WARNING!

The following presentation contains material that has no scientific or intellectual content. The presentation is based on actual events and identification of any of the characters portrayed with members of the audience is purely intentional.

Secrets from the "Bat Cave"

ISLSCP to EO-1 Field Campaigns

FIFE	1987/89	Manhattan, KS USA
Kurex	1988/91	Kursk USSR/Russia
BOREAS	1994	NW Canada
EO-1 IFC	2000/01	Argentina/Australia

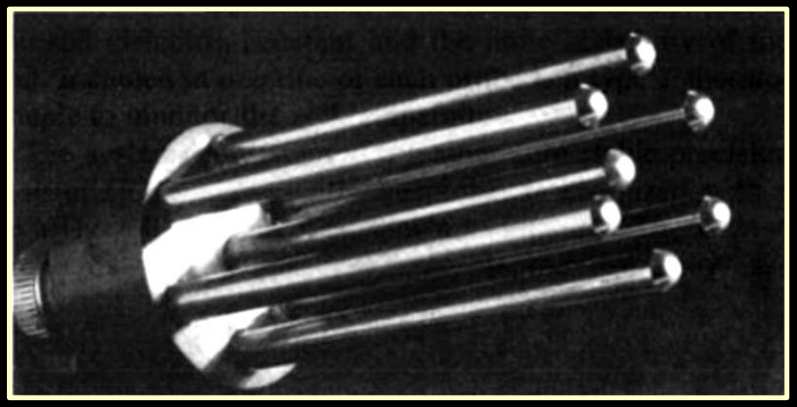
The Konza Prairie near Manhattan, KS

My treble (not Strebel) role in FIFE

- Project Scientist for the FIS
  - FIS is a triple nested acronym
  - Protect P. & F. from D.S. (and visa versa)
  - Protect Carmen of the Konza from FIS predators *(FIS = Fierce Indigenous Snakes?)*
- MAS Instrument Scientist during FIFE
  - Operated MAS on C130 (still nauseous)
  - P. convinced Mike King to transfer MAS to C130 from ER2 and allow **me** to operate it
- Soil Moisture Measurement PI
  - Volumetric moisture from dielectric constant

Из Москвы в Курск

In-situ measurement of soil moisture at the KUREX-91 Streletskaya steppe sites



Radio frequency (RF) impedance probe

Не проблема actually means “No solution”!
For example, I ask about the transportation to our field site being late, Vladimir says **Не проблема** which means that I should forget about it.

Road Warrior’s “Communications” Kit

BOREAS Level-1B MAS Imagery:

At-Sensor Radiance, Relative X and Y Coordinates

1994-07-21

Data Set Overview/Description

MAS images, along with the other remotely sensed data, were collected to provide spatially extensive information over the primary study areas. This information includes detailed land cover and biophysical parameter maps such as fPAR (fraction of Photosynthetically Active Radiation) and LAI (Leaf Area Index).

Data set bounding box.

Lat: 56.25N to 53.42N,

***Long**: 106.32W to 97.23W*

Preparing for NASA ER-2 Flight

index).


