

Notes Monday Evening MAREO 092704

- 1) Look over agendas
 - a) 2 hours tonight, 3.5 hours tomorrow morning. Executive:
 - i) introductions, review of progress, approve “working resolution”
 - ii) vision update for MAREO
 - iii) organizational timeline for the next year
 - iv) discuss membership
- 2) working resolution
 - a) background
 - i) from three people making miscellaneous notes during phone call
 - ii) have no official money, leaders, structure; stay as open as possible
 - (1) is the sense of the resolution correct, or does it need to change?
 - b) Questions
 - i) Do we want vision and mission statements in there?
 - (1) Hard to do in this time frame
 - (a) Put before general meeting for discussion and formation in committees (vision and mission committees)
 - (b) Tied to bylaws: do them in collaboration?
 - (2) Our mission is “Be Ready”: that’s all we can do**
 - (3) Have something general ready for October, perhaps via a working group assigned tomorrow
 - (4) Lots of work to create mission and vision statements: make up a mission to be ready for NEON when it happens
 - (a) Small group to do that over time, but not necessary to do it now: use energy for other things
 - (5) What can we do to be ready?
 - (a) Lists of people to be involved, data sources available already
 - (b) Structural things: organization defined, infrastructure identified or organized
 - (i) Who makes decisions for proposals, work, etc.
 - (6) Existing working draft is for the next year: good for what it is, even if general. Good place to start, for the time being
 - (7) “What’s missing?” is a good point. Should have something ready by June meeting**
 - (8) develop organizational structure by June meeting**
 - c) Read through draft and “tweak”
 - i) membership open to all “individuals”: not organizations and institutions?
 - (1) Sounds too low a level, but membership is a discussion point for general meeting: who is a member? “At what level can an entity participate?”
 - (2) Are we looking to move away from the separate individual and site membership discussed before?
 - (3) Was seen as cooperation among facilities, not individuals or PIs. Stations and labs join (infrastructure); physical entities, however defined
 - (a) so only one person per facility or institution?
 - (4) Individuals are members, institutions are infrastructure

- (a) Two categories: individuals and facilities
- (b) Why couldn't people who have no infrastructure to offer be a member?
- (c) Individual could still be affiliated with a location even if there are no resources there to offer
- (d) We have nothing to show institutions thus far: too soon for institutional members?
 - (i) But institutions contributing resources wouldn't be able to sign off; is this an issue in year 1
- (5) Places (sites) and institutions (facilities) are separate, and individuals are affiliated with them or independent
 - (a) Sites (stations, labs, field sites) are relevant players for science, not the institutions
- (6) Governance model (want most capable individuals) vs. organizational structure (have no idea what that will look like)
 - (a) Our goal is to create a board of governors right now: facilities later
 - (b) People join as members, facilities/sites join under another name (UCAR/NCAR example)
- (7) Say "open to all individuals, organizations, and institutions..."
 - (a) See dual model in here: individual members vs. sites
 - (i) May be an issue for the bylaws, with more open structure now
- (8) Change working title to "MAREO governance" to get around issue: not the organizational issue**
 - (a) Purpose of governance group is to form oversight group to organize the consortium of sites: "develop organizational structure"**
 - (b) If so, just stick to individuals for governance: governing group sets up organization structure for sites and institutions**
- (9) Members must be here to vote: avoid quorum issues, encourage participation
- (10) If you miss one meeting, are you no longer a member? No, but must be there to vote on decisions
- ii) "fundamental biological research"? Implies only basic science is being done, not applied or interdisciplinary or Abiotic factors
 - (1) replace "fundamental biological" with "ecological" in Name and Purpose**
- iii) "national platform for integrated studies on natural processes at all spatial scales"
 - (1) insert "and associated human-environment interactions" after "processes"**
 - (2) leave it "all levels of biological organization ..."? Take it out: do we support genetics?
 - (a) We are interested in all types of scale issues: leave it in?
 - (b) Being written for us, not for NSF yet
 - (i) Substitute "ecological" for "natural": takes care of issue, can leave "all levels..." in**
- iv) "...our environmental decision makers": just read "decision makers"
- v) Membership: "advancing the objectives of the NEON initiative..." what objectives? Change "objectives" to "purpose"
 - (1) Read "advancing the NEON initiative"**
- vi) Management, executive committee limited to 1 year: complete and total turnover, including executive committee? Wouldn't want to lose good leaders

