

ROSES-2014: A.4 TERRESTRIAL ECOLOGY
FREQUENTLY ASKED QUESTIONS (FAQs) January 9, 2015

Q1: Is this solicitation only open to Science Team members (e.g., former Science Definition Team members)?

A1. No. This solicitation is open to all scientists interested in becoming ABoVE Science Team members. Please see section 5.1 of the solicitation regarding eligibility.

Q2: What do you mean by “Science Team members” in this statement:

Specifically, this solicitation requests proposals for:

1) ABoVE ST members to conduct an initial set of research investigations focused on addressing the Overarching Science Question for ABoVE and ABoVE Tier 2 Science Questions (see Table 3.1 of the ACEP, reproduced below),

A2: NASA is soliciting for investigators or teams of investigators to propose to become members of the ABoVE Science Team and conduct ABoVE research. The ABoVE Science Team does not now exist, but will be created as NASA selects investigations under this solicitation for participation in ABoVE and as NASA’s partners in ABoVE identify their participating scientists. Here is some additional background on the Science Team:

NASA will establish an ABoVE Science Team (ST) composed of researchers conducting studies relevant to ABoVE’s goals and objectives. The ABoVE ST will bear the primary responsibility for the scientific content, direction, and priorities within ABoVE throughout its implementation and synthesis and integration phases. All investigators on NASA-selected investigations will become members of – and must demonstrate in their proposals how they will contribute in a sustained way to – the ABoVE Science Team (ST). The Principal Investigator will be responsible for his/her investigation’s participation in ST activities. NASA also expects to welcome Principal Investigators and/or lead scientists of projects that have entered into formal research partnerships with NASA on ABoVE as ABoVE ST members. In addition, NASA plans to establish a mechanism to offer affiliate membership on the ABoVE ST to the scientific leads of relevant research projects that may desire more informal relationships with ABoVE. The ABoVE ST will be led by the ABoVE Science Lead.

A field campaign is first and foremost a team endeavor. The purposes of uniting a field campaign science team are to 1) create an environment in which scientists are able to work together on a challenging scientific problem requiring multi-disciplinary expertise and 2) encourage scientific interchange, mutual support, and collaborations that yield products and findings of greater significance and value than those of a similar number of separate investigations. Therefore, ABoVE ST members and their co-investigators and

collaborators should expect to coordinate their research and activities through active participation in ABoVE ST meetings and workshops, cross-investigation collaboration, and synthesis and integration research.

Q3: According to the table on page A.4-26, and my rough calculations, there appears to be less than \$200K/year available per proposal at the high end (i.e. if only 15 proposals funded) and far less if up to 35 are funded in Year 1. The funding available for Year 2 onwards looks only slightly higher. Am I calculating this correctly?

A3: There is no funding cap for this solicitation (other than the obvious cap imposed by the \$3-4M total available per year). Collaborative studies are certainly expected. NASA has at least \$3M available in 2015 and some or all of the new awards can be incrementally funded (i.e., fund the first 12 mos. of the new award using a combination of FY2015 and FY2016 funds), so the situation is not quite as you estimated. If you apply the numbers of awards estimated to a total of \$4M, you see an average range of \$114-266K. If you also assume that the CCEO office will find some cost savings for logistics and infrastructure based on economies of scale, that researchers only need to propose a contribution to ABoVE and can count on other investigations and team members for complementary research, and that proposers using the ABoVE Science Cloud will need less computational funding, then these amounts per award may not seem so small. We do expect that some important research projects could come in for more than \$300K per year and that some scientists at partner organizations may propose significant cost sharing and request much less than \$100K per year (e.g., perhaps only for travel, supplies, or a post-doc).

Q4: Are a NASA partner or collaborators from other agencies required for the proposed research?

A4: While NASA is actively developing opportunities for collaborations with a number of organizations during ABoVE, a collaboration with a researcher from a NASA Center or another organization is not required for those submitting a proposal to this solicitation. In assessing the relevance of the proposed research, the solicitation provides the following guidelines with respect to collaborations:

In addition to the proposal's responsiveness to the goals, objectives and requirements described in this program element, the determination of a proposal's relevance shall take into account the following considerations:

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The quality and desirability of any collaborations with potential partner organizations, including the reasonableness and desirability of any cost-sharing

arrangements (while appropriate collaborations will be viewed favorably, a lack of collaborations will not be viewed unfavorably).