809

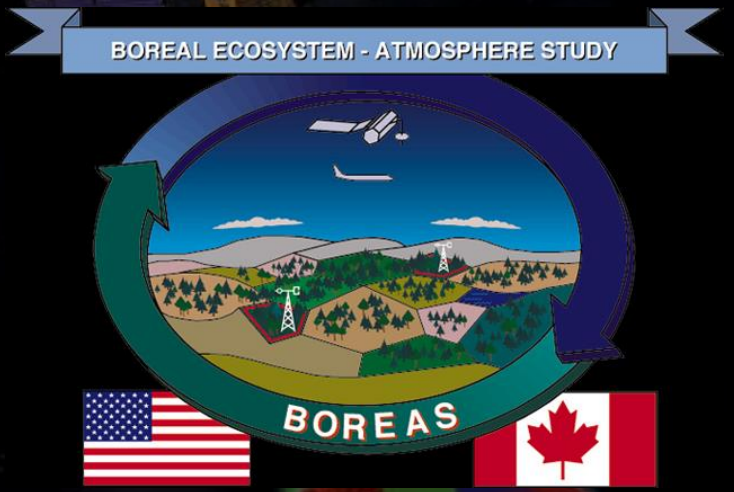

ER-2 Mobile Chase
11


809
NASA

How FIFE & BOREAS Changed My World

Lessons Learned from

Kurex



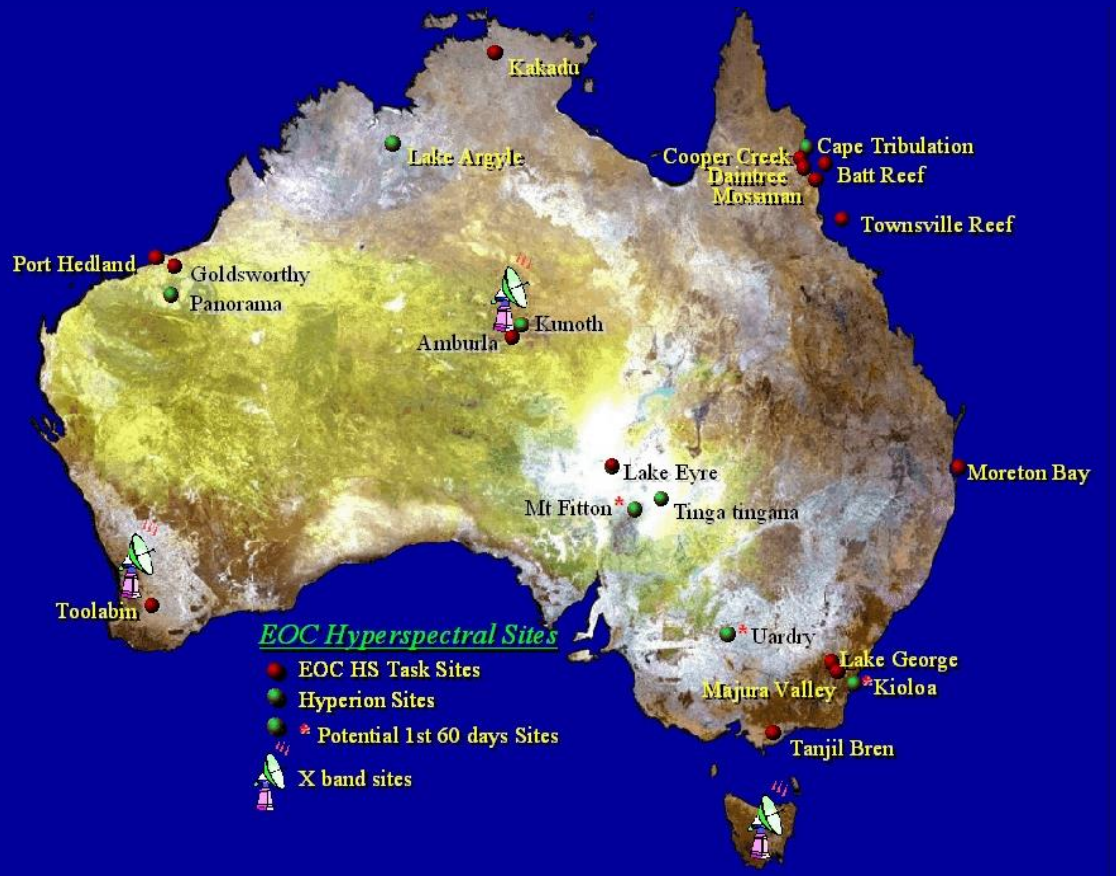
