

Synthesis: Understanding Social – Ecological Systems Through a Network of Sites

Debra Peters

Jornada Basin LTER

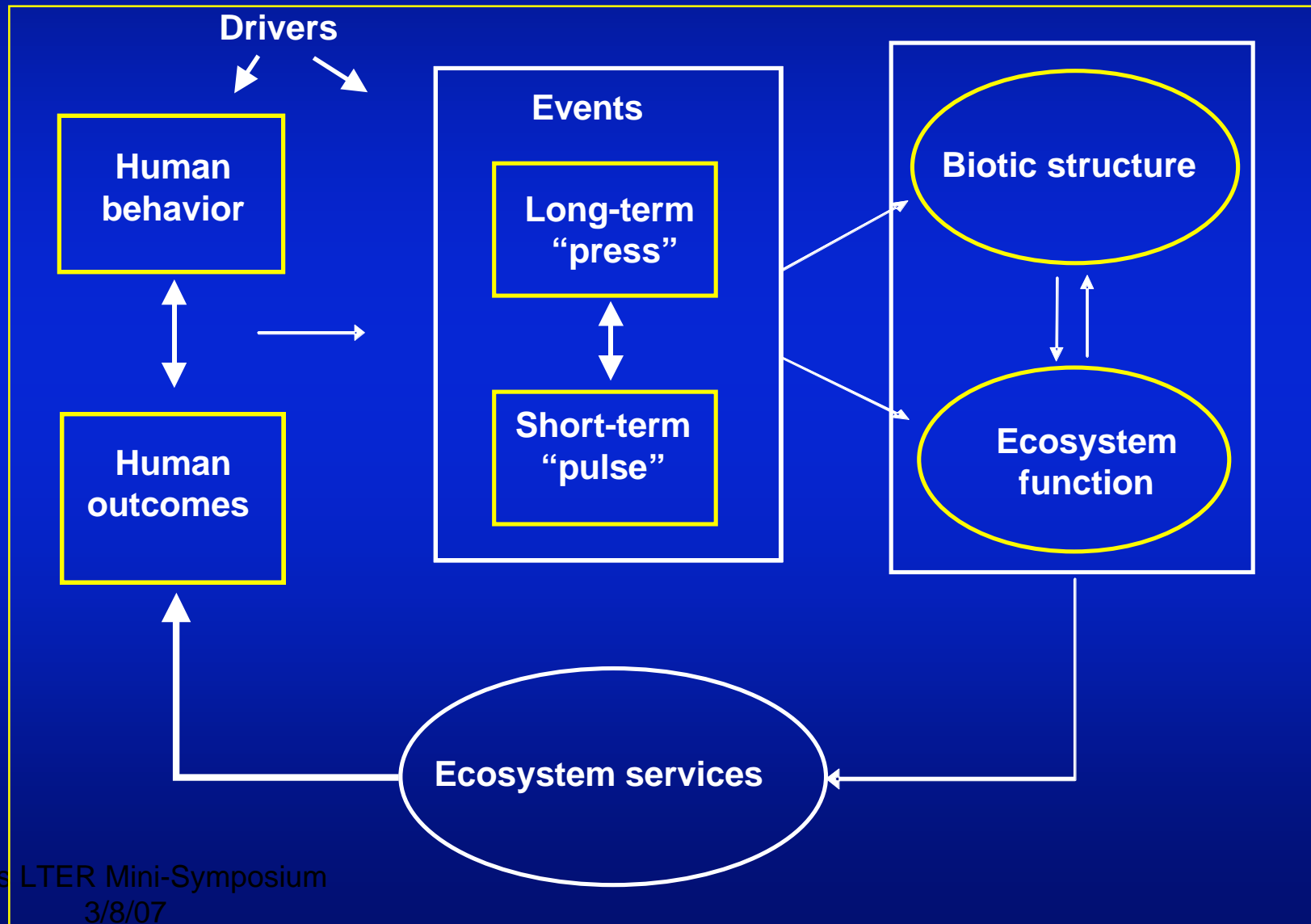


DIVERSE SYSTEMS ...