Q5: Is there any standard data format/tile grid that we should consider while proposing annual medium-resolution product delivery?

A5: One of the early responsibilities of the ABoVE Science Team and the Carbon Cycle and Ecosystems Office will be to identify and adopt standards for data formats, projections, and tile grids. These standards will be influenced by community standards of practice, by stakeholder needs, and by data products in development by collaborators, pre-ABoVE investigators, and related projects.

Q6: What would be the requirements that will be essential for data integration in the existing ABoVE Science Cloud system/data storage?

A6: Data storage in the ABoVE Science Cloud will be tailored to meet the needs of the proposing investigator. Investigators who follow ORNL DAAC best practices (http://daac.ornl.gov/PI/pi_info.shtml) will find their data are more easily and rapidly integrated into the ASC. See A.4 Terrestrial Ecology Solicitation Section 4.3.3 and http://above.nasa.gov/2014_NRA/data_management_plan.html for additional information.

Q7: Is it possible to use some of the visualization infrastructure to make proposed products better accessible/suitable on-line?

A7: Proposers should expect to receive technical support from the Carbon Cycle and Ecosystem Offices and the ABoVE Science Cloud to make their products more readily accessible both to the Science Team and beyond. The ABoVE Science Cloud will “provide a system by which results may be quickly and readily shared with the ABoVE research community” (Section 2.2 of the A.4 Terrestrial Ecology Solicitation). The ABoVE Science Cloud will include multiple options to create products (e.g. dedicated graphical processing nodes) and make products available online (e.g. simple ftp, RESTful services, THREDDS, OpenDAP). Currently the Carbon Cycle and Ecosystem Office has staged a number of publicly available data sets and information products in ArcGIS Online (see <https://above.maps.arcgis.com/home/index.html>). It is also expected that finalized data sets will be made available through the ORNL DAAC or other suitable data archive (see Section 2.4 of the A.4 Terrestrial Ecology Solicitation).

Q8: Is there already an existing archive of data that we may propose to use for calibration/validation of regional-wide Landsat-based models? Especially, if any high resolution data or aerial imagery are/will be available for the project?

A8: Proposers should specify any data they may need for calibration/validation of regional-wide Landsat-based models. Published or archived regional-wide data sets (e.g. Landsat, MODIS, aerial imagery where available) will be added to the ASC as needed based on the requirements of selected proposals.

The CCEO has established a cooperative agreement with the Polar Geospatial Center (PGC) to acquire high resolution satellite imagery from the DigitalGlobe suite of products including basic (Level 1B) imagery from Ikonos, Geoeye, Quickbird, and the WorldView satellites throughout the ABoVE study domain, and the circumpolar Arctic above 60 degrees north latitude. The high resolution imagery includes 1) the historical archive of available DigitalGlobe imagery relevant to ABoVE and 2) new tasking of imagery throughout the ABoVE domain and the circumpolar Arctic north of 60 degrees north latitude. New tasking orders to provide complete coverage across the entire study domain are ongoing and could take two to three years to be delivered to the ASC (due to seasonal differences in light availability, weather, cloud cover, and competition for satellites with other organizations).

All imagery will be stored in the ASC and provided at no cost to the ABoVE Science Team. Investigators are encouraged to make use of virtual machines configured to their individual specifications to analyze such imagery in the ASC. Moreover, the CCEO-PGC partnership will use the DigitalGlobe data set to create additional value-added products across the study domain. These products will be openly distributed and will include a ~0.5m panchromatic, orthorectified mosaic and preliminary elevation models (at 2-10 meter resolution) of the ABoVE study domain. These elevation models will not be corrected for vegetation and built structures and should be used as a first-pass product. Both the orthorectified mosaic and elevation models are expected to be developed over the next year and a half to three years as imagery is acquired and transferred to the ASC.