

Summary of the 02/05/2015 PACE-IOP teleconference.

Present: Lorraine R., Steve A., Lachlan M., Cecile R., Watson G., Stephane M., Jim S., Susan C., Xiaodong Z., Dariusz S., ZhongPing L., Maria T, Greg M., Derek G., Jeremy W.

Written in the order of the agenda.

1. News:

Jeremy W.: Update from project office. Project office is responsible for selection of launch vehicle and radiometer. Not responsible for polarimeter. All need to fit within a fixed budget (design to cost with a \$805M cap).

People responsible to PACE at HQ: Paula B, Hal Manning, and Betsy Edouards
People in project office at GSFC: Jeremy W. (project scientist, PS), Antonio M. (deputy PS for Ocean), Brian Cairns (deputy PS for Atmos) and Andre Dress (Project manager).

Several options for polarimeter: 1. None. 2. JPL. 3. Industry/academic. 4. Partnering space agency (CNES, SPEX-Dutch). Design concepts studies are taking place.

Currently we have a Science team with two thrusts, atmospheric correction and inversion of IOPs. A two-prong structure is expected in the 2017 re-competition but with one team focused on ocean & atmospheric science while the other will focus on cal/val.

The PACE project is currently in Pre-Phase A. By the end of 2015- Phase A.

HQ will release threshold requirements for OCI (radiometer) and polarimeter – requirements that MUST be met. Project office is in standby. Expected this month (March, 2015).

In a couple of weeks a full PACE-ST project presentation will take place.

Will ask for PACE-ST involvement in decision.

In particular right now need for information on:

1. How can polarimetry help ocean science?
2. What sensitivity analysis has been done to assess the answer to 1?

2. Update from PACE-ST AC group:

Lorraine R.: Energy is devoted primarily to polarimetry. In particular studies devoted to information content of data from different sensor. Need input from Jeremy on prioritization of work to answer question above.

3. Update from environmental monitoring workgroup (Steve A.):

Had telecom. Format is presentation by a member (this time Steve) with feedback from the group. Steve analyzed field data to assess sampling uncertainty of mean value as function of number of samples taken. Found that for backscattering 9-10 samples were sufficient in coastal areas by 20-30 in clear water. Directly related to volume sampled and generalizable to other technologies used.

Greg M. made the point that this uncertainty pertain to precision not accuracy as we know that there are uncertainties associated with sensors independent of volume sampled. Emmanuel B. mentioned that there are currently a series of NASA sponsored workshops and protocols being written directly addressing these issues. He will make sure the PACE-ST gets to review these documents.

4. Update from Database subgroup (Cecile R.):

Advertisement was released to the community. Next teleconference Mar. 10. FTP site has excel spreadsheet with data that may be available.

Steve A.: Need to make sure that subgroups collecting data for their work share them with Cecile.

5. Update from Applications subgroup (Maria T.):

No news. Developed white paper for website. Current website is of limited use. Need to work on new/improved web site more similar to other missions (GeoCape, Hyspiri).

Need to add mission objectives, science and applications.

6. Update from synthetic dataset subgroup (Zhongping L.): working on expanding the IOCCG dataset. More wavelengths and dynamic range.

7. Inversion subgroup (Jeremy W.): no news.

Advances on goals set in face-to-face meeting:

Dariusz S. has uploaded his plankton dataset. 2 spreadsheets, 18 species, 350-750nm. Includes absorption and attenuation cross-sections, chl_a/cell. Directory includes a readme file and the Stramski et al., 2001, Applied Optics paper that describes the dataset. Together with the dataset of Whitmire et al. 2010, that has already been updated this takes care of item 5: [Assemble IOP data sets on cultures and NAP \(Stramski, Whitmire \(Boss\)\)](#).

Dariusz S. caution us WRT filterpad data collected in the UV. There is a large (possibly a factor of 2) uncertainty that has not been quantified in the literature. Uncertainty for mineral particles is likely smaller than for phytoplankton. Collin R. pointed out that it is important to separate the uncertainty to that associated with the sample vs. that due to the filters themselves.

This is an obvious GAP in our knowledge. Given that the filter-pad method is the one most used for UV absorption by phytoplankton getting handle on its uncertainty and/or improving the method is necessary.

Next teleconference: 4/9 (Emmanuel B. is out of town 4/2).