Contributed to the success of EO-1 Accelerated Mission Southern Hemisphere Field Campaigns

EO-1 Launch Nov 21, 2000

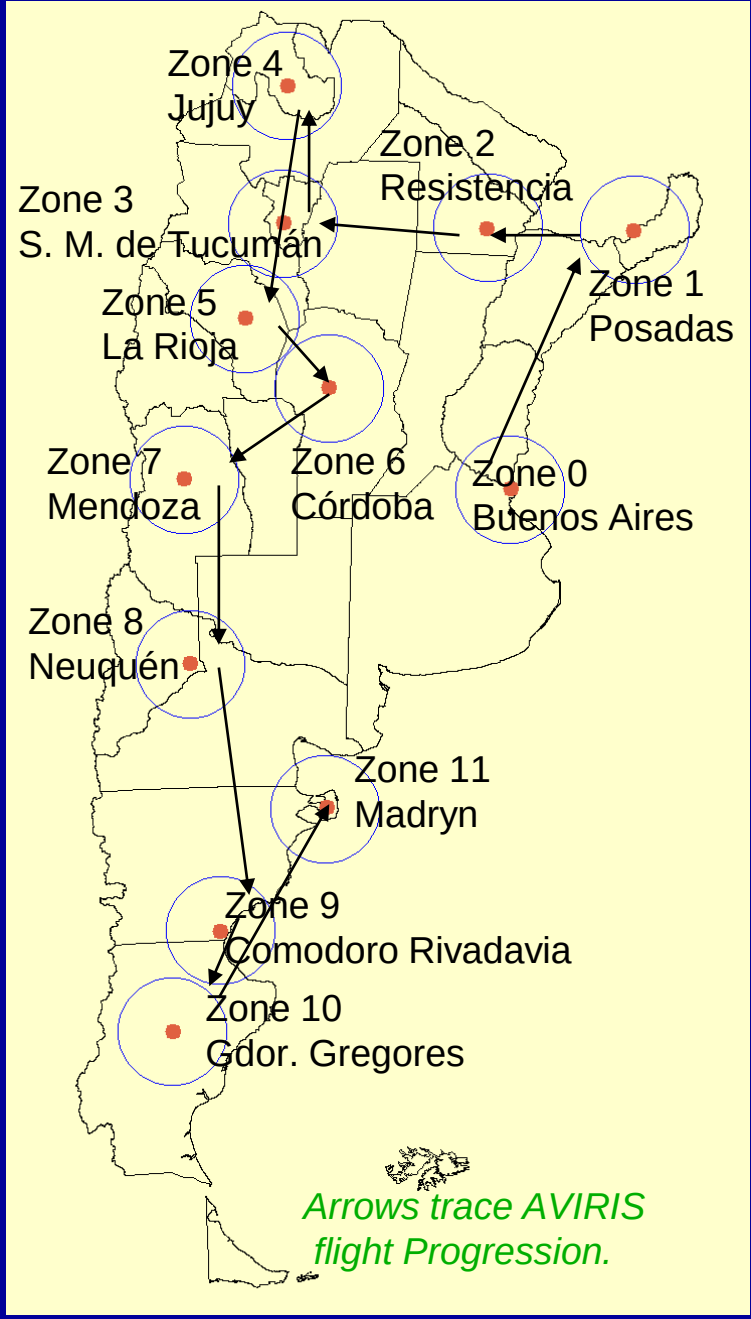
What separates the men from the boys is the size of their toys!