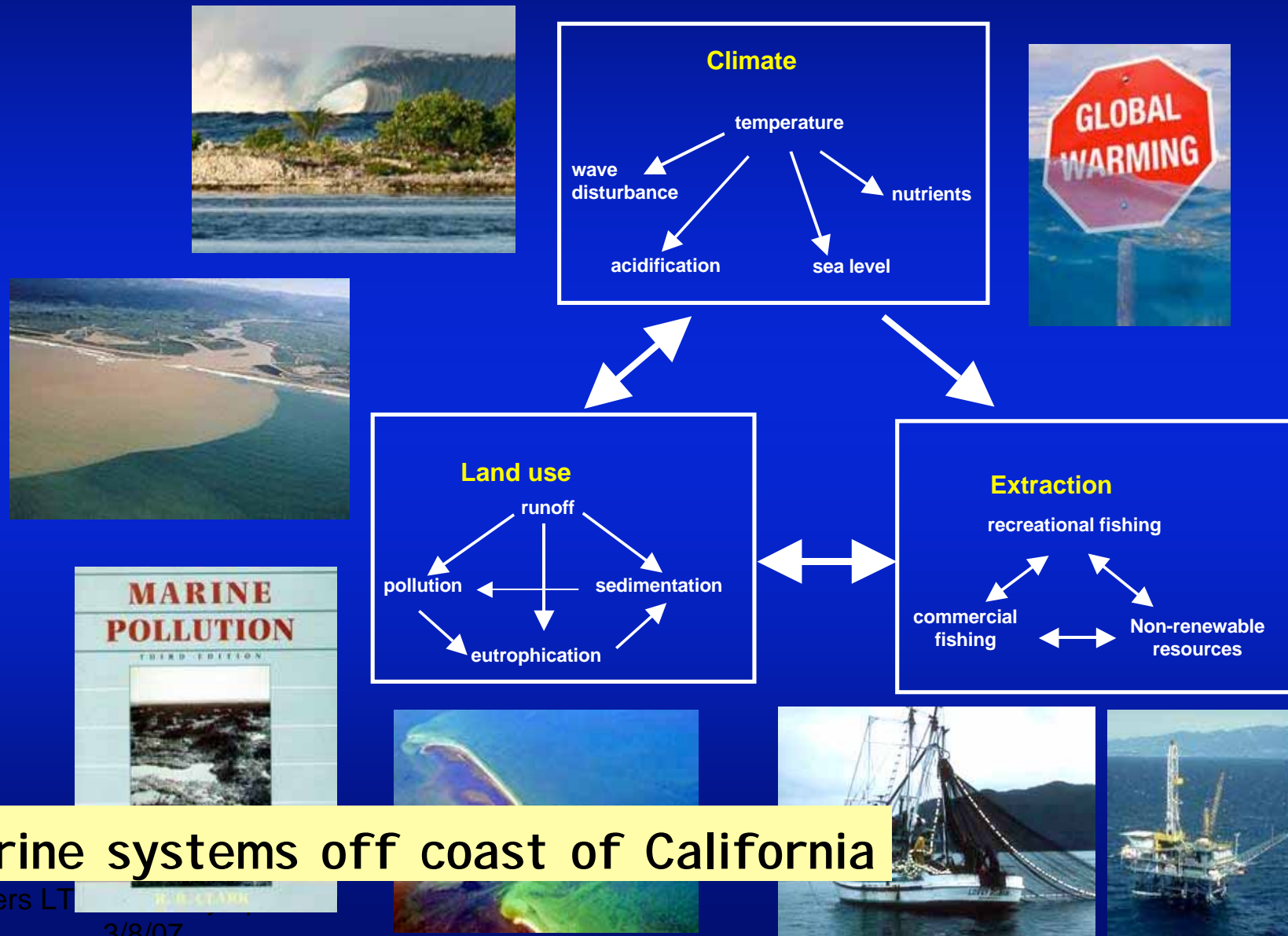


A COMMON GOAL

Human systems \longleftrightarrow **Natural systems**



RESEARCH QUESTIONS ARE SYSTEM SPECIFIC, YET NATIONALLY RELEVANT

