

# CLARREO International Partnering Support

(SSAI Task A-014 F-005)

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Summary Report – 25 March 2015

Work was begun on the first two tasks of the Work Statement:

- 1) Gathering inputs from the MoES and ISRO on their measurement requirements
- 2) Facilitating the exchange of publically available information between NASA and the two agencies on the CLARREO mission

The efforts undertaken included:

- Establishing contact with the ISRO Technical Liaison in Washington, DC (Mr. Mangesh Sannala) who began his term recently. Briefed him on:
  - the past efforts regarding CLARREO dialog with ISRO HQ that I had begun in June 2014, the discussions
  - discussions regarding CLARREO in the 3<sup>rd</sup> Annual Climate Change Workshop organized by Ministry of Earth Sciences (Govt. of India) in Hyderabad, India to which Dr. Wielicki and I were invited to attend
  - discussions with Mr. Raghava Murthy (Director, Earth Observations, ISRO HQ)
- Periodic telephone conversations with Mr. Murthy and Mr. Sannala regarding the steps towards formal dialog between ISRO HQ and NASA SMD/EO
- Participating in monthly CLARREO Science Team telecons
- Visit to ISRO HQ to meet with Mr. Raghava Murthy and ISRO Scientific Secretary
- Visit to Space Applications Center to meet with Director, Deputy Director and Senior Members of the Aerosol Research Group regarding information exchange on CLARREO and ISRO's aerosol space based measurement efforts
- Visit Indian Institute of Tropical Meteorology, Pune to meet with the newly appointed Director and to meet with ISRO Chairman (Mr. A.S. Kiran Kumar)

## **Plan for Outreach Activities**

Work has begun on Task 5 (Outreach) of the Work Statement:

Outreach is a key component of the proposed effort to generate public, government and business support for undertaking and supporting collaborative CLARREO climate observations in India. With strong public and government support, a timely implementation of a collaborative CLARREO mission will be attainable much sooner than the projected mission implementation timeline. Outreach regarding climate change issue, regional impacts and mitigation options is contingent upon an informed public and most critically, an educated workforce which is currently very limited in the Indian subcontinent. As a result, the primary goal of the CLARREO Outreach and Education efforts will focus on “capacity building” to insure and effectively educate a team of young Indian Climate scientists.

To date the following critical needs have been identified:

- Capacity building strategies to support Climate Research
  - o Opportunities for pre-college educators
  - o Public scientific presentation venues
  
- Exploration of effective strategies for training of young Climate Scientists
  - o Semester long courses through Indian Institute of Science and Technology
  - o Focused training workshops for young scientists to include:
    - Technological tools
    - Current Research and data sources
    - Contemporary topics and future trends
  - o Internships and exchange opportunities for advanced scientific research and technology training experiences

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