Season's Greetings,
Steve Ungar

EO-1 Accelerated Mission Southern Hemisphere Field Campaigns *January – February 2001*



Australian Test Sites



Argentine/AVIRIS Sites


Kakadu
Lake Argyle
Cooper Creek
Cape Tribulation
Daintree
Batt Reef
Mossman
Townsville Reef
Port Hedland
Goldsworthy
Panorama
Kumoth
Amburla
Lake Eyre
Moreton Bay
Mt Fitton*
Tinga tingana
Toolabin
EOC Hyperspectral Sites
EOC HS Task Sites
Hyperion Sites
* Potential 1st 60 days Sites
X band sites
*Uardry
Lake George
Majura Valley
*Kioloa
Tanjil Bren

Transportation

Calibration

Gratification

Investigator Research Topics

Southern Hemisphere Campaign: ARGENTINA – AUSTRALIA – ELSEWHERE

Research Topic	Principal Investigator
Forest Logging in Amazonia	Asner, G. P., University of Colorado
Desertification	Asner, G. P., University of Colorado
Forest Composition & Function	Martin, M., University of New Hampshire
Inter-Sensor Calibration	Huete, A. R., University of Arizona, Tucson
Arid Vegetation Abundance	Mustard, J. F., Brown University.
Tropical Forest Burn Scars	Liew, S. C., National University of Singapore
Forest Composition/Structure	Townsend, P. A., University of Maryland
Land Cover/Land Use	White, W. A., Crawford, M., University of Texas at Austin
Sustainable Forest Development	Goodenough, D. G., Natural Resources Canada
Monitoring Forest & Rangeland	Gong, P., University of California, Berkeley
Non-Native Plant Species	McGwire, K. Desert Research Institute

Investigator Research Topics (continued)

