



NSF Division of Astronomical Sciences (AST)
Response to 2015-2016 AAAC Report
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2016 AAAC Recommendations-1

- Recommendation: “Where it can improve overall science productivity and efficiency, cooperation in database design and data sharing is encouraged among US agencies, international agencies, and scientific collaborations.”
- Response: NASA, NSF, and DOE have formed a Tri-Agency group to discuss the possible implementation - and cost - of joint pixel analysis of data from LSST, Euclid, and WFIRST
- Tri-Agency group meets regularly with project leadership.



2016 AAAC Recommendations-2

- Recommendation: “We encourage DOE, NSF, and university community to continue working toward a plan for a future (Stage 4) ground-based CMB experiment.”
- Response: NSF (AST, PHY, PLR) and DOE/HEP are actively coordinating and working with the science community.
- Current plan is to form AAAC subcommittee to develop a strawman project concept that can be used for agencies’ planning purposes (see later agenda item).
- Note that the P5 committee recommended CMB-S4 as a strategic initiative, but this was not a recommendation of New Worlds, New Horizons. AST, PHY, and PLR currently plan to evaluate CMB-S4 funding within established mid-scale and core programs.



2016 AAAC Recommendations-3a

- Recommendation: *“Strong efforts by NSF for facility divestment should continue as fast as is practical. Efforts to explore partnerships, interagency cooperation and private resources to maintain some access to facilities for the US community that may mitigate the loss of open access should continue. Transferring the cost of operating a facility outside of the NSF/AST budget is preferable to complete loss of a capability from the suite of capabilities used by US researchers.”*
- **General Response**: All preliminary engineering studies and Environmental Baseline Reviews were completed by June 2016.



2016 AAAC Recommendations-3b

- What Does "Divest" Mean?
 - The recommendation of the Portfolio Review Committee solely referred to removal of the funding of telescopes from the NSF/AST budget.
 - Telescopes recommended for divestment are still important, and in some cases unique assets for astronomical research or other related uses.
 - Hence the preferred divestment alternative, pursued vigorously by NSF since 2012, has been to find funding collaborations that enable continued availability of NSF telescope assets for some fraction of their time, for some portion of the research community.



2016 AAAC Recommendations-3c

■ Response: Arecibo

- GEO/AGS Portfolio Review (April 2016) recommended reduction in AGS annual share from \$4.1 million to \$1.1 million by 2020.
- Environmental Impact Statement (EIS) process began in May, 2016. Anticipate release of Draft EIS by November 2016.
- NSF released Dear Colleague Letter NSF 16-602 in September 2016, announcing intention to release a solicitation for Arecibo management later in 2016, with reduced funding offered by NSF.
- Arecibo Cooperative Agreement extended through March 2018 to enable EIS and solicitation processes to play out.
- Targeting issuance of a Record of Decision in summer 2017



2016 AAAC Recommendations-3d

■ Response: Sacramento Peak

- EIS process began in July 2016. Anticipate release of Draft EIS near the end of 2016.
- NSF funded a two-year award to New Mexico State University to develop a transition from the National Solar Observatory to a university-based consortium.
- Targeting issuance of a Record of Decision in Summer/Fall 2017.

■ Response: Green Bank Observatory

- Separated from National Radio Astronomy Observatory on October 1, 2016, consistent with NSF plans announced in 2013.
- NSF announced beginning of EIS process on October 19.
- Targeting issuance of a Record of Decision near the end of Calendar Year 2017.



2016 AAAC Recommendations-3e

- Response: Long Baseline Observatory (LBO)/VLBA
 - LBO separated from National Radio Astronomy Observatory on October 1, 2016, consistent with NSF plans announced in 2013.
 - NSF and U.S. Navy (USN) signed a Memorandum of Agreement in September 2016, anticipating shared funding from USN and NSF sources beginning in FY 2017.
- Response: Kitt Peak National Observatory
 - NASA selected Extreme Precision Doppler Spectrometer for WIYN 3.5-m telescope in April 2016, continuing progress on NASA-NSF Exoplanet Research Program (NN-EXPLORE).
 - Dark Energy Spectroscopic Instrument passed CD-3 (full fabrication) at DOE in June 2016, continuing progress toward DOE take-over of funding for Mayall 4-m operations in FY 2019.
 - 2.1-m telescope continues as part of Caltech-led Robo-AO program.



2016 AAAC Recommendations-4

- Recommendation: *“The agencies should continue to pursue international partnerships in order to further accomplish the goals of NWNH. The AAAC’s “Principles for Access to Large Federally Funded Astrophysics Projects and Facilities” should guide the process.”*
- Response: See above comments on LSST-EUCLID-WFIRST
- International partners remain critical for LSST operations
- The principle of “reciprocity” from the Principles for Access is key in these conversations
- New partnerships incorporate the Principles in discussion. For example, they are called out explicitly in NN-EXPLORE agreement between NASA and NSF.



2016 AAAC Recommendations-5

- Recommendation: “We urge that full programmatic funding required by the three agencies to execute their FY 2017 plans, as described in their budget requests, be provided.”
 - Response: Congressional markups for FY 2017 indicated nearly flat budget for NSF; awaiting action on FY 2017 appropriation

- Recommendation: “Community based groups, such as the AAS and the APS, should study the recent and projected growth of the leading US astronomy and astrophysics research community for the next decadal survey planning exercise at the end of this decade.”
 - Response: Agencies have had discussions with AAS and NAS regarding 2020 decadal survey, and whether an updated study of Federal funding and the community should be completed before Astro2020.