

# E6

## A remote sensing platform for airborne measurements

### Introduction:

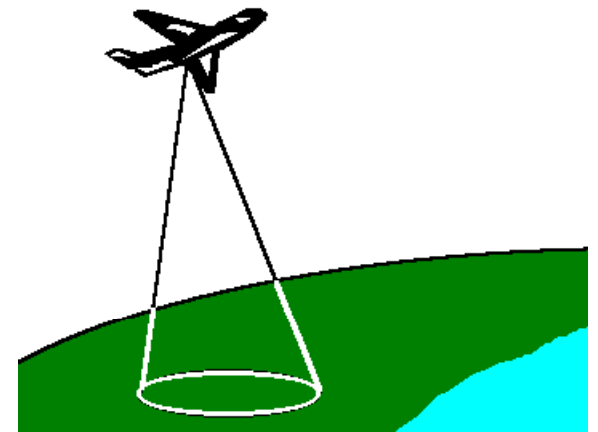
Remote sensing is a key technique to determine the state of the atmosphere, land surface, and oceans. Through radiation measurements in the visible and infrared wavelengths variables such as earth surface temperature, evaporation, and land surface type can be determined. Science satellite missions provide global remote sensing coverage, but at low frequency (days-weeks) and low resolution (10s of meters - kms). Remote sensing platforms in airplanes can add high-resolution information over selected areas.

### Goal:

Develop an automated remote sensing system for multispectral cameras to be flown on a Cessna 150.



picture courtesy of NASA



Picture courtesy of Center for remote sensing, imaging, sensing and processing

## **Approach:**

- Determine components needed to provide accurate georeferencing of images (e.g. GPS, tiltmeter, etc.)
- Develop and document plans for a low cost, miniature size (for model airplane) system
- Build a low-cost system for a Cessna 150 airplane consisting of: Digital camera, temperature, pressure, relative humidity, datalogger, georeferencing equipment

Relevant Articles (not exclusive):

[http://maeresearch.ucsd.edu/kleissl/171B/MAE171B\\_final\\_report\\_E6.pdf](http://maeresearch.ucsd.edu/kleissl/171B/MAE171B_final_report_E6.pdf),

[http://maeresearch.ucsd.edu/kleissl/171B/CSTARS\\_UCDAVIS\\_UAV\\_Poster.pdf](http://maeresearch.ucsd.edu/kleissl/171B/CSTARS_UCDAVIS_UAV_Poster.pdf)