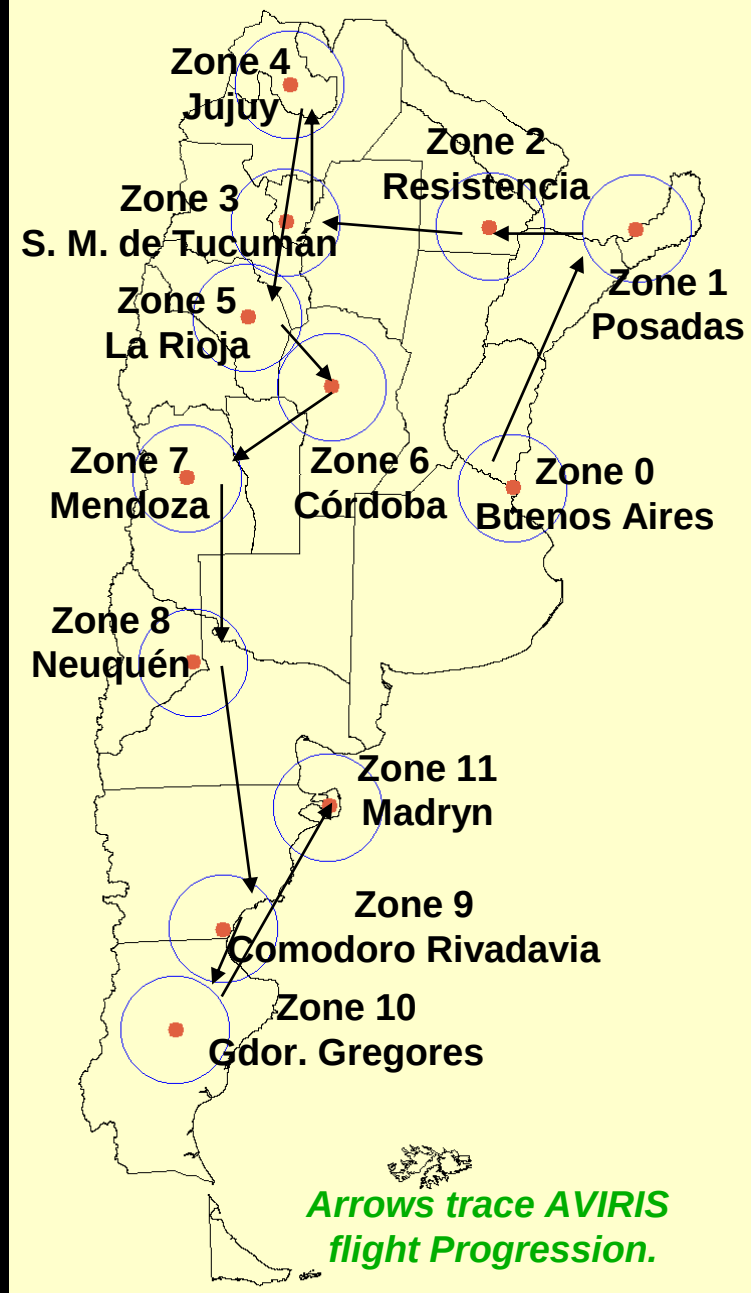
Research Topic	Principal Investigator
Ecological Applications in Yellowstone National Park	Boardman, J. W., AIG, Colorado
Commercial Applications	Cassady, P. E., Boeing, Washington
Radiometric and Spatial Evaluation of ALI and Hyperion	*Biggar, S. F., University of Arizona (Kurt Thome)*
Atmospheric Correction	Carlson, B. E., NASA /GISS, New York
Atmospheric Correction and Sparse Vegetation Mapping	Goetz, A. F. H., University of Colorado
Australian Hyperspectral Calibration and Validation Sites	Jupp, D. L. B., CSRIO, Australia
Integrated Assessment of EO-1 and Landsat Instrument Suites	Meyer, D. J., EDC, South Dakota
Canopy Temperature Estimation	Smith, J. A., NASA GSFC, Maryland
Lunar Calibration	Kieffer, H., USGS, Flagstaff, AZ

Investigator Research Topics (continued)

Research Topic	Principal Investigator
Invasive Plants: Chinese Tallow	Ramsey III, E. W., USGS, Denver
Invasive Leafy Spurge	Root, R., USGS
Agricultural Monitoring	Liang, S., USDA, Maryland
Inter-Satellite Comparison	Moran, M. S. USDA, Tucson, Arizona.
Fire Hazard Assessment	Roberts, D. A., University of California, Santa Barbara
Geologic Validation of Hyperion	Kruse, F. A., AIG, Boulder, Colorado
Volcanic Debris flow Hazards	Crowley, J. K., USGS, Reno, Nevada
Analysis of Hot Spots	Flynn, L., University of Hawaii *(R. Wright)*
Environmental Monitoring of Coastal/Inland Water in Japan	Matsunaga, T., Tokyo Institute of Technology.
Oceanography, Pollution and Urban Mapping	Abrams, M. J., JPL, California; R. Bianchi and L. Alberotanza, NRC, Italy.
Glaciological Applications	Bindschadler, R., NASA/GSFC, Maryland

EO-1 Accelerated Mission Southern Hemisphere Field Campaigns *January – February 2001*