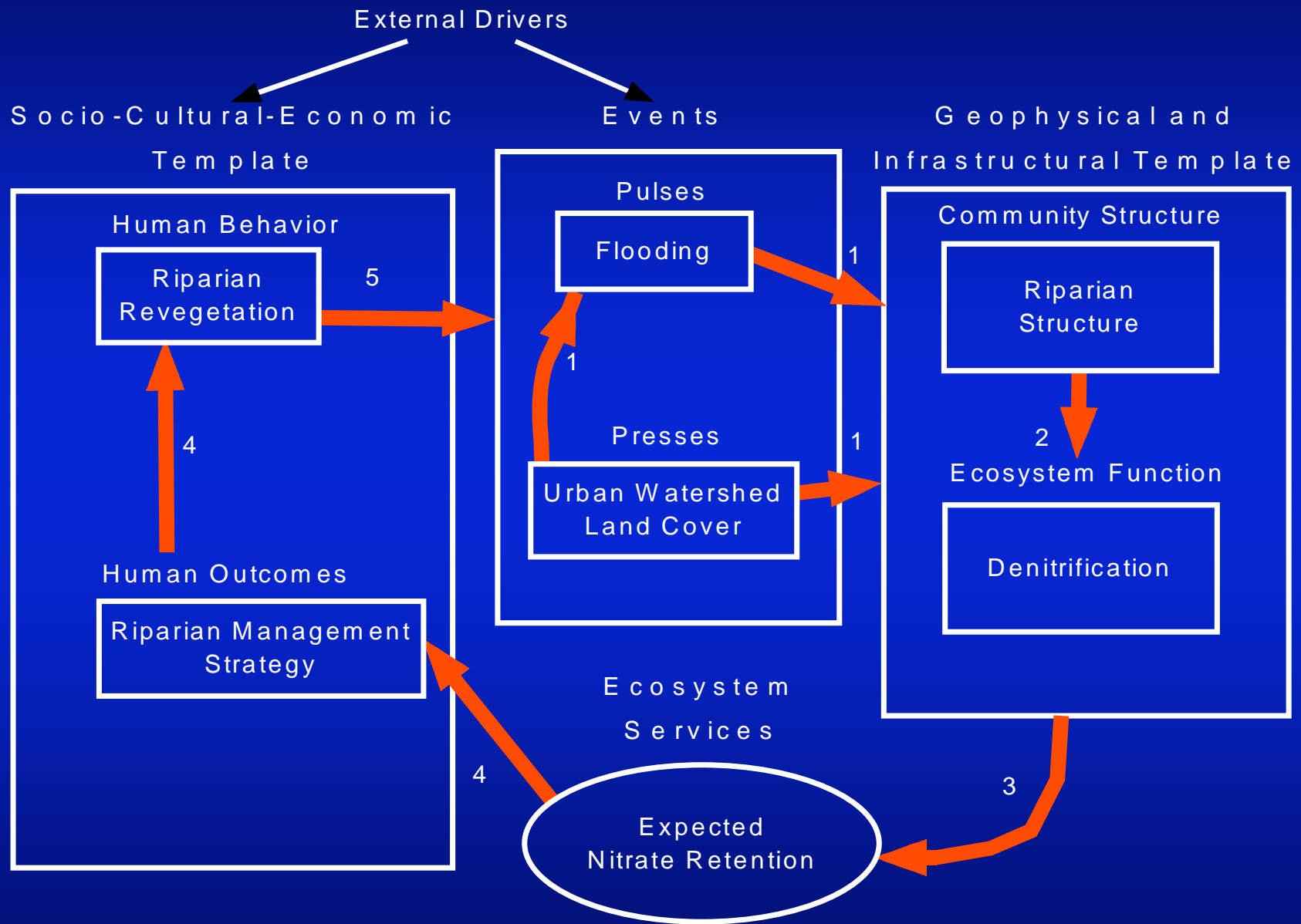


Marine systems off coast of California

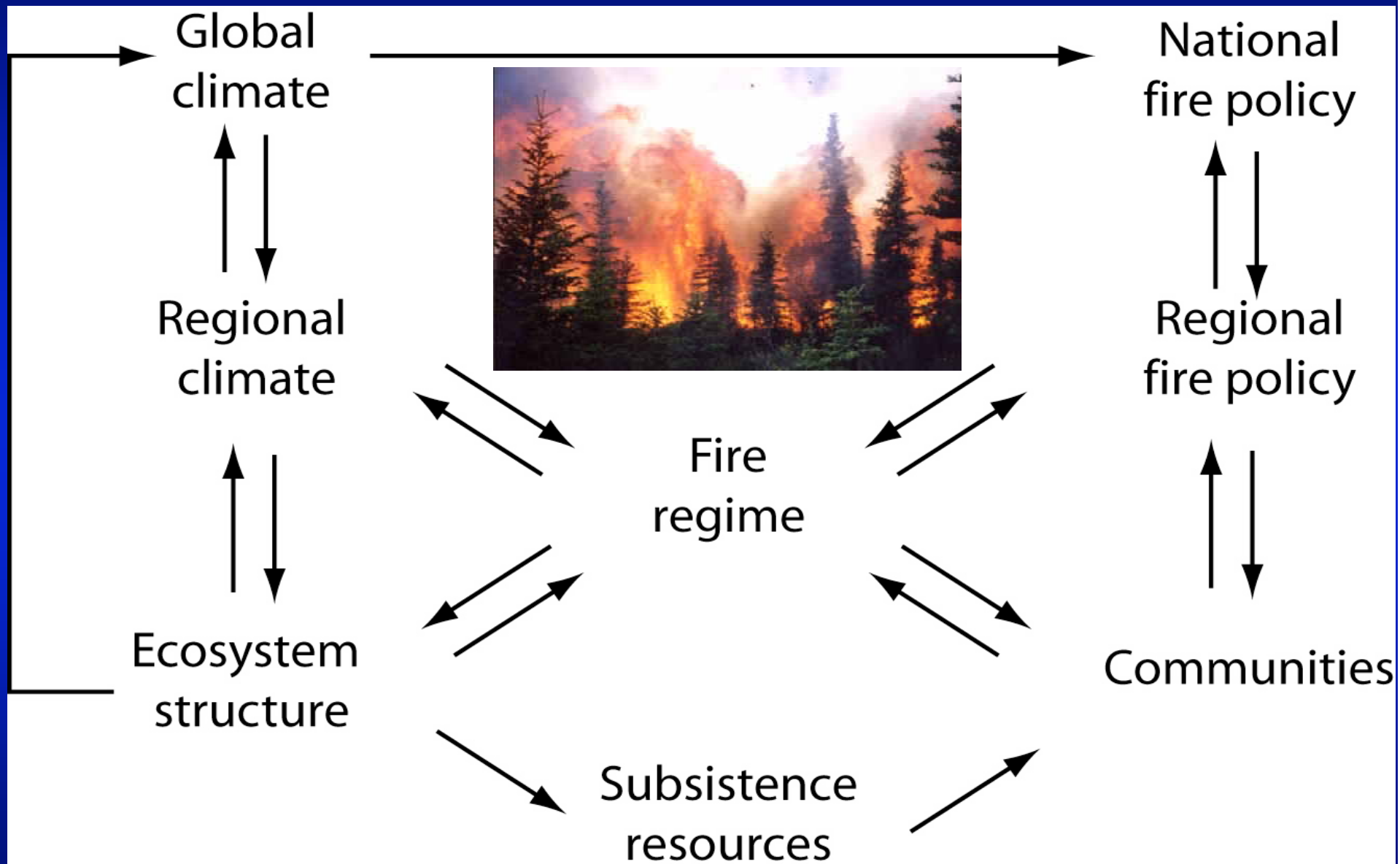
Peters LT

3/8/07

Chesapeake Bay

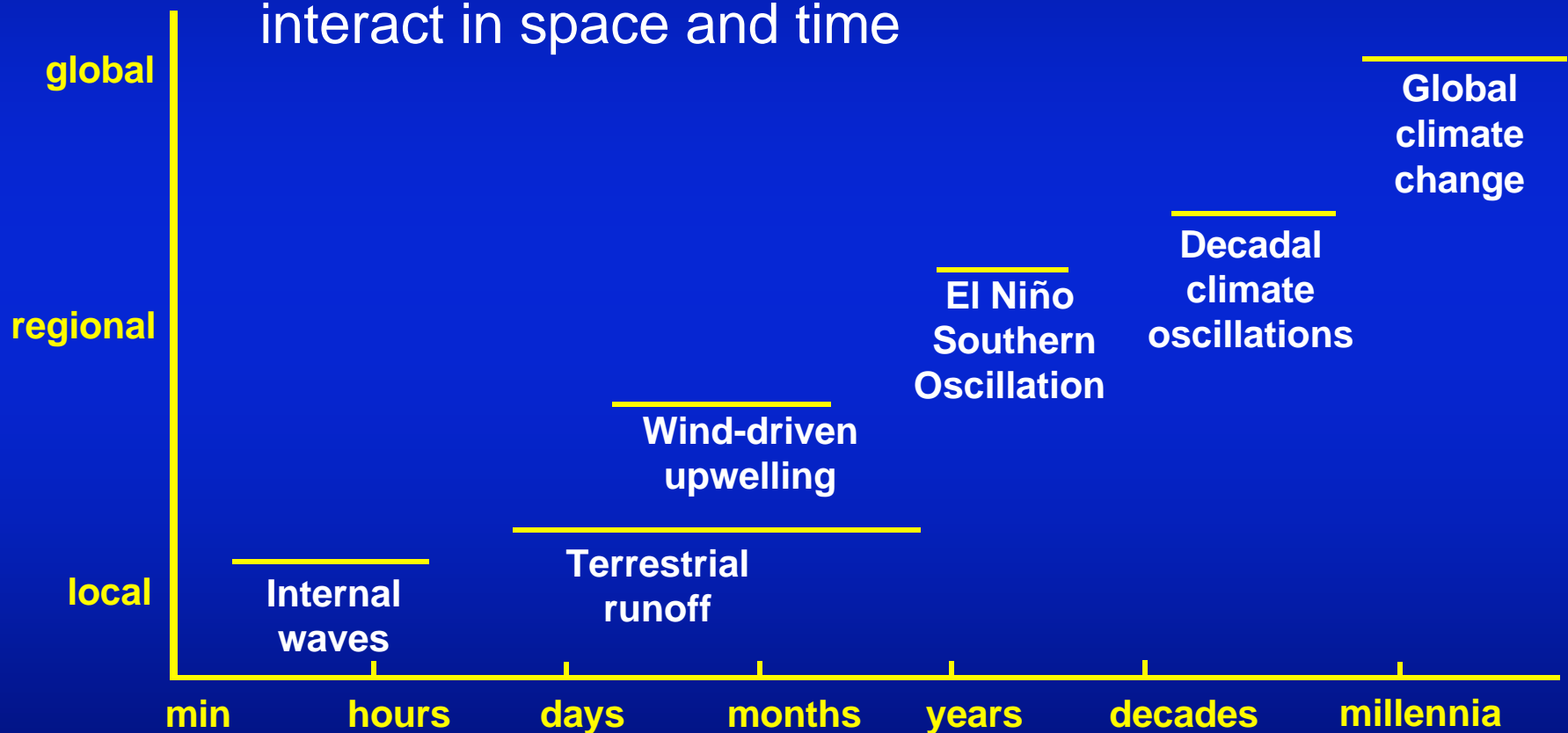


Alaskan systems



EACH SITE BRINGS A UNIQUE PERSPECTIVE TO THE PROCESS

Coastal California: continuum of drivers that interact in space and time



“Historical Slinky”

