Developing a Space Based Sensor to Map and Monitor Coral Reefs

Planetary Coral Reef Foundation (PCRF)
Workshop Agenda
Santa Fe, New Mexico
April 18-21, 2002

Thursday: April 18, 2002

Evening: Arrivals

Friday: April 19, 2002

8:00 – 8:45 Breakfast

9:00 – 9:15 ***Welcome and Overview*** - Gaie Alling

9:15 – 10:45 ***Session 1: Science Requirements***
Session Chair: Dr. Phil Dustan

- Temporal, spectral, and spatial requirements for both mapping coral reefs and monitoring their health from space
- What do we need to detect and why?
- What kind of maps do we make: for whom, and for what purposes?
- SeaWiF's as a model, Dale Kiefer

10:45 – 11:00 Break

11:00 – 12:30 Discussion

12:30 – 13:30 Lunch

13:30 – 15:15 ***Session 2: Development of the Algorithms***
Session Chair: Dr. Dan Lubin

- What data processing algorithms are needed?
- What measurement accuracies are needed to make them work?
- What signal-to-noise ratios do we require from the data?

15:15 – 15:30 Break

15:30 – 17:30 Discussion

17:30 – 18:15 Optional tour of the Laboratory Biosphere

18:30 Cocktails

19:00 Dinner

Saturday: April 20, 2002

8:00 – 8:45 Breakfast

09:00 – 10:45 ***Session 3: Instrument Requirements & Design***
Session Chair: John Doty

- What is the hardware/power/bandwidth required and why?
- What on-board calibration is required?
- Spatial resolution vs. sensitivity

10:45 – 11:00 Break

11:00 – 12:30 ***Session 4: Ground Truth and Complimentary Missions***
Session Chair: Phil Dustan

- How does this mission tie in to in situ measurements by PCRF/College of Charleston and others as well as other space-based missions?
- Ground truth lessons from Karong Kapota - *RV Heraclitus*
- Strategies for ground truthing the system
- Radiometric vs. GIS solutions
- Other work: Remote sensing, Gov't monitoring programs, community-based programs

12.30 – 13:30 Lunch

13:30 – 15:15 ***Session 4: Dissemination of the Data***
Session Chair: Dr. Dale Kiefer

- Data products definition
- Tool development
- User interfaces for professional and citizen use
- SeaWiFs and Gene Feldman as a model

15:15 – 15:30 Break

15:30 – 16:45 ***Session 5: What is Needed for the Proposal and When?***
Session Chair: Bob Goeke

- Current status of spacecraft procurement
- Timeline for writing the proposal

16:45 – 18:00 ***Near Term Plans and Wrap-up***: Gaie Alling and John Racanelli

18:30 Cocktails

19:00 Dinner

Sunday: April 21, 2002

8:00 – 8:45 Breakfast

Wrap-ups and departures

9:00 – 12:30 ***Session 6: Coral Reef Satellite Mission Management & Fundraising***
Participants: Bob, Cynthia, John Racanelli and Gaie

12:30 – 13:30 Lunch

Participants:

John Allen, Chairman, Planetary Coral Reef Foundation (PCRF)
Abigail Alling, President & CEO, PCRF
Ed Boyle, Professor, Massachusetts Institute of Technology (MIT)
Bill Dempster, Engineer, PCRF
John Doty, Research Staff, MIT Center for Space Research
Phil Dustan, Professor, College of Charleston, South Carolina
Robert Goeke, Chief Engineer, MIT Center for Space Research
Dale Kiefer, Professor, Department of Biological Sciences, University of Southern California
Cynthia Lazaroff, Director & Executive Vice-President, PCRF
Dan Lubin, Associate Research Physicist, California Space Institute and Center for Atmospheric Sciences, Scripps Institution of Oceanography
John Racanelli, PCRF Satellite Project Managing Director
Qamar Schuyler, Research Associate, PCRF, & Masters Student with Phil Dustan, College of Charleston
Knut Stamnes, Professor, Stevens Institute of Technology
Mark Van Thillo, Director & C.O.O., PCRF