AVIRIS Twin Otter Aircraft

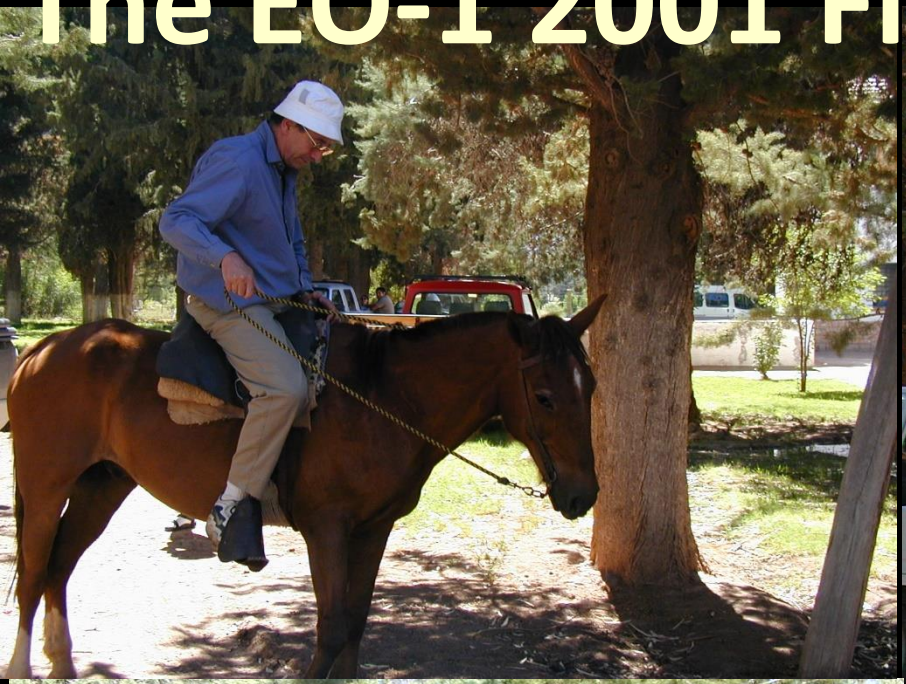


Argentine/AVIRIS Sites

The EO-1 2001 Field Campaign

AVIRIS Overflights

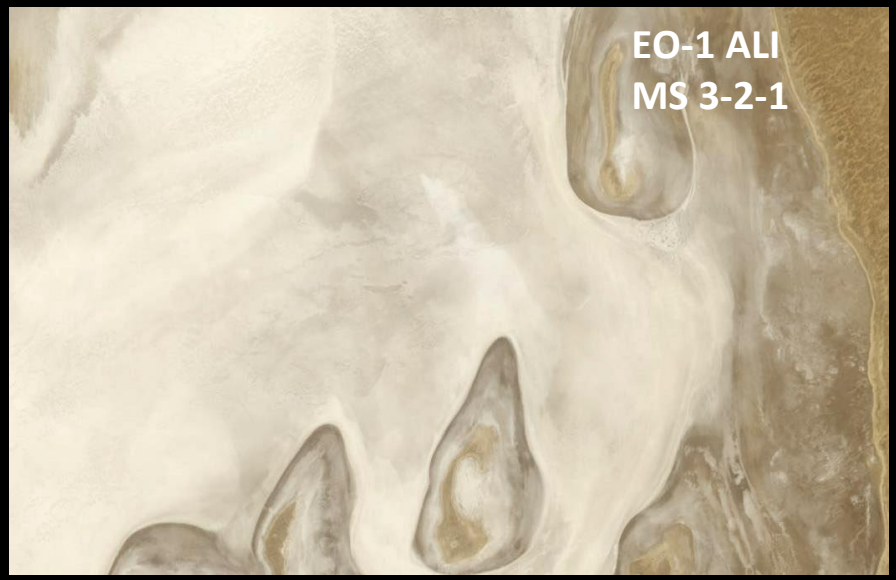
The EO-1 2001 Field Campaign

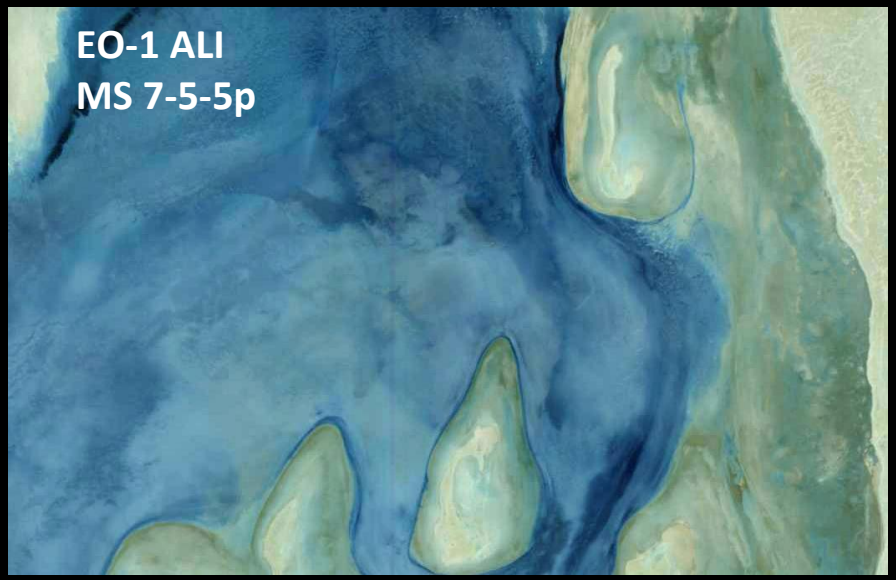


Radiometric Calibration
Ground Truth Referencing

- Lake Frome, Au ground truth collected by CSIRO.
- Barreal Blanco and Arizaro Argentina ground truth collected by U. of Arizona and U. of CO
- Ivanpah Playa ground truth collected by U. of Arizona
- AVIRIS underflights

