

Historical background to the GHEA organization committee meeting in St. Louis

Thank you for agreeing to serve on the Global Human Ecodynamics Alliance (GHEA) organizing committee. GHEA is a nascent group of scholars drawn together by our mutual interest in understanding the complex socio-natural systems with reference to the historical and ecological dynamics that drive them. We are forming in response to the enthusiasm generated at the recent Global Long Term Human Ecodynamics Conference convened in October 14-18, 2009 in Eagle Hill, Maine, hosted at the Humbolt Research Foundation and organized by Tom McGovern, Andy Dugmore, Astrid Ogilvie, and Sophia Perdikaris of the North Atlantic Bioarchaeology Organization (NABO) and supported by the NSF Office of Polar Programs' Arctic Social Sciences Program (PO: Anna Kerttula de Eschaves). At that meeting, a group of 71 social and natural scientists, historians, modelers, IT specialists, educators, and students came together to share research and brain storm about the current state and future of human ecodynamic research. The majority of researchers work in northern latitudes but the group was intentionally broadened to include scholars working on human ecodynamics in other regions of the world, explicitly to articulate the relevance of the arctic/subarctic to the rest of the world, and vice versa. The results of the workshop are documented in the workshop report (McGovern 2010). This report is attached to this message but is summarized here:

I. Eagle Hill Conference Report

According to the report, the primary goal of the workshop was “to begin a global (especially North-South) discussion of human ecodynamics operating in different areas (and on different time scales) with the objective of getting a better comparative handle on the interaction of climate change, human environmental impacts, and human-human interaction with a long term perspective on sustainability, adaptation, resilience, spread of pathogens , and threshold crossing changes.”

Workshop discussions raised the following themes:

1. Productive Engagement with Global Change and Challenges of Sustainability. “How can we together pool individual research projects, multi-investigator local case studies, combine long term collaborative international partnerships and forge new alliances to better use our special perspectives to address the problems of present and future?”
2. Promoting Diversity of Knowledge Sources. Drawing from our own case studies and contemporary developments, participants recognized the importance of maintaining diverse sources of information for avoiding overly specialized and non-resilient systems as guides to future welfare. “Our job is to see that modern society gets full value for this existing [research] investment as well as to provide concrete reason for additional support. One of our collective aims is thus to better deliver our own products (cultural enrichment, including improved public engagement with science and research; progress towards sustainable development; social cohesion; better informed public policy-making) more widely and effectively to enhance diversity of knowledge and options for action.”

3. Integration of Policy, Education, Outreach, Community Participation in Global Science. “Pure research is the fuel for all applied engagement, and we clearly have need for both more specialized work at the cutting edges of our particular disciplines and for more effective communication with members of other disciplines, members of the general public, and policy makers.”
4. Spatial patterning, Place Based Learning, Longitudinal Research Programs. Participants appreciated the importance of placed based research and longitudinal studies that track changes through time, rather than focusing on ‘choice’ periods. These approaches provide excellent opportunities for student training and public education. New map-based analysis and visualization technologies lend themselves well to this kind of long term research. In consort with these deep commitments to place, we need to collaborate in the sharing of case studies that will collectively provide a more comprehensive toolkit of insights with which to approach contemporary challenges and concerns.
5. Critical Times and Places: thresholds, tipping points, regime shifts. Participants recognized that critical system components can change rapidly or slowly, can have both positive and negative consequences, and that abrupt system changes were probably more common in the past than has often been recognized. Understanding the ecodynamics of systems involves grappling with the complexity of interaction between multiple variables, states and scales. The ideas of *Panarchy* and *Resilience Theory* are being taken up by many in the Human Ecodynamics community to describe and clarify the dynamics of these complex relationships and histories.

Emerging from these themes, the community represented at the Eagle Hill workshop generated the following Interests and Concerns:

1. There was great enthusiasm for continuing to build this community of Human Ecodynamics research. A growing community will allow this area of research to flourish through ongoing sharing of intellectual insights and methods, development of new partnerships, and continued progress towards coherent outreach to public and, when appropriate, policy domains.
2. While the meeting, at 71 participants, strained the limits of effective collaboration and productivity, there was a clear need to expand the base of participation and create mechanisms for less selective participation in whatever goes forward without creating an unwieldy organization.
3. We need to tap more into new digital tools for visualization, modeling, data sharing, and archiving of data and results. Initiatives funded by NSF and other agencies are supporting these efforts for various fields, for example work by the [Digital Archaeological Record \(tDAR\)](#), set to go online in 2010 as well as [NABO's web server system](#) are good examples, but the challenge of archiving accessible data and metadata on interdisciplinary research remain to be adequately addressed at a scale suitable for comparison between multiple, complex studies of human ecodynamics.

