

# **Long-Term Ecological Research (LTER)**

**Fifth Annual LTER Mini-symposium**

**NSF, 3 March 2005**

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# Why long-term studies?

- **Low rates of change typify many ecological processes**
- **Rare and episodic events are important but hard or impossible to detect using short-term observations**
- **Tremendous interannual variability in many ecological processes**
- **Major value added by long-term context for shorter-term experiments and observations**



# **LTER Status, Feb '05:**

- **25<sup>th</sup> Anniversary (1980-2005)**
- **26 field sites**
- **Network Office**
- **>1200 scientists**
- **\$22M/yr investment (NSF)**
- **Increasingly diverse**
- **International**



# LTFR core research areas:

- Pattern and control of primary production
- Spatial and temporal distribution of representative populations (biodiversity)
- Pattern and control of organic matter accumulation and decomposition in surface layers/sediments
- Patterns of inorganic inputs and movements through soils, groundwater, surface waters
- Patterns and frequency of disturbances



# Recent Emphases:

- **Maintaining strong site-based, core science**
- **CI (NIS, wireless, sensors, communications, software)\***
- **Synthesis (site, cross-site)\***
- **Network-level science\***
- **Integrating research, education and outreach\***
- **International (ILTER, since 1993)\***



\* Key functions of LTER Network Office

# The future for LTER?

*“Preparing the LTER network for collaborative science, education and synthesis”*

*[a 2-yr planning effort, Sept. 04]*

- **Network-level science, technology and training**
- **Alternative governance, planning and evaluation structures**
- **Integrating education and outreach with research**



# Building on Strengths:

- *well-established* research sites
- considerable research *infrastructure* in place
- *history* of conducting integrated ecological research
- array of well-documented, *long-term data sets*
- network *coordination* and cross-site potential, nationally and internationally
- *open-access* data policy facilitates synthesis
- wealth of *IM expertise*
- common *core areas* and scientific questions
- well-established *partnerships*



# Inter-Agency Opportunities?

- **Development of databases, standards, networks**
- **Coordinating environmental education**
- **Covering key gaps/under-representation  
(urban, agriculture, wild)**
- **Linking with application and management**
- **Involving a greater social science component**
- **Become involved in the planning process**
- **Building new and enhancing partnerships...**







Press Release 04-096

## NSF Awards \$10 Million in Grants to Ocean Sites for Long-Term Ecological Research



A still photo from an NSF-funded large-format film about exploration and new scientific research ...

[Credit and Larger Version](#)

July 26, 2004

ARLINGTON, Va.—Coral reefs and coastal upwelling ecosystems are the subjects of two new Long-Term Ecological Research (LTER) sites awarded funding by the National Science Foundation (NSF). With the addition of the Moorea Coral Reef LTER Site and the California Current Ecosystem LTER Site, there are now 26 NSF-funded sites in the LTER network. The two newest sites will receive approximately \$820,000 for the next six years, for a total of about \$ 5 million each.

"These two new sites significantly augment the LTER