 unsolicited recommendations. In this document we present responses. A new set of suggested charges is presented in a separate document.

### **Response to ANASAC recommendations**

Charge 1: How to facilitate input from the NA community to the ASAC, in response to JAO's request for ASAC's advice on ALMA scientific development priorities

ANASAC responded to this charge as follows:

ANASAC members form part of a 15 member formed committee to address this charge, which reported directly to the ALMA board in November 2008, and will continue to reach out to community members directly. ANASAC also supported the broad feedback stimulated by the last two "Transformational Science with ALMA" meetings, finding that the format of these meetings was quite successful in this regard, and recommending that the 3<sup>rd</sup> meeting format be used as a template for future ALMA meetings of all kinds. In particular, ANASAC liked the overview of ALMA from the Project Manager, the breakout sessions to discuss key science drivers, and the wrap up session to synthesize recommendations. ANASAC further recommended that future meetings be sure to include technically proficient ANASAC members, NAASC staff, and/or ALMA Project personnel, and a strong NA attendance. ANASAC recommended a goal of maintaining an evolving white paper outlining the scientific priorities of the NA community. They further encouraged taking advantage of AAS meetings to expose potential users to the capabilities of the observatory. ANASAC cautioned that input

from the community could be limited unless there are recognized rewards and support from the NAASC.

### *NRAO Response*

*We are in agreement that the format of the last “Transformation Science” meeting was successful and plan to follow the pattern with future meetings. We also agree on the value of our AAS booth for spreading knowledge about ALMA, and we presented demos of three tools at the January 2009 meeting: the Splatalogue line database, the almasimos observation simulator and the ALMA observing tools.*

*NAASC appreciates the participation of ANASAC in the community outreach committee, including its direct reporting to the ALMA board. NAASC would like to request feedback from ANASAC on the results of this effort, and its judgment regarding the success of this approach to reaching out to the community. We would also like to request ANASAC to consider whether a more extensive campaign by a larger group of people is needed.*

### Charge 3A: How to stimulate and fund preparatory ALMA research, and how NRAO can promote such efforts

The ANASAC’s summary response to this charge is reproduced here:

The ANASAC considers that maintaining a healthy US mm/submm-wave community is essential to help the wider community to appreciate and benefit from the investment in ALMA. We note that the ALMA operations plan already addresses many of the anticipated needs of the community, and we see additional student support as perhaps the most promising route for early involvement of the general community with ALMA.

Our recommendations are that NRAO and NSF should

i) Support the development and maintenance of human capital and expertise in ALMA, especially at the graduate student and postdoc levels, as outlined in the current NAASC budget;

ii) Consider the possibilities of enhancing the access of the community to the products of mm/submm surveys, and to supporting future surveys; and

iii) Take whatever steps possible to enhance public and community outreach activity, and to ensure that documentation, tools, and archives are readily accessible and publicized.

### *NRAO Response*

We agree that the training of future students and postdocs is going to be crucial to the success of ALMA amongst the general NA astronomy community. A document from Dale Frail describing NRAO's community support programs has been posted to the ANASAC wiki for the committee's information. Item (iii) to large extent describes the charter of the NAASC.

### Charge 3: Consider potential ways to stimulate ALMA-preparatory proposals to NSF

The ANASAC felt that there was sufficient confusion in how criteria could be applied to judge whether a proposal be considered "ALMA-related" that it recommended that no action be taken to encourage mention of ALMA by NSF proposers this year. For the future ANASAC recommended that:

(i) the NRAO Director work with NSF AST leadership to come up with a clear statement of division policy on pre-ALMA grant proposals that can be posted to the NST AST and NRAO websites, and included in mailing to AAS membership; and (ii) NSF AST leadership, with the \*greatest\* urgency, convene a working group to examine possible mechanisms for linking funding and observing time on U.S. ground-based telescopes. Such a working group was identified a year ago by NSF AST (with the endorsement of the ANASAC) as the appropriate vehicle for considering the issue of ALMA user grants in a panchromatic context. If convened soon (even in a budget, telecon-only format), the results of such a working group's deliberations will provide timely and valuable input to the upcoming decadal review. To strengthen the impetus for convening this working group in the face of NSF AST's current inaction, the U.S.-based members of the ANASAC plan to contact parallel advisory groups for other U.S. facilities; we encourage similar coordination at the directorial level.