- (1) **“initial” term of service of the “appointed” executive board “will be for one year” only: voted ones can be different**
 - (2) don’t want > 50% turnover. Three year terms for voted positions?
 - vii) Where does the advisory board come from in the future? Component of the executive board.
 - (1) Executive council in the future?
 - (a) Bylaws committee decides on method for deciding/electing executive council
 - viii) Dates for executive committee deadlines are soon: realistic?
 - (1) **Make it October 1, 2005. Term of service Oct. 1 2004 – Sept. 30, 2005 (or one year ending Sept. 30, 2005)**
 - (2) Will need a meeting next September
 - ix) 20 a limit: no formal mechanism until bylaws are approved
 - (1) at this stage, bring people in and get them involved; the more the load can be distributed
 - x) “advisory” too weak: lets people off the hook?
 - (1) **Do we need an advisory board at all? “Exec. Board consists of 3 member Exec. Council and not more than 17 other members”**
 - xi) Who makes day-to-day decisions about what happens? A small group of 3, or the board of up to 20? Membership can’t do it all
 - (1) Who has the authority and who advises?
 - (2) Not for here: a bylaws and organizational issue rather than governance, but voting issue is important (who goes to represent MAREO?)
 - (a) In many organizations, full membership votes on elections and bylaws changes, and that’s it
 - (b) Will have Feb. meeting for some full membership voting issues
 - (i) Could be an executive council meeting only, keep membership informed but set up committees (lots of structural work to do)
 - (3) Resolution to get us working for one year: details for bylaws (NEON may hand us some to act as a baseline)
 - d) How to bring this up at the meeting? Do we go through the entire process again?
 - i) Want to keep it open, but don’t want to go through the entire process again
 - ii) **Expresses what we are thinking, will evolve over time, not a formal structure: present it rather than refine it in general membership and ask for feedback**
- 3) Issues and Questions
- a) Prepare some feedback to contribute to Oregon meeting next month; issues taken from Congress announcement
 - i) Breakout groups based on four of them to provide summaries for Oregon
 - b) 1: organizational and operating principles for MAREO
 - i) a and b are key: don’t know what structure might be: get several organizational models on the table and pick or favor one?
 - ii) How could one work? Academic exercise
 - iii) Dual membership approach could be fleshed out in this group
 - (1) Should report back: already in agenda
 - (2) Could have two exec members per group, plus some floaters to help transfer ideas and tie things together
 - iv) Don’t need much verbiage, but some exploration is valuable: use italicized information to help lead discussion

- c) 2: responsive and responsible consortium
 - i) what is most important subtopic? C sticks out, but we have already discussed b, d, and e to some extent in our meeting
 - ii) Bruce may help enlighten discussion on this topic
 - iii) Wide open: how do we discuss this when we don't know what the consortium is going to look like?
 - iv) 2a: meaning? Resources within MAREO or things we are asking for?
 - (1) Within MAREO: what do we have or need? By geography, by expertise, by scientific needs: what are the holes?
 - (2) Was lifted from larger consortium text
 - (a) Are the resources out there in it or out of it?
 - (3) But "principles" would define what we want to build: what we are actually searching for, so that would be an input issue rather than an output issue: *a priori* rather than *a posteriori*
 - v) More important now to be concerned with MAREO itself: looking inward instead of outward, given the uncertainty of NEON structure
 - (1) Something like #4: 2a belongs there? Move 2a to 4, then 2 becomes outward-looking and 4 becomes inward-looking
 - (2) **Frame #2 within the table for prioritizing NEON activities: focuses discussion**
 - (3) **See also 3eii**
- d) 3: regional consortia
 - i) been a call for filling consortium committees: nominations being taken now, go to NEONinc.org for organizational charts
 - (1) want to get a lot of MAREO involvement: get list of committees for meeting tomorrow
 - (2) decided how national committees are to be populated already: via nominations, but won't decide amongst nominations until after Oregon meeting
 - (a) **3a more like, "How should we ensure our participation in the national committees?"**
 - ii) how is nominating process going? Uneven nominations from across country?
 - (1) **Question for Bruce (decide on questions for Bruce and Rina tomorrow morning)**
 - iii) 3d: synthesis and communication?
 - (1) Assess what we have at first, don't just collect until we know what we have and need
- e) 4: allocating effort
 - i) should we decide which grand challenges are for us to focus on? Prioritize them?
 - (1) **Hydroecology tacked on? Political? Ask Bruce**
 - (2) Priorities for this region? Things we can address better in this region?
 - (3) Helpful for Oregon: things that fall to the bottom or the top, but don't look like we won't take them all seriously
 - (a) On the other hand, we need to be able to contribute particularly well in some areas: "interested" as opposed to "willing"
 - (b) Want to see what other groups are saying
 - (4) Must play to our strengths, interests, and stakeholder desires
 - ii) So does this tie back to 2a?