4. Finally, participants saw an acute need for expanded engagement in public outreach, education, and policy that can benefit from collective efforts and insights of a group of interdisciplinary scholars working on common themes around the world.

After Eagle Hill

II. Imagining a Global Human Ecodynamics Alliance

After the Eagle Hill meeting, a small group of participants, carried forward the conversation about the futures of Global Human Ecodynamics. These conversations were initiated between Tom McGovern, Andy Dugmore, Sophia Perdikaris, Anna Kerttula and Ben Fitzhugh to explore the possibility of one or more follow up workshops, collaborations with other international organizations, and perhaps, down the line, the submission of a proposal for a Science and Technology Center grant to facilitate the efforts.

Early on in these discussions we concluded that to be effective, we needed to focus on two issues: (1) First we need some manner of *Organization* to facilitate community building and focus our efforts. Ben Fitzhugh was nominated to lead the initial developments of this organization and the term “Global Human Ecodynamics Alliance” or GHEA was identified as a working moniker. Importantly, we concluded that whatever is built should be administratively lean (we all have way too many other commitments and we all have experience with top heavy organizations that end up spending too much time and effort just maintaining their existence). That will be a theme and topic of discussion on the 18th! (2) And second, we determined that whatever we do, it should be product focused and fun! There is no value to moving forward if there are not clear benefits in terms of publications, partnerships and collaborations, and new opportunities to learn from each other. *While individual researchers and teams affiliated with GHEA will undoubtedly compete with each other in research proposal competitions, it is important that GHEA itself not come to be seen as a partisan operation attempting to corner the market on funding streams.* Alternatively, we might decide after continued discussions and development of GHEA, that there is an important need for *capacity building* to support new human ecodynamics research! As a community organization we could help to make the case for that need to appropriate outlets.

III. ASU meeting

In February 2010, Tom, Andy, and Ben were invited by Eagle Hill participant Peggy Nelson to visit Arizona State University’s School of Human Evolution and Social Change in Tempe. There we spent a couple of glorious February days in session with the several ASU faculty leaders (Peggy Nelson, Michelle Hegmon, Sander van der Leeuw, Kieth Kintigh, Chuck Redman, Frank McManamon, Ann Kinzig, Ben Nelson and others) talking about GHEA and becoming better acquainted with ASU’s research and leadership/involvement in various national and international efforts like tDAR (above), the Resilience Alliance and IHOPE.

The following notes emerged from that meeting and provide some guidance as we consider what how we might want to develop GHEA:

GHEA Brainstorming Notes – ASU February 15&16, 2010

1. What brings us together as an alliance?

- a. Interest in Human-environmental dynamics
- b. Interested in improved interdisciplinary collaboration
- c. Interest in making histories of human-environmental dynamics relevant to contemporary society.

2. Inspiration

- a. Maine meeting
- b. Arctic → global relationships
- c. Human-environmental interactions, modeling, comparison
- d. Community building
- e. Possible future funding mechanisms

3. Goals/ Outcomes

To nurture/enhance a set of conceptual communities and ways of thinking...

- a. Interdisciplinary
 - b. Interregional comparison
 - c. Public output
- Create a community to develop a sufficiently abstract model of resilience and vulnerability that allows comparison to show why Arctic can be used as an extreme environment to compare to other regions
 - Can we transform science? Make a case for how we can pick on an issue and make a case for how we can change science and go global.
 - Can we put effort into student exchanges? To help energize student's and future scientists' abilities to work interdisciplinarily on complex problems?
 - If we think of these communities as conceptual communities (rigidity, connectedness, path dependence, etc) Can we do this with a Science and Technology Center?