#### *NRAO Response*

*This item is under consideration by NRAO.*

### Charge 4: Suggestions for potential use of the NA ALMA prototype antenna

ANASAC responded with two main conclusions:

First, the ANASAC strongly endorses the view expressed at the F2F that a formal call for proposals to dispose of the prototype antenna would be an unwanted distraction from ALMA commissioning at a critical time for the project, and should be avoided. Second, we recommend that the NA project manager investigate the following options, in **decreasing** order of priority:

1. Contact university groups (including the SMA as well as all U.S. groups supported by the URO program) to find out the terms on which any of them would be interested (if at all) in acquiring the prototype antenna. These contacts should not be restricted to

groups with interferometers, since the prototype could still be useful in, e.g., testing instrumentation for CCAT.

2. Explore the "South American options", namely (i) incorporation into a millimeter VLBI network, and (ii) moving the prototype to the APEX site and converting it into an APEX clone that could share infrastructure and instrumentation with APEX itself. The latter, "NAAPEX" scenario does not have a clear path to operational funding, but would be worth at least examining from a technical point of view, given the lack of direct North American access to a southern survey telescope at the present time.
3. Consider options for leaving the prototype antenna in place and allowing it to be used on an ad hoc basis for millimeter VLBI experiments and/or instrumentation development by NRAO and other groups. The ANASAC recognizes that the cost of maintenance may make this a less attractive option for NRAO.

### *NRAO Response*

*We agree broadly with this set of priorities. Some contacts with potentially interested US groups have been made in the interim*

### **Response to the three unsolicited recommendations from ANASAC**

The ANASAC presented the three unsolicited recommendations. We reproduce them below, followed by our response to each in turn.

#### (1) Future charges.

The ANASAC would like to consider future charges from NRAO regarding three issues:

(a) The drafting of a white paper on the scientific justification for the development line item in the ALMA operations budget, as an input to the upcoming U.S. decadal review. (This charge would engage primarily the U.S.-based members of the committee, and is viewed as sensible by the ASAC.)

(b) The provisions that will be made for allocation of ALMA observing time, including how large proposals, director's discretionary proposals, and joint proposals with other observatories will be handled for the North American share of ALMA time.

(c) The computational demands of offline data reduction by North American ALMA users, including access to high performance computers for analysis of complex datasets.

## *NRAO Response*

- a) *We agree that a white paper from ANASAC on the ALMA development line item for the decadal review would be timely and important, and therefore encourage the ANASAC to take this charge on. This is a rapid fuse item at this point in time.*
- b) *Discussion of this issue has already been initiated by ANASAC. A revision to this charge will be made after the ALMA Board reviews the recommendations of the partner communities.*
- c) *We agree that this is an important issue. It has been under discussion within the project for some time, with somewhat inconclusive results due to uncertainties in the processing power and I/O demands of various processing pathways vs. the expected capabilities of typical machines when ALMA comes on line. We outline a preliminary charge related to this topic in the accompanying document.*

### (2) Contacts with other groups.

The ANASAC would like to learn from NRAO how the recommendations of the McCray "Radio Futures" committee will couple with ALMA.

In anticipation of the time allocation charge suggested above, the ANASAC may contact the JWST Science Working Group, the Herschel Science Team, and equivalent groups to discuss the prospects for joint ALMA/JWST proposals. We would encourage parallel contacts between NRAO and STScI at the directorial level as well.

## *NRAO Response*

*This item is under consideration.*

### (3) ANASAC membership and meetings.

The diversity of background within the current ANASAC membership has been valuable as the committee grapples with issues (e.g., user grants) that are of interest to the entire North American community. Since the committee is also being asked to consider many items of a technical nature, the ANASAC encourages NRAO to make the next set of new members people who already have expertise on (sub)millimeter astronomy. In future years, the balance of expertise on the committee can be tuned to match the ANASAC's evolving mission.

Regardless of background, the ANASAC recommends that in future years, new members be designated *\*before\** the annual F2F meeting, so that they can have the option of attending the F2F as non-voting visitors. Arranging for such an overlap of outgoing and incoming members will help the latter come up to speed on the committee's work.

The ANASAC recommends that planning for future F2Fs allow for the possibility of meetings that last more than one day, to give time for more reflection on the agenda items and the committee's overall mission. Future meetings should *\*definitely\** follow the precedent begun this year, in which briefing material was provided to the committee in advance of the F2F (and was largely compiled from presentations to other committees, in order to minimize reporting burden on NRAO staff).

*NRAO Response*

*We agree with the importance of bringing in new ANASAC members, in the near term, with strong submm/mm observational backgrounds. We will be pleased to accommodate the requests to designate new members early enough to allow them to overlap with outgoing members for one meeting, and to allow for the possibility of future two day F2F meetings.*