Mission Concept Status

Level 1 Measurement Requirements: Vetted by community and stable

Payload: VSWIR Imaging Spectrometer, TIR multi-spectral radiometer, and Intelligent Payload Module (IPM)

Full Mission original option: Mature

Separate Small Mission option: Pegasus-based solutions identified and studied

*SLI Support: HyspIRI VSWIR evolving to 30m at 185km swath

ECOSTRESS TIR: Selected EVI for ISS

VSWIR Dyson Option: Technology/Science ISS Demonstration

Summary: The HyspIRI mission measurement requirements and baseline instruments approach are mature and stable with good heritage, low risk and modest cost. Now exploring a range of instrument and data options to save cost and provide near-term products, per guidance letter.
Workshop Objectives

• Review Advances of Past Year
  – Comprehensive Report on past 6 years of HyspIRI pre-formulation activities
  – Smallsat studies for VSWIR and TIR
  – Preparatory Airborne Mission Science and L2 Product Development
  – Other Science (e.g., Dimensions of Biodiversity, COMEX, HASG, Snow/Ice)
  – ECOSTRESS
  – VSWIR Spectrometer on Space Station Study
  – Intelligent Payload Module
  – Results from AVIRIS-ng, HyTES, PRISM

• Plan for 2015

• Consider preparations for next Decadal Survey
HyspIRI Airborne Preparatory Mission
3 Seasonal Flights Over 5 Boxes/Soda Straw in 2013 and 2014
To Simulate HyspIRI Satellite Imagery

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1. Continue to build broad community understanding and support through workshops and data symposia

2. Complete the science white paper specifying the value of the individual science measurements and the potential science return of individual instruments on separate platforms, including the ISS, if appropriate

3. Use the planned airborne activities and resulting data to generate HyspIRI-like Level 2 data products (e.g., large-area 60m data sets providing surface reflectance, surface temperature and surface emissivity) to define the instrument capabilities and explore high-volume data management issues related to the HyspIRI VSWIR and TIR instruments

4. Carry out instrument mission trade studies, including smallsat and ISS opportunities, to provide lower cost and more adaptable instrument and/or mission approaches

5. Explore options to ensure the HyspIRI VSWIR and TIR instruments meet the Sustainable Land Imaging measurement requirement, including compatibility with heritage data product resolution

6. Engage potential international and domestic partners in opportunities to lower the cost of a potential mission while maintaining Level 1 mission requirements

7. Support the Earth Systematic Missions (ESM) Systems Engineering Working Group (SEWG) studies on TRL definition and instrument cost studies

8. Complete comprehensive development report of the HyspIRI mission study activities
The Next Decadal Survey
Thank You