Ground Truth Site: Lake Frome, Au





The EO-1 2001 Field Campaign

Central Australia

The EO-1 2002 Field Campaign

Salar de Arizaro - 11 Dec. 2002

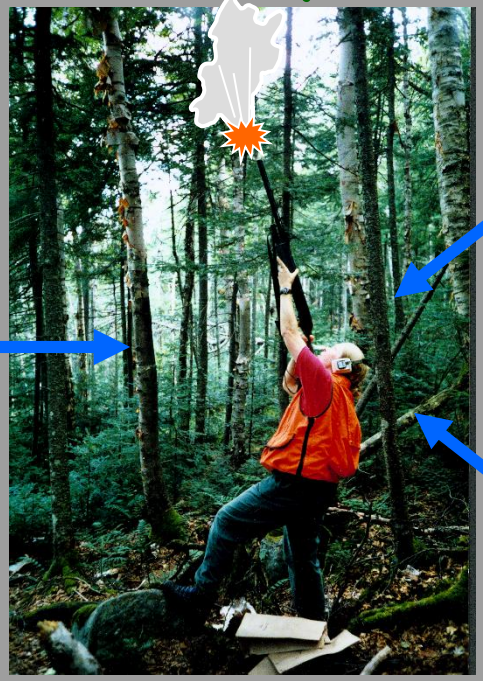

Instrument deployment coincident with
EO-1 ALI and Landsat7 ETM+ overpasses

Venice lagoon “field” site

EVEOSD Vegetation Sampling

Field Data Collection

Leaf & Canopy Chemistry

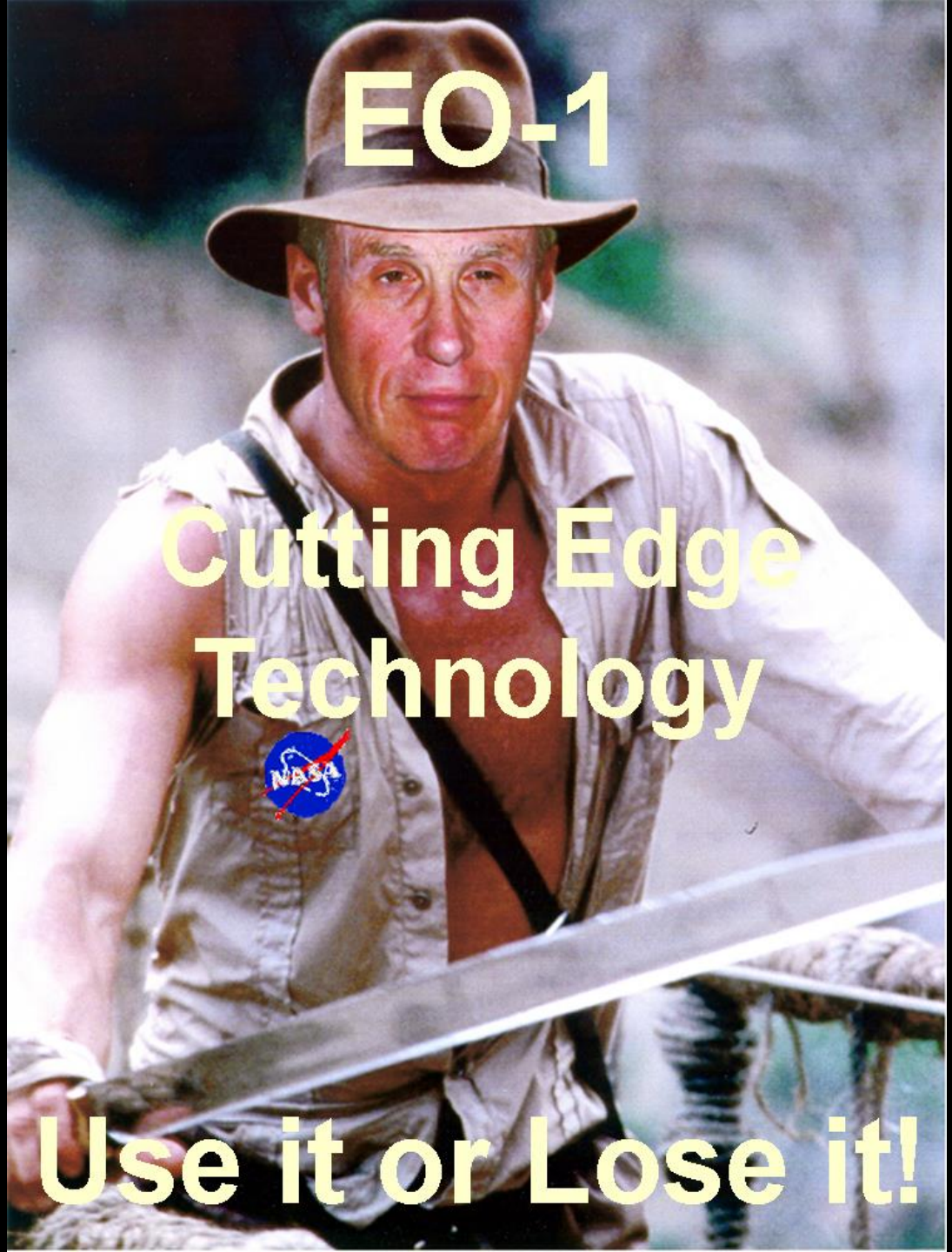


Canopy Structure

Soil & Water Chemistry

Forest Growth

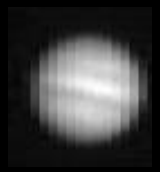

Your Text Goes Here


EO-1
Cutting Edge Technology
Use it or Lose it!

Out of This World!

(Views with the EO-1 ALI Pan band)