Human behavior

Press & Pulse Drivers

Ecosystem

Biotic structure & composition

History/Legacies Affect Subsequent Iterations of the Loop

Sprawl

Reforestation

Agriculture

Deforestation

Little Ice Age

Holocene Dynamics

Time

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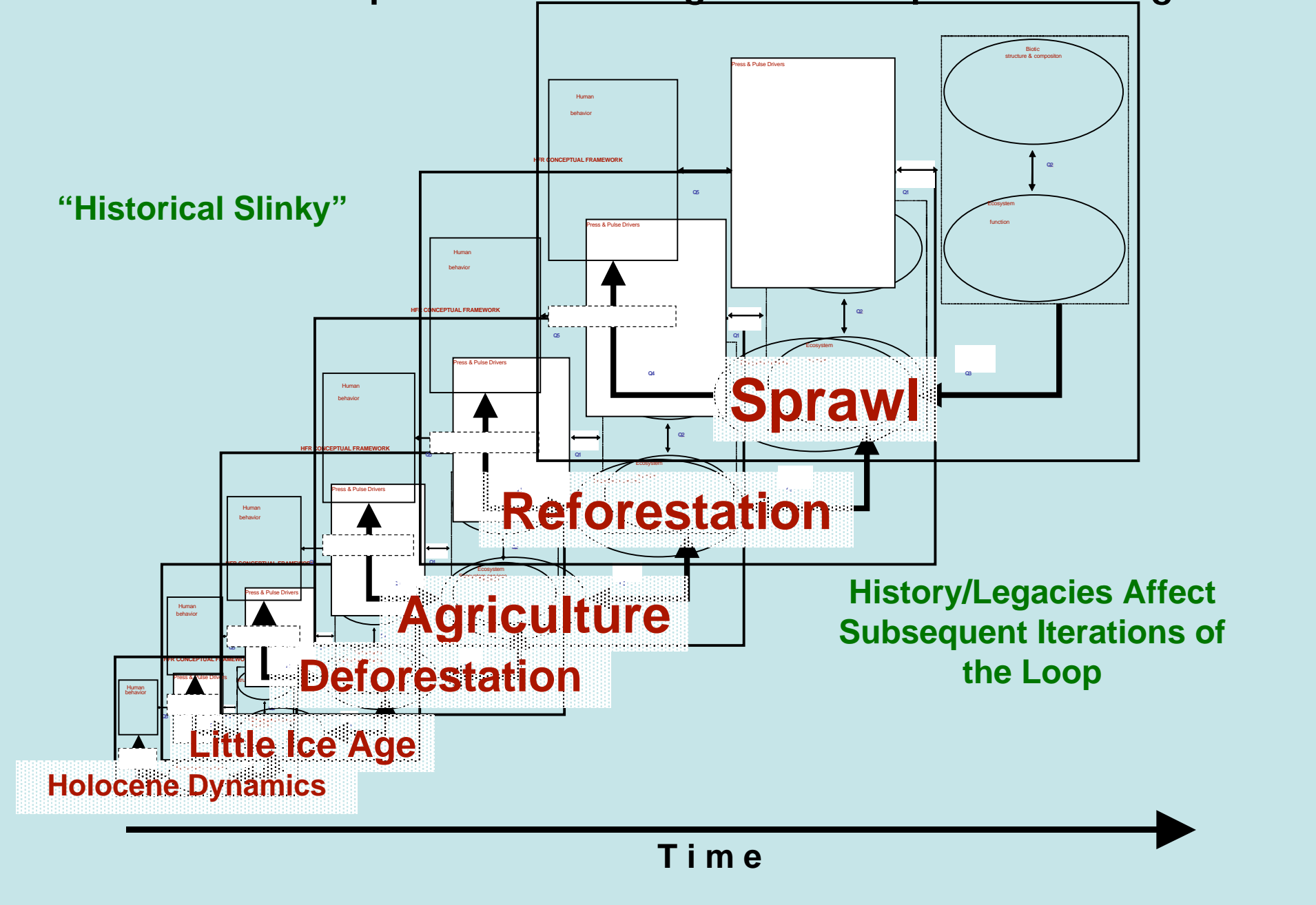
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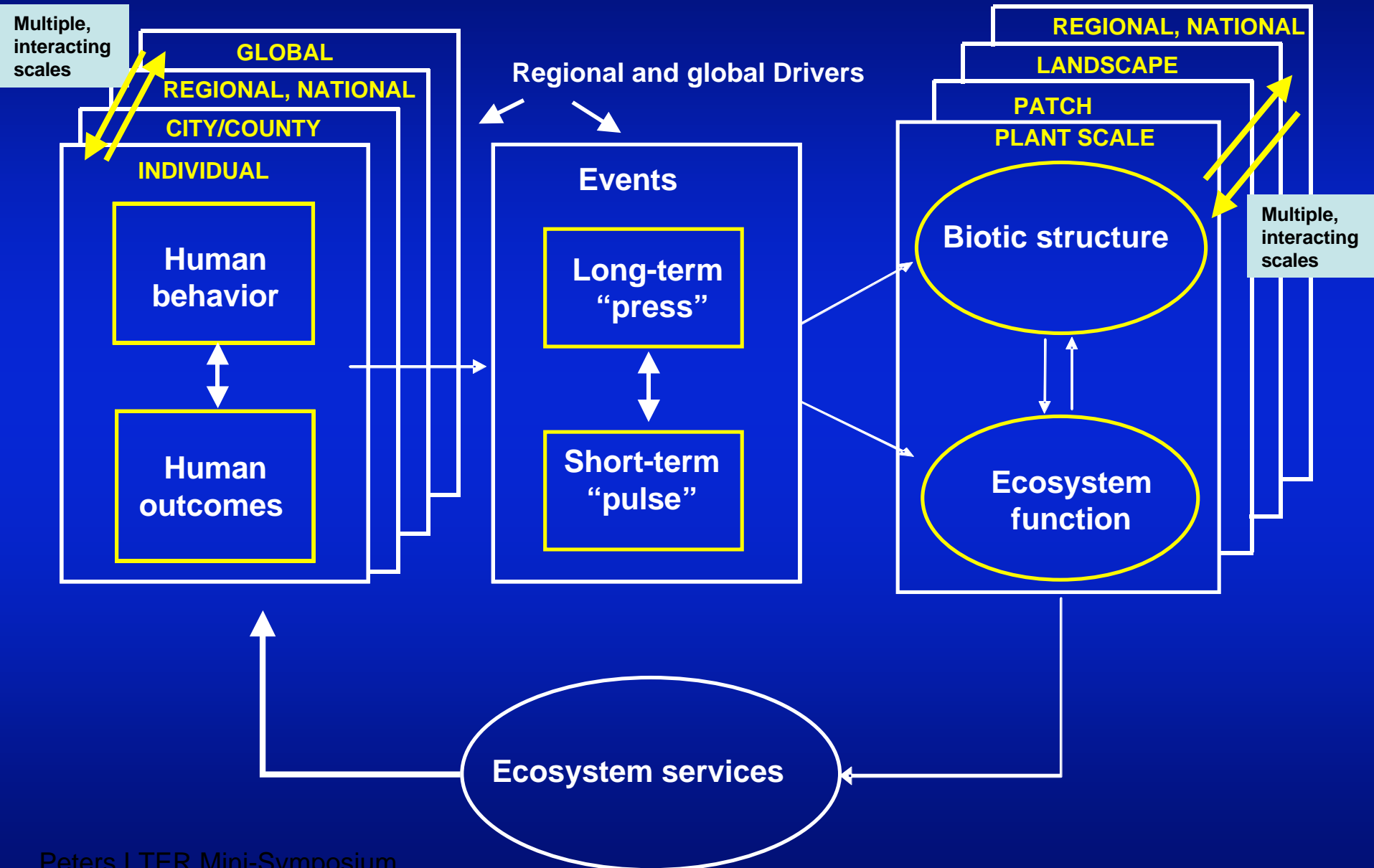
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Holocene Dynamics