- (1) Could look at 2a in order to meet all of these grand challenges**
- iii) What are the big infrastructural needs to accomplish all of these?
 - (1) Design and infrastructure both important to cover
 - iv) 4d; social and educational: broad. Outreach: narrow
 - (1) outreach may be a component, but not broad enough
 - (2) “social, educational, and outreach dimensions...”**
 - f) Don't have to get through them all: one good idea would be enough

Notes Tuesday Morning MAREO Executive Committee 092804

- 1) Tasks
 - a) Questions for this afternoon
 - b) Topics to address in small groups, with assignments
 - c) Adjust agenda
 - d) Present working resolution to group, ask for feedback
- 2) Issues for small group
 - a) Made some changes and expansions to some items yesterday
 - b) 4 small groups for 4 questions on sheet
 - i) group 1: Mark Lukenbach and Mike Reiter
 - ii) group 2: Beth Adams and Jack Webster
 - iii) group 3: John Porter and Mike Bass
 - iv) group 4: Brent Yarnal and Mike Bowers
 - (1) lead discussion, take notes, keep on focus (wherever it goes)
 - c) Bob, Eric, and Francisco floaters
 - i) Look for cross-group issues and points for synthesis and cross-cutting issues discussion Wed. afternoon
- 3) **Schedule**
 - a) **Tuesday afternoon**
 - i) **Short welcome this afternoon at 2PM**
 - ii) **Bruce at 2:15-3PM (has to leave): update on national scene**
 - iii) **Rina to 3:30PM, then 15 minute break**
 - iv) **3:45-4:30PM, MAREO and what we've done (insert John Porter and web database here), resolutions, questions, working groups**
 - v) **4:30-6PM small groups**
 - b) **Wednesday morning**
 - i) **8-8:20AM, re-organize small groups**
 - ii) **8:20-10AM, small group discussions**
 - iii) **10-10:15AM, break**
 - iv) **10:15AM-lunch, small group introductions and presentations, and large group discussion of small group issues**
 - c) **Wednesday afternoon**
 - i) **After lunch, finish presentations and discussions, highlight issues across groups to take to Oregon**
 - (1) **Floaters lead this discussion until 4PM or so**
 - (a) **Nominations for committees**
 - (2) **What do we want to see NEON, and MAREO, look like?**
 - ii) **Key people can stay later to summarize the major topics for Oregon**
- 4) Other issues to possibly include
 - a) Do we know each other? How we all expect to fit in? What we are looking for in the organization?
 - i) Would take time, but would let us know what we have to work with
 - b) What is the most useful form for the reports to take to Oregon?
 - i) Outline, bulleted list of points (prioritized) with names of people who brought the points up or are likely resource people

