

SUMMARY, LTER/NASA PLANS FOR A COORDINATED NETWORK FOR REGIONAL MEASUREMENT OF TERRESTRIAL VEGETATION ATTRIBUTES IN CONJUNCTION WITH EOS/MODIS LAND TEAM REMOTE SENSING

21 SEPT 1993 ESTES PARK ALL SCIENTIST MEETING

Scientific Protocol for project:

The objective of this project is development of regional ecosystem analysis capabilities for terrestrial vegetation of mutual interest to LTER and NASA scientists. Specifically, we propose the production of spatial datasets of 3 fundamental ecosystem variables, landcover, leaf area index (LAI) and aboveground net primary production (ANPP) for regional scale landscapes representative of each participating LTER site.

Each site must describe an accurately georeferenced 10x10km² area, that does not necessarily need to be entirely within the LTER site, but represents that regional landscape. We plan a nominal cell resolution of 30m (TM pixel), with 1km pixel aggregates being a basic test resolution.

We expect critical science objectives to be defined in two areas; 1) What methodology and sampling logic is optimum for sampling these ecosystem attributes over large scales, and 2) What remote sensing/modeling procedures best discriminate the observed regional array of 3 ecosystem attributes.

Each interested site must specify their plan for producing the 3 datalayers, including schedule, person-power requirements and budget for a 3 year project. Responses due to Warren Cohen by 1 December. A joint proposal submission to NASA and NSF is planned, during Winter 1994. We plan summer 1995 as the primary field season.

LTER/NASA-EOS

I- Sun Photometer Collaboration

Previous workshops identified Sun Photometers as essential for atmospheric correction of satellite data. An LTER supplemental proposal funded in part by NASA will implement an initial network of photometers. The photometers are automated, with data relayed real-time back to Goddard for processing for further distribution and archive.

A small workshop will be run in November for training of participants in initial implementation of the network. The workshop will also be used to design a system for direct interface between Goddard and LTER computer systems for exchange/archive of data, as well as development of a NASA/LTER proposal for full development of the atmospheric correction activity, including satellite data access etc.

Year 1 schedule for photometer use.

**Full year installation at SEV and NTL
Summer installation at MCM and PAL
Summer installation at AND and BNZ**

**Installation at HFR or VCR if 5th instrument can be purchased.
Potential for use of NASA instrument for individual campaigns**

**LTER - NASA/EOS COLLABORATION WORKSHOP
REPORT FROM SUB-GROUP ON
"OTHER COLLABORATION POSSIBILITIES/ ISSUES"**

Discussions focused on capabilities and limitations of current satellite and airborne sensors and what would be appropriate for specific ecological investigations

One central issue emerged:

Communication of remote sensing capabilities and limitations, available instruments and data sets, and near-future opportunities needs improvement!

- many ecologists do not know what exists or what may be possible with remote sensing technology and are reluctant to make a huge investment of time and energy to find out
- opportunities to exploit NASA projects or campaigns and to propose research have been missed

Suggestions of actions to enhance communications were proposed

- formal or informal programs to facilitate working visits of LTER scientists to NASA centers of remote sensing expertise and the reverse (visits might vary from two weeks to one year)
- special efforts to get LTER scientists on NASA mailing lists and to inform them of NASA graduate student and post-doctoral fellowship programs (*Wickland to take action to get LTER collaboration written into post-doctoral opportunities advertised*)
- training materials or review articles to inform scientists about remote sensing and the capabilities of existing sensors as well as near-term future opportunities (summary tables on instrument capabilities, review articles, reference lists, a special information packet for LTERs, a regular newsletter, . . .)
- a series of working/training workshops involving NASA and LTER remote sensing specialists