Time

Desert landscapes of the Southwest: spatial scaling

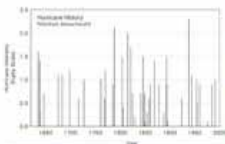
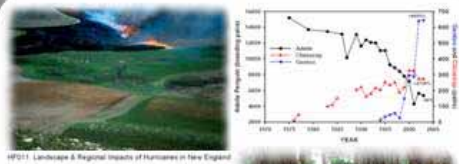


Our Changing World:

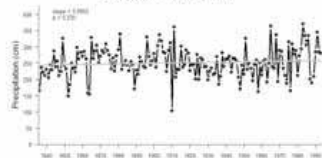
An Atlas of Long-Term Trends in Ecological Systems



TRENDS
In long-term ecological data



Cedar Creek Annual Precipitation

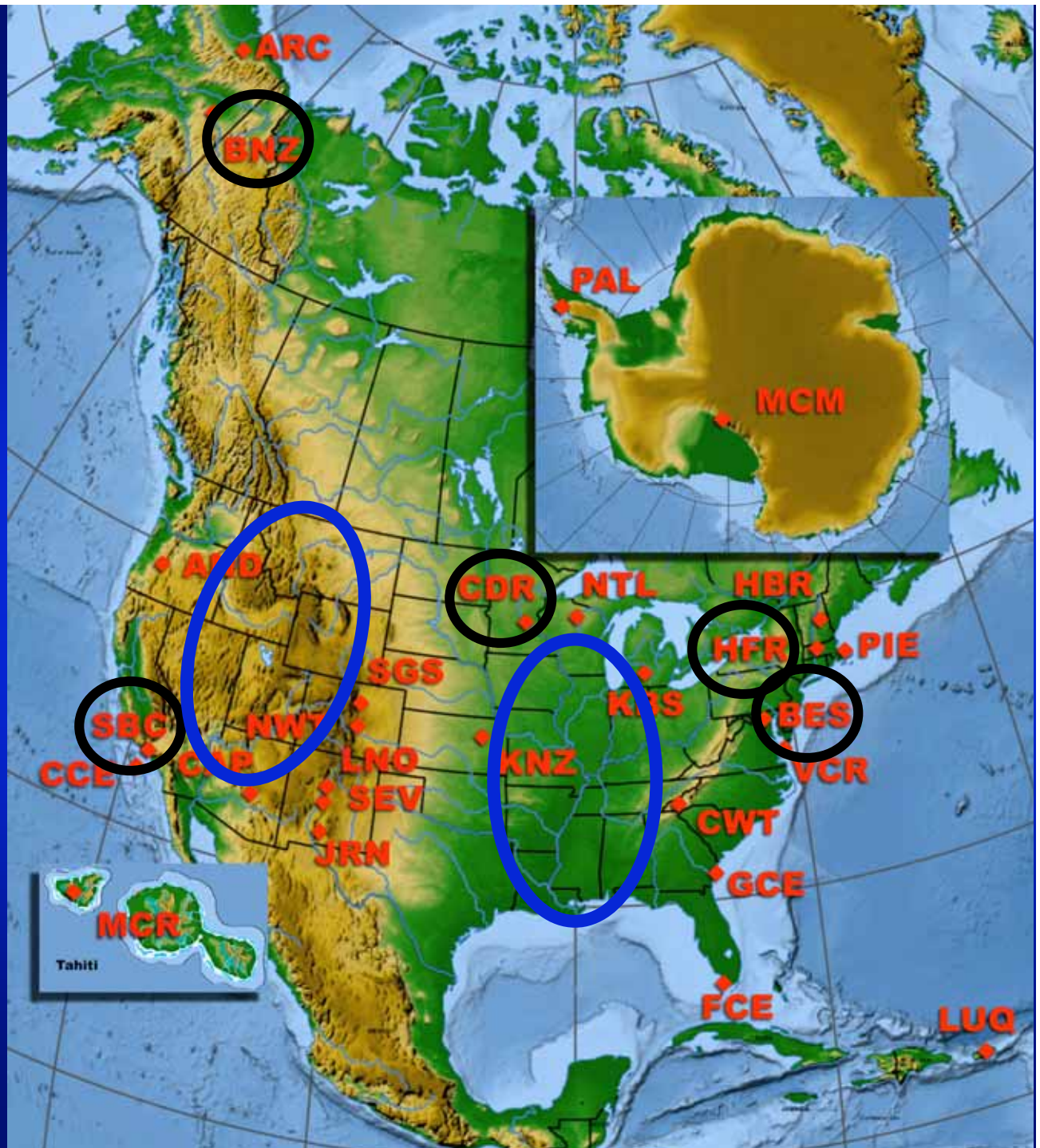


Lead Editor: Debra Peters

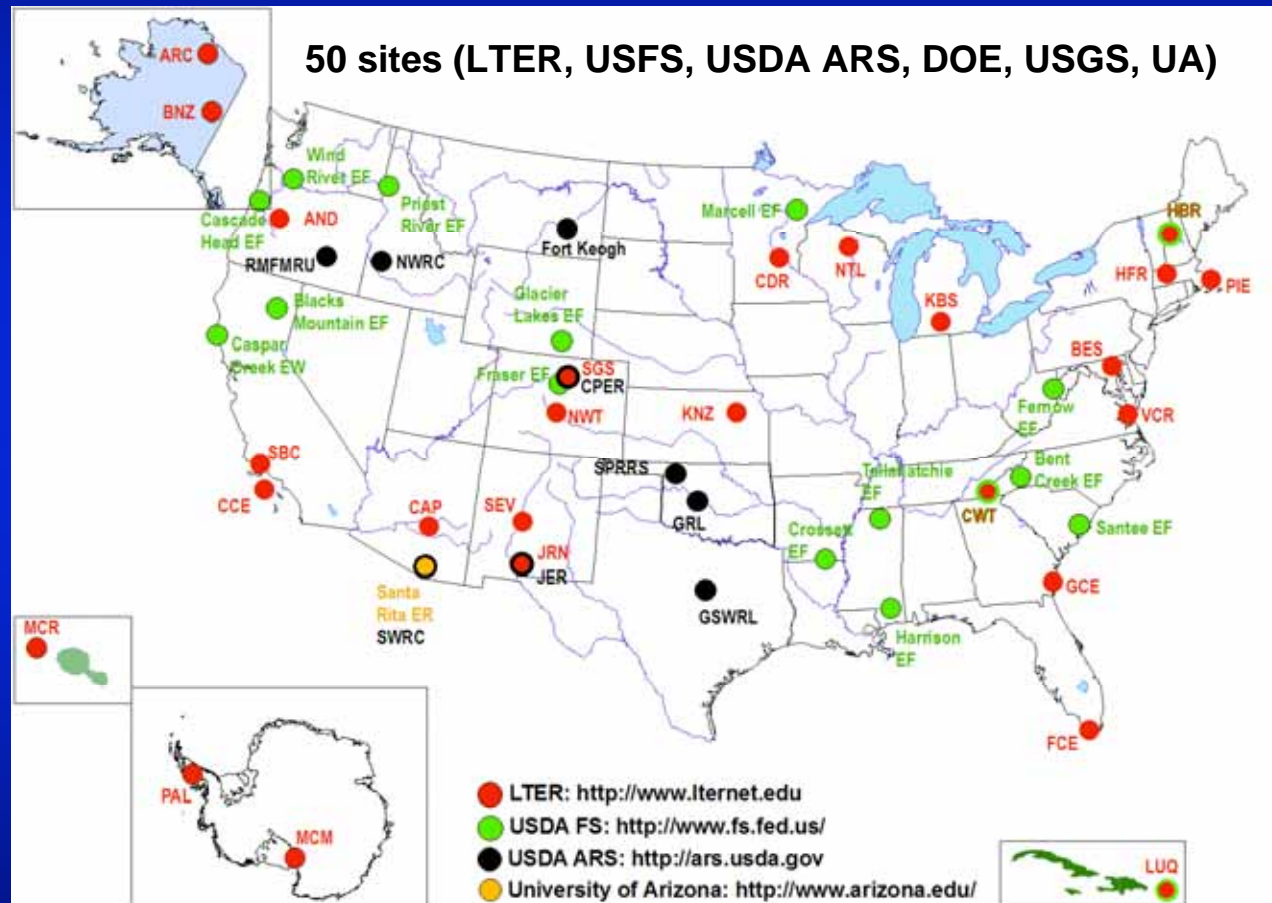
LTER sites build on long-term data and broad knowledge base.