- c) **Get decent number of people in all groups: number name tags**
- d) Get names and summaries of expertise and resources?
 - i) Have been working on it with on-line information and with other regional groups
 - ii) Will have an on-line database to be formed, but isn't going to be ready until November
- e) **Where does interim leaders and assignments session go?**
 - i) **Can we get a one day meeting for after Oregon instead? May not be ready to do this step yet: save for Jan./Feb. executive meeting w/ full meeting in Sept.**
 - ii) **Might have one in April after March NEON meeting: can decide in January**
- f) Getting buy-in from departments and institutions
 - i) Taking information back to institutions
 - ii) Right now, just informational: don't know costs and benefits for sure yet
 - (1) What is the commitment required? What funds will be available from outside the institution (national and consortium)?
 - iii) Guess: funding model is money to NEON Inc., from there to participating entities
 - (1) Limited overhead funds due to subcontracts: may not be as much funding for institutions
 - (2) PIs apply for funding from an overarching entity
 - iv) How do we get buy-in without knowing what is coming in or what is required?
 - (1) Get a summary of what is available and what could be offered
 - (2) Is part of the general section of the database
 - v) Forms are not very useful approach: don't ask for information unless we are sure that we need it
 - (1) We have names, we have databases, etc.
 - (2) More important to get contacts and form committees
 - (3) Any form materials, enter it in short segments or pieces
- 5) Data base: MAREO Resource Group
 - a) Data entry, on-line forms, data availability
- 6) Working groups: Bylaws, mission and vision, resource identification and inventory
 - a) Need an outreach effort to get the available people and sites
 - i) Some key people have access to lots of sites and data
 - b) Chris Jones and Eric Nagy in resource ID/inventory
 - c) Bob Gardner on Mike Reiter on Missions and Visions
 - d) Bylaws
 - i) Get other people from large group sessions
- 7) **Questions to ask Bruce**
 - a) **How is network being brought up?**
 - b) **Nominating process for national committees? Should we nominate people for MAREO representation?**
 - c) **NEON model for supporting regional observatories?**
 - d) **Is the Grand Challenges list still in flux? Hydroecology? Now a 7th issue, or subsumed in the others?**
 - e) **What products do we next during the next year? Where do we need to be and what will we need to prepare?**
 - f) **Will any MAREO-specific (regional) things be addressed, or is MAREO only for implementing the NEON national-scale issues at our regional level?**

Notes Tuesday Afternoon MAREO General 092804

- 10) Francisco welcome
 - a) Introduce executive committee
 - b) Review agenda
 - c) Hilda and registration
- 11) Bruce update
 - a) Last meeting: announcement issued by NSF for proposals, other regions represented
 - i) Set forward a team to get the proposal process going (21 people worked on it)
 - ii) Poster on the wall is the proposal, essentially
 - (1) Essential elements on a single sheet of paper
 - b) Group today is important: other initial groups will disappear
 - i) Create an interim community to decide on what science NEON should do
 - (1) They will then disappear, to be replaced by community of NEON Inc.
 - (2) Incorporated structure owned by the community: only group lasting after two years
 - ii) Regional groups will play key role in how the community should be run
 - (1) Bylaws, rules, rights and privileges
 - (2) Collecting bylaws from other organizations so we don't start from scratch
 - (3) In Oregon, will use these to decide how to form bylaws and governance
 - (4) Legislative exchange council is an example: serves all the states
 - (a) Put law into action: get law used by others and refine
 - (b) Will do this for NEON
 - (5) Institutions will be involved, also federal agencies
 - c) National committees: significant time commitment, must be there for all of it (can't back up)
 - i) Advised by folks with experience that better is the enemy of the good (don't loop the decision making process: will never finish)
 - (1) There is an honorarium, but still a big commitment
 - (2) About 140 people needed, will be selected based on talent and skills and demographics
 - (a) 8 people plus 2 chairs per committee
 - (b) Committees must include the social sciences: know anyone to volunteer?
 - ii) Group for educational issues: must create a science AND education plan (merged)
 - (1) Committees to do this
 - (2) NEONinc.org to nominate themselves or others: series of committees to join
 - (3) Must decide on education infrastructure to make education aspects of NEON possible at whatever level is necessary (K-death)
 - (a) Not a program-supporting activity: an infrastructure-supporting activity
 - iii) Science and human dimensions group
 - (1) Eight committees for 6 grand challenge questions plus hydroecology and emerging issues
 - (a) Emerging issues and open portal for neat new ideas
 - iv) Infrastructure group
 - (1) Geek types: technical know-how (ex. acoustical and equipment design types, mobile data acquisition)

