Carnegie-Stanford Hawaii Remote Sensing Program Goals

- Understand the full spectral properties of ecosystems, including the contributions of chemistry, structure, soils, and species.

- Develop conceptual and numerical models for ecological remote sensing with attention to biophysical and biogeochemical processes at leaf to ecosystem scales.

- Develop and apply methods for the detection of invasive species and their effects on the biogeochemical processes that regulate ecosystem functioning.

- Uncover new applications for tactical ecosystem observations for conservation and land management.

- Facilitate a new era of ecological remote sensing theories, methods, and technologies.
A globally relevant microcosm
with well-studied:
1) Topography
2) Soils
3) Species
4) Climate
5) Disturbance

Hawaii is an ideal outdoor laboratory for ecological remote sensing studies
Hawaii: An Outdoor Ecological Remote Sensing Laboratory

Rain Forests

Savannas, Shrublands

Deserts

Grasslands
Hawaii program measurements at multiple scales

elemental-cellular-leaf-canopy-landscape
Planning the Hawaii AVIRIS Campaign 2005

Months of coordination to compile the initial targeting plan
January-February field work from Kauai to Maui to Hawaii
Flights continue, AVIRIS-05 based in Kona, Hawaii