Development of and adherence to information management standards allows synthesis.

Recognize
limitations of 26
site network
(gaps in spatial
coverage).



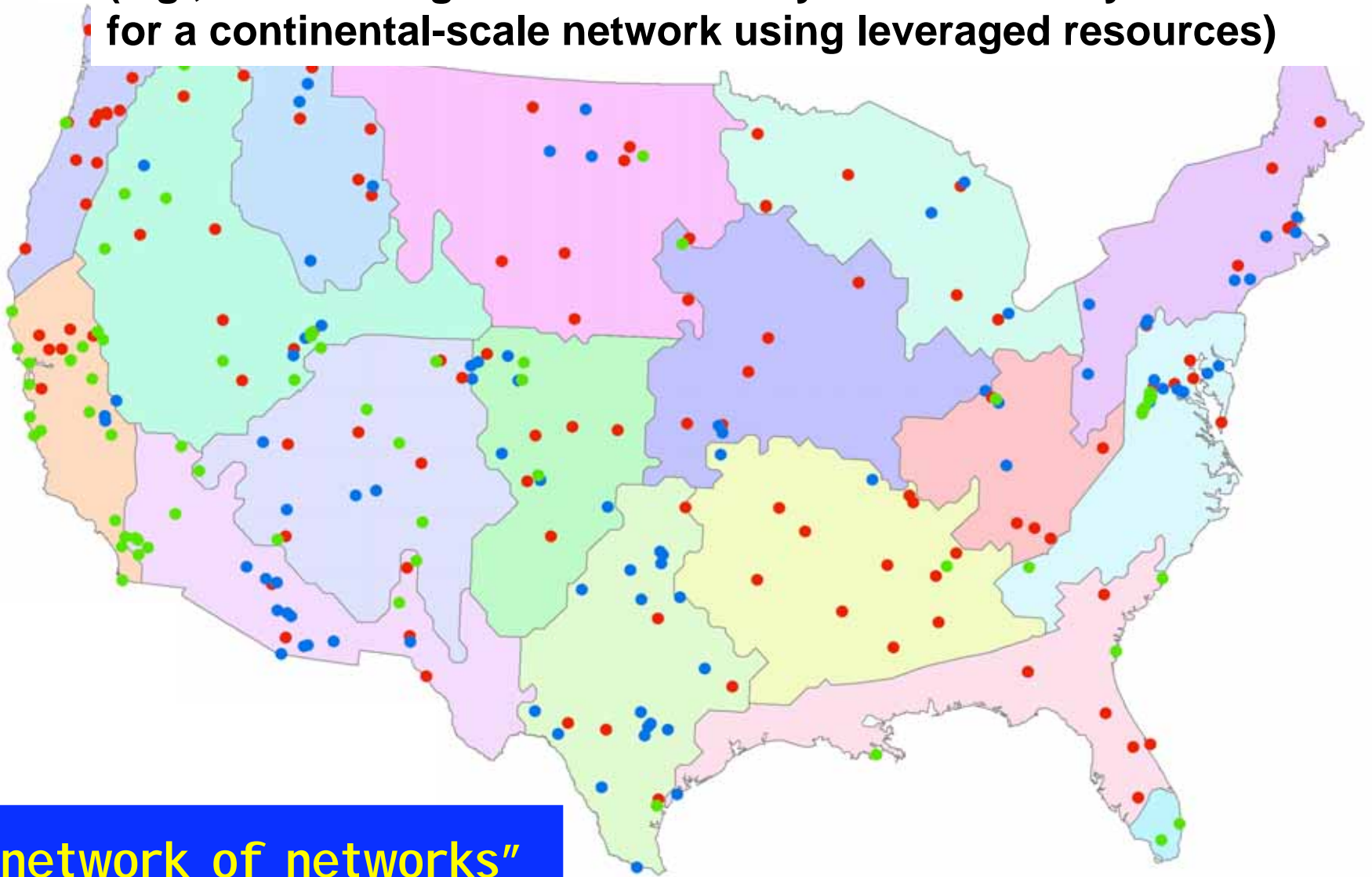
LTER network works with other sites to fill gaps across the country and leverage resources



(e.g., Trends project includes 50 sites to-date)

Gaps remain that need to be filled in other ways.

**(e.g., 244 existing sites identified by the community
for a continental-scale network using leveraged resources)**



"network of networks"

Added value of a network: 26 LTER sites

- Diverse systems, yet common goal ("linked human-natural systems")
- Specific research questions relevant at local to national levels
- Unique perspectives strengthen the network-level product
- Build on long-term data and knowledge base
- Adherence to information management standards allows synthesis (e.g., Trends)
- Network with other sites, but gaps in spatial coverage remain