

RCN - SEES Global Long-term Human Ecodynamics Research Coordination Network: Assessing Sustainability on the Millennial Scale

Project Summary

1) Participating Scholars: PI: Dr. **Sophia Perdikaris** (Director CUNY Global Human Ecodynamics Research Center) ; **Co-PI's** Dr. **Margaret Nelson** (President's Professor, School of Human Evolution and Social Change; Vice Dean, Barrett Honors College, Arizona State University), Dr. **Timothy Kohler** (Regents Professor, Anthropology Dept. Washington State, Santa Fe Inst.), Dr. **Ben Fitzhugh** (U Washington, Dept. of Anthropology), Dr. **Thomas McGovern** (Assoc. Director CUNY Global Human Ecodynamics Research Center, Anthropology Program CUNY). **Steering Committee:** Dr. **Julie Bond** (Division of Archaeological, Geographical and Environmental Sciences, School of Life Sciences, University of Bradford), Dr. **Jago Cooper** (School of Archaeology & Ancient History, U Leicester), Dr. **Andrew Dugmore** (U Edinburgh School of GeoSciences), Dr. **Anna Evely** (University of St. Andrews, School of Geography and Geosciences; University of Aberdeen, Aberdeen Centre for Environmental Sustainability), Dr. **George Hambrecht** (Deputy Director CUNY Global Human Ecodynamics Research Center), Dr. **Michelle Hegmon** (ASU School of Human Evolution and Social Change), Dr. **Anne Jensen** (UIC Science LLC/Barrow Arctic Science Consortium), Dr. **Keith Kintigh** (Associate Director, ASU School of Human Evolution and Social Change), Dr. **Ingrid Mainland** (Dept. of Archaeology, University of the Highlands and Islands/Orkney College), Dr. **Payson Sheets** (U Colorado), Dr. **Peter Schweitzer** (Anthropology Dept. UAF), Dr **Ian Simpson** (Deputy Principal for Research and Knowledge Transfer & Dept of Environmental Sciences U Stirling).

2) Goals & Merit: This RCN proposal will develop a collaborative research network in order to identify conditions that allow people to develop sustainable relationships with the environment over the millennial scale. This proposal draws upon widespread recognition that inter-generational sustainability education efforts and formulation of long-term environmental policy for adaptive management are ill served by short observational spans, restricted case pools, and disciplinary stove-piping. A transdisciplinary millennial scale perspective is key to a genuinely sustainable future (Redman & Kinzig 2007, Redman 1999, Van der Leeuw & Redman 2002). This RCN will promote development of such an interdisciplinary long-term perspective on sustainability through three interlinked working foci; **1) building capacity in long-term sustainability investigations** through systematic inter-regional comparison of cases representing long-term human ecodynamics "experiments" of coupled natural and human systems impacted by climate change, multi-generational human impact, and inter-regional connection; **2) building cyberinfrastructure** support through common data management, digital dissemination and visualization tools that both aid sustainability researchers and connect with sustainability educators; **3) Enhancing local and national initiatives in sustainability education and community involvement in global change science** by innovative application of digital technology and creating direct links with education professionals and involving active local community participation in sustainability science & education.

3) Broader Impacts: Vulnerability to climate change is a pressing policy issue at local, state, national, and global scales. Archaeology, Geography, Environmental History, and Paleoecology through investigation of long sequences of social and climate change at multiple scales have a strong contribution to make to climate-change policy and education for sustainable development (ESD) at K-12, BA, and doctoral level. This proposal represents a response to the **Belmont Challenge** to the international research community posed by a joint US NSF/ UK NERC 2009 meeting at Belmont Washington DC ; "**to deliver knowledge to support human action and adaptation to regional environmental change**" (ICSU 2010) This proposal responds directly to the **NSF RCN SEES** program solicitation (NSF 11-531) call to "*foster interdisciplinary research and education that advances sustainability science and education as an integrative approach to the challenges of adapting to the environmental social, and cultural changes associated with the growth and development of human populations....to solve problems and to predict and mediate future risks...*"