

# What are the goals of PACE?

What science questions address PACE goals?

How would PACE address the science questions?  
Instrument requirements  
Mission requirements

Strawman instrument  
Strawman mission

Estimated cost

Reports and  
white papers:  
ACE  
IOCCG  
NRC  
NASA/  
TM2011-2158  
83

Some points:

1- A PACE radiometer with multispectral to hyperspectral capabilities in the UV-Vis and SWIR would address all OBB goals and some atmospheric research goals. See list of goals by discipline.

2- The science definition team will commission engineering studies to evaluate cost of adding spectral coverage beyond the the SWIR bands. Based on the results of these studies, the SDT will evaluate a menu of options. This is the menu of options proposed by S. Platnick and H.

Maring. **ACTIONS:**

1- Formalize menu of options and review by the SDT.-  
Platnik/Maring by next telecon

2- Formalize mechanism to request studies. Carlos/Platnick -by next telecon.

3- Request explanation about the assumptions for \$750M budget.  
Carlos/Platnick by next telecon.

3. The SDT will evaluate ocean radiometry requirements for atmospheric corrections. The starting point was the group discussion on 11/17/2011.

**ACTION** : A group of team members will evaluate and report results at the next SDT meeting. Need two volunteers to lead this and coordinate within their disciplines.

## **What are the Ocean Goals of PACE? (v2)**

**1-Extend specific heritage Earth system data records of ocean color radiometry (Rrs, Chl) over multiple decadal scales.**

**2 – Observe new and refine existing global products of ocean ecology, biology, and chemistry required to quantify carbon cycle and ecosystem structure, composition, and function, and their changes over time.**

**3 – Improve our understanding of the interactions within ocean ecosystems and between the oceans, land and atmosphere.**

**Action: Post for further comment from SDT and community by next telecon. Carlos/Platnick**

# What are the Atmosphere Goals of PACE? (v1)

## 1-Continue heritage aerosol observations

### a. MODIS//OMI aerosol retrievals over land and oceans

OES bands for aerosols – TOMS A1, 1.20, 1.38, 1.64/1.55, 2.1/2.25

### b. Continue MISR/PARASOL - aerosol type (size, shape & SSA)

Multiangle & polarization\*

Determine plume heights

Multiangle (polarization)\*

## 2- Continue heritage cloud top properties

### a. MODIS/OMI” clouds retrievals over land and oceans

OES bands for clouds – 820/940(for H<sub>2</sub>Ov?), 1.20, 1.38, 1.64/1.55, 2.1 & 2.25, 3.7\*\*

### b. PARASOL/MODIS cloud top particle size

\*alternative path-cost analysis

### c. Cloud top heights MISR/PARASOL

Multiangle or A-band or polarization\*

## ACTIONS:

1. Which observations can 3MI provide? (Brian Cairns, Jerome Reidi)

2. Need a statement on synergies between ocean atmospheric research beyond the obvious atmospheric correction issue. By next telecon. (Jacek Chowdhary, Dave Siegel)

3. Investigating cost of adding a 3.7 um band. TBD (Del Castillo/Platnick)

4. Investigate the OCO<sub>3</sub> A-band potential/co-manifest – NASA HQ (Bontempi/Maring)

??

## Aerosols Processes to be studied

- Aerosol – Ecosystem Interactions
- DARF
- Radiative forcing of absorbing aerosols over clouds/  
snow/ice
- Semi-direct effect

**What are the science questions?**

**How would PACE address the science questions?**

**What are the instrument requirements?**

**What are the mission requirements?**

Carlos' comment The PACE SDT should take advantage of years of experience and many recent technical documents and be as specific as possible in setting requirements for instrumentation and mission. We can do this because: 1- we can, and 2- we are not writing the AO. There is an important argument against being overly prescriptive because this can stifle innovation. However, the SDT report is not a procurement document, is a guidance document. Our report will inform NASA and prospective applicants about what we want and why we want it, but will not tell them how to deliver it. Clearly, some of our requirements may not fit some possible designs. I have no problems with this.

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## ACTIONS:

1-SDT review the table of content and submit comments to the chairs by next telecon. The table of contents will remain flexible, but will stiffen by the next meeting.

2- Start writing content. Need volunteers.

# **Telconference Timetable**

## **Regular Telecon**

**Thursday 09:00 PST**

**12:00 EST**

**18:00 (France)**

## **First Telecon**

**Thursday Dec. 1<sup>st</sup>**

**Sub-group telecons to be arranged after  
consultation between Carlos & Steve**

**Reminder that relevant background  
documents need to be sent to Paula &  
posted to the Web**