4. Focus and themes: Themes across space (Themes through time? Implied)

- a. Resilience
- b. Rigidity
- c. Climate
 - i. How and when does climate matter?
- d. Connectedness
- e. Demography
- f. Tipping points and non-tipping points (conjuncture)
- g. Adaptive depth – engineering vs. emigration
- h. Managing time vs. space (infrastructural vs. extensive pose).
- i. Path dependence and branch point (critical decision points).
- j. Could be addressed through cultural transmission analysis
 - i. Identifying branching points can provide relevance to present

- k. Legacy (values, soil impacts or not, animals present or not) and timing
- l. Modeling- what do modelers get out of participating in GHEA? They have to be interested. Modelers need to be in the group from the beginning and invested in the research problems. Can we innervate students coming up as post-docs?
- m. How does this stay regional or go global
- n. What are we proposing that is more than business as usual? Getting out of local focus and get to global comparisons? Can we generate concrete products?

5. Structure

- a. Workshop x 2 – first for ideas, second for synthesis. Bring science writer to prepare article
- b. Web site output for each workshop – report
- c. Final workshop series for synthesis and “better than Jared” public book on resilience and global change.
- d. Mechanism for creativity – different participants
- e. Mechanism for coherence – focus, themes, overlapping participants
- f. Network for sharing students – quid pro quo
- g. Links to other organizations.
 - i. Does it make sense to have archaeologists in a bunch of sessions at the Resilience Alliance 2011? Yes.
 - ii. IHOPE
- h. Funding for workshops, funded fellowships.
- i. Issues of sustainability – organizational capacity, distributed responsibilities, web management.

Two General Goals of GHEA

- inspire scientists to want to do interdisciplinary work
 - o energy might be good to generate several products
 - paper, edited volumes, etc.
- provide public education
 - o book might be less effective than tv shows, etc.
 - o science writers graduate students
 - o cheap and effective – support graduate students in science writing/journalism students. And get them to envision how this will be presented.

Random notes:

Study barriers to crossing epistemological divides as strategy to figure out how to overcome these barriers.

Strategies for creating conceptual communities:

- workshop
- electronic media
- public outreach

Science and Technology Center is a very interesting idea – interesting because it is ambitious but comes with key research problems.

Hypersensitivity of the north makes it a place to look at the issues as they play out there. Arctic is also multidisciplinary (epistemic)... is regional and global at the same time. The dynamic in the north is only part of the dynamic on the globe, but it registers there differently... how does the arctic register to the rest of the world?

Connectedness – in what ways is the arctic connected to the rest of the world... in what ways disconnected?

French Antarctic program another interesting research area– colonization of humans on virgin ecosystems in Antarctic.

IV. NABO-SAGES Meeting: “Global themes in Human ecodynamics: Taking stock and looking forward” March 24th-26th 2010 Edinburgh Scotland

Andy Dugmore and the School of GeoSciences University of Edinburgh hosted NABO IPY working meetings on March 24th & 25th on eMuseums, artifact databases, and developing digital products for small museums and heritage centers and on stable isotopic analysis on human and animal bone (more information on these will shortly be posted on the NABO website www.nabohome.org). These informal working meetings were also used to discuss the potential for expanded international collaboration under GHEA, and the NABO participants were uniformly interested and supportive of the GHEA effort. On March 26 there was a more formal joint meeting of the NABO group and the *Scottish Alliance for Geoscience, Environment and Society* (SAGES), explicitly to carry forward the ideas of the Maine meeting for further discussion with the Northwest European research community. The introduction was by Andy Dugmore “*The potential for grand narratives of human-ecodynamics*” which outlined the results of Eagle Hill and the prospects for expanded interdisciplinary international collaboration through GHEA. The keynote speakers were Peggy Nelson (ASU) “*Rigidity, pathway dependence, and human suffering: The archaeology of the American S.W. and themes of wider human-ecodynamic importance*”; Tom McGovern (CUNY) “*Ecodynamics and the Viking occupation of Greenland and Iceland*”; Richard Oram (U Stirling), “*Medieval Scotland: climate impacts and grand themes in environmental history*”. A very lively discussion session followed led by Tony Wilkinson (Durham) and Ian Simpson (Stirling) and the meeting concluded after a group break out session and summary organized around the themes of “*Relevance of the past for sustainable futures*” led by Mark Rounsevell (Edinburgh) and Ioan Fazey (St. Andrews). The meeting hall was packed, many graduate students attended and participated in the discussions and break out groups and some really useful links were established among the participants (representing a wide range of environmental science, archaeology, environmental history, sustainable futures research, and climate modeling). Informal sessions in the nearby pub lasted late into the evening. It is clear that there is widespread interest in GHEA and potential collaboration on issues of resilience and sustainability and that the value of the past-present-future link is well established in the UK.