Full Moon



Jupiter

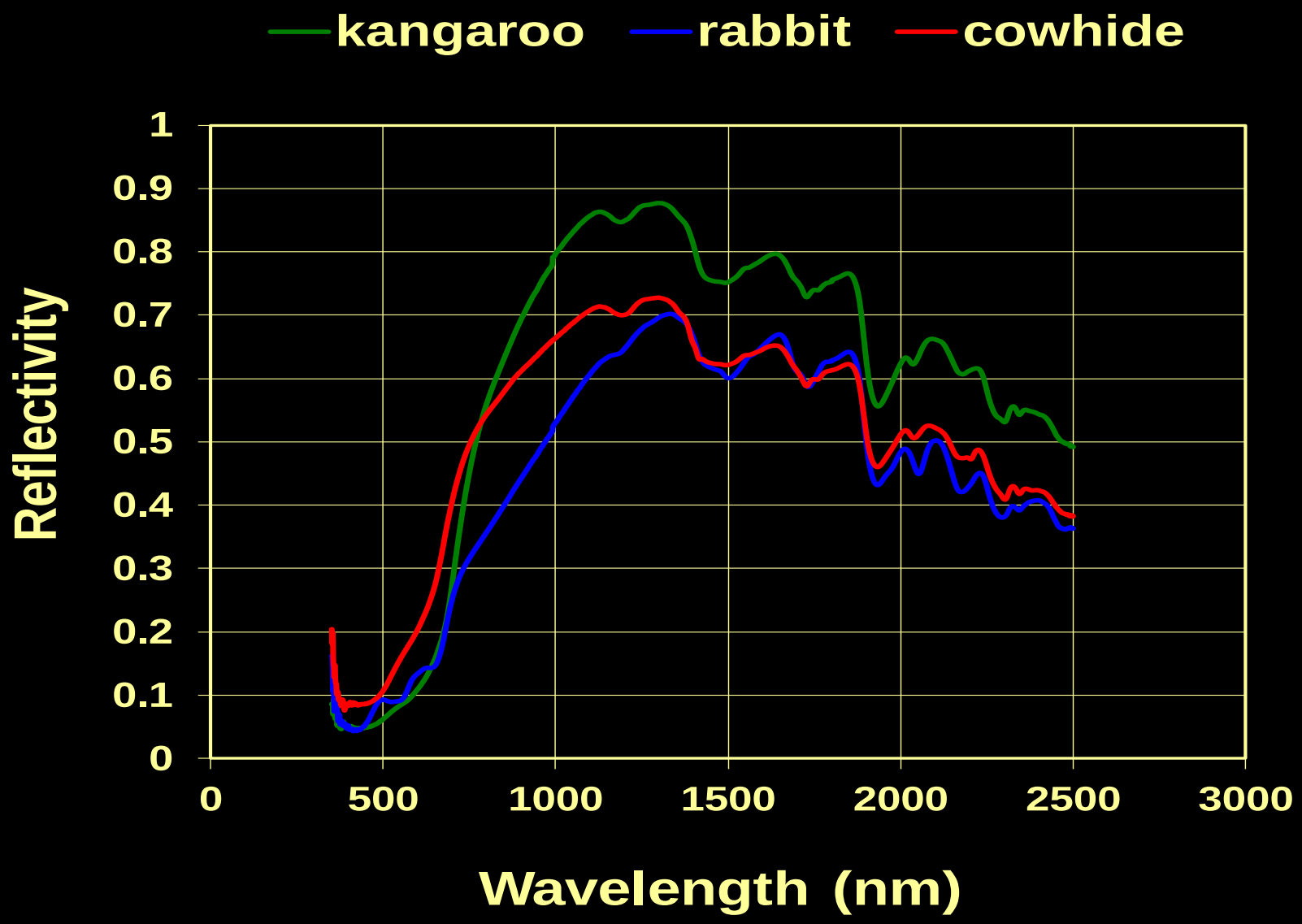
Venus

Half Moon

Saturn

Why does Steve wear a hat?

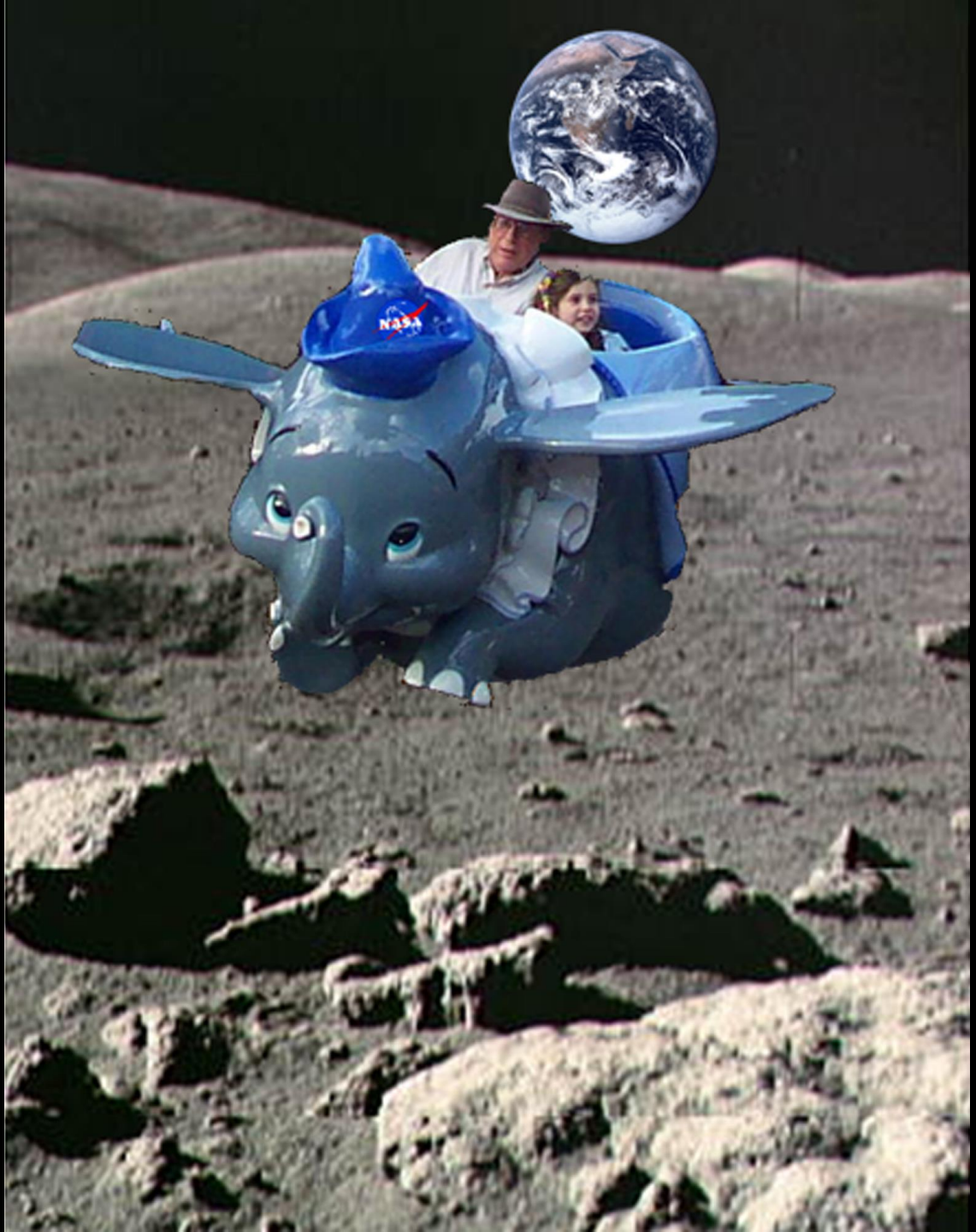
Spectral Calibration Standards



Farewell

To the

Bat Cave



The Journey Continues