

2013 HypsIRI Products Symposium



Theme: “HypsIRI Products for Societal Benefit Areas (SBAs) and Aquatic Studies”

Dates: May 29 – 30 (Wed-Thu) 2013

Location: NASA/GSFC, Building 34, Conference Room W150, Breakout Rooms W120A & W120B

First Day - May 29, 2013

8:00am Registration/ Posters Up/ Coffee

8:30am-9:30am Opening [*Chair Elizabeth Middleton NASA/GSFC, Room W150, 15 min each*]

- Current status of HypsIRI mission [*Woody Turner, NASA HQ co-Program Scientist*]
- The NASA Applied Sciences Program and the US Group on Earth Observations SBAs: Earth Sciences Serving Society [*Lawrence Friedl, NASA HQ Associate Director for Applied Sciences*]
- Aircraft campaign – status update, sites, flight plans [*Woody Turner & Ian McCubbin, NASA/JPL*]
- Past symposia and Goals and agenda of the current symposium [*Elizabeth Middleton*]

9:30am -10:00am Coffee Break

10:00am – 12:00pm Ecological Forecasting for Terrestrial and Aquatic Ecosystems [*Chair Susan Ustin, UC Davis; 5 presentations, 20 min each, Room W150*]

- Improving ecological forecasting with hyperspectral data: A data assimilation system for the Community Land Model [*Andrew Fox, NEON*]
- Ecological forecasting in arid and semi-arid ecosystems [*Andrew French, USDA*]
- Plant functional types [*Susan Ustin, UCD*]
- HypsIRI ecosystem products and ensuring long-term records/continuity [*Fred Huemmrich, UMBC*]
- Determining leaf dry matter content using the normalized dry matter index and its possible application for estimating fuel moisture content [*Raymond Hunt, USDA*]
- Data fusion techniques for mapping daily water use at field scales [*Martha Anderson, USDA*]
- EO-1 spectral time series for the study of ecosystem function [*Petya Campbell, UMBC*]

12:00pm – 1:00pm Lunch (12:20-1:00 Aquatic Data Products Breakout Presentations)

- Angular dependence on sand density of the spectral BRDF [*B. Philpot, C. Bachmann, & A. Abelev*]
- Photosynthetic condition of giant Kelp (*Macrocystis pyrifera*) in the Santa Barbara Channel [*Thomas Bell*]

1:00pm-3:00pm (W150) Coastal and Inland Aquatic Data Products/Topical Areas [*Chair Kevin Turpie, UMBC; W150*]

- Coral reef products for HypsIRI [*Eric Hochberg*]
- Use of HypsIRI Observations to get Phytoplankton Functional Groups [*John R. Moisan, NASA/WFF*]
- Improved Absorption and Taxonomic Composition Estimates With HypsIRI [*Tiffany A. Moisan, John R. Moisan and Rachel Steinhardt; NASA/WFF*]
- Using hyperspectral airborne PRISM imagery to map vulnerable coastal salt marsh and seagrass habitats [*Heidi Dierssen*]
- Aquatic Studies with HypsIRI Preparatory Airborne Campaign [*Raphe Kudela, UCSC; Liane Guild, NASA/ARC & Sherry Palacio, UCSC; possibly remote*]

3:00pm – 3:30pm Coffee Break

3:30pm-3:50pm HypsIRI Aircraft campaign: Science goals, project overviews and data sharing [*Rob Green & Simon Hook, NASA/JPL*]

3:50pm-4:00pm Discussion Sessions Goals [*Elizabeth Middleton & Petya Campbell*]

4:00pm-5:30pm (W120A and W120B) Parallel Discussions [*90 min*]

- Coastal/Inland Aquatic Products: issues, products & requirements [*Turpie, duration up to 2hrs*]
- Ecological forecasting: issues, products & requirements [*Susan Ustin*]

5:30pm Summary/Adjourn

6:30pm Happy Hour & Dinner at Ruby Tuesdays

Second Day - May 30, 2013

8:00am Registration/ Posters Up/ Coffee

8:30am-10:00am (W150) Environmental and Human Impacts including Disasters, Natural Hazards, Water Management and Public Health [*Chair Jeff Luvall, NASA MSFC*]

- Traceability matrix, HypsIRI products in support of SBA requirements [*Jeff Luvall*]
- Ecologic niche models for neglected tropical diseases (NTD) in data-scarce landscapes based on environmental suitability and poverty-related risk factors at the census tract level used for operational community-based intervention programs [*John B. Malone, Louisiana State University*]
- Spectral analysis of biomass burning potassium emission signatures from current airborne to next generation hyperspectral missions [*Stefania Amici, M.J. Wooster, M. F. Buongiorno; INGV, Italy*]
- *Discussion*

10:00am-10:30am Coffee Break

10:30am -12:00pm (W150) Automated, Rapid Processing for Low Latency Data Products [*Chair, NASA GSFC/Dan Mandl*]

- Big data for rapid scientific collaboration [*Bob Grossman, OCCP Matsu*]
- An open GeoSocial API to meet societal needs [*Pat Cappelaere, Vightel Co.*]
- IPM/Low latency data users: requirements overview [*Dan Mandl, NASA/GSFC*]
- Rapid geo-referencing [*Jacqueline Lemoigne-Stewa, NASA/GSFC*]
- Atmospheric Correction on the cloud [*Vuong Ly, NASA/GSFC*]
- *Discussion*

12:00pm – 1:00pm Lunch

DEMO: ENVI Services Engine for Web-Accessible HSI Applications [*Thomas Harris*]

1:00pm – 2:20pm (W150)

- Current and future hyperspectral instruments [*Michael Abrams, NASA/JPL*]
- Role of imaging spectrometer data for model-based cross-calibration of imaging sensors [*Kurt Thome*]
- HypsIRI Spectral Library: concept, status and requirements [*Simon Hook, NASA/JPL*]
- Volcanic CO₂ measurements from Hyperspectral data [*Claudia Spinetti, Maria F. Boungiorno*]

2:20pm-4:00pm HypsIRI products in support of Societal Benefit Areas - Interactive Session

Reports from Discussion Sessions [*session chairs, 20 min each*]

- Coastal and Inland Aquatic Data Products Break-Out Report [*Kevin Turpie*]
- Ecological Forecasting for Terrestrial and Aquatic Ecosystems, Discussion Report [*Susan Ustin*]

Open Discussion on topics below [*Elizabeth Middleton, Rob Green, Simon Hook & Woody Turner*]

- HypsIRI products to collaborate with NEON and other missions
- Impacts on higher level products of placing the VSWIR and TIR instruments on separate platforms

4:00pm-4:30pm Coffee Break

4:30pm-5:30pm (W150) Summary, make & review report outline [*Elizabeth Middleton & Petya Campbell*]

5:30pm Adjourn