- v) Governance group: will become owners of the enterprise in about 2 years
 - (1)
- vi) Must generate information so it can be costed out
- d) About 15 regional groups: has changed over time
 - i) 2 from each group to Oregon in October to begin organization of regional groups
 - ii) will eventually become involved in nomination for observatories
 - (1) look at existing resources and capital to find places that fit eventual design of observatories
 - (2) What should their footprint (common attributes) be? (Urban to rural or wild gradient might be a common attribute for observatories) Where should the observatories end up?
 - (a) Nominate based on the answer to these questions
- e) Must create a science plan that goes to folks to create a project execution plan (funding, design, implementation, schedule: convince Congress of the value of the project)
 - i) We must do this for NEON to figure out how much it will cost
 - ii) Range is broad, but we must be able to defend a final approximation
 - (1) Contracted with the best firm to have this done 21 months from today
 - (2) About a year of that time for professionals to prepare the actual plan: must start in June or July
 - (a) All other parts and details must be ready by then, and afterwards we will be working with them in order to put the costs into place
 - iii) Also hired mediation specialists to help us work in committees and to deal with disputes
 - (1) Some of us will be trained in this process, as well as training in big science projects (how is it done, managing consortia, getting people to work on deadlines, meeting deadlines, etc.)
 - iv) Also a public relations specialist
 - (1) Lots of tax dollars spent: will be subject to public and Congressional scrutiny
 - v) All this within a 2 year window is a big task
- f) Must put together an interim community to get it going and then disband it so the permanent community can take over
 - i) What is the nature of the community? We must decide it.
- g) Questions
 - i) Honoraria?
 - (1) \$600 per session plus travel and hotels
 - ii) How will MAREO work?
 - (1) We are pieces of a bigger machine. Design is the regional to continental scale
 - (2) Common mission across the country
 - iii) Regional vs. national efforts?
 - (1) Functions are nationally determined; not regional
 - (2) Will be different utilizations of the regional observatories, but the questions are continental scale
 - (3) Observatories will be required to do some things: “layer cake” model: highest priority thrown on the ground at all locations simultaneously
 - iv) Who makes the priorities list? One big focus? Ranked foci?
 - (1) Each human dimensions subcommittee will make the argument for their issue being the highest priority

- (2) Design group will choose ranking from among these, all ranked and costed out, NSF will decide on how many to do
- (3) Must use human generational time scales (30 year)
- v) How should a local observatory effort proceed?
 - (1) Some waiting, though it has to happen quickly when it does
 - (2) Design issues: common footprint (structural design) that will work anywhere is critical
 - (a) Unlikely to be single point observatories: probably areal gradients of some form or another
 - (b) What kind of design would be most compelling for observatories?
 - (c) How many will there be? Depends on the question(s) and the necessary resolution to address it/them
- vi) Are the questions going to drive the footprints, or vice versa?
 - (1) Questions will be derived independently
 - (2) Need some models for what the footprints will look like; can't choose big questions without it, even though the selection process comes later
 - (3) Hard time working without some idea of the observation system that might be available
 - (a) Both "before" and "after" aspects
- vii) Implementation: MAREO representation
 - (1) We will have 2 representatives for MAREO
 - (2) Must decide on governance structure in Oregon; who represents regional rank-and-file?
 - (3) Avoid being prescriptive: community must own NEON in the end
- viii) If we nominate people (we should) to serve on committees, should they be NEON types or MAREO ambassadors
 - (1) Some of both
 - (2) Outreach types: ex. Smithsonian outreach personnel for education committee
 - (a) Depends on expertise and skill sets
 - (b) Demographic diversity wanted
- ix) Support for local observatories during this process?
 - (1) None built into proposal, but separate funds set aside to run meetings
- x) Will we be able to mesh our regional meetings with NEON? Do we move at our own speed?
 - (1) If something is considered critical, NSF will find a way to fund it
 - (2) Best to work on it in Oregon: all groups will have a similar problem
 - (3) Can integrate new topics in preparation for NEON if a case is made for it and it is considered a high priority (ex. forecasting, social sciences, movement of genes)
- xi) How is the NEON network being brought up? Will competition take place among groups, and in what form?
 - (1) Wide range of organization level among regions
 - (2) Oregon meeting will hopefully level things so all observatories will be brought up at the same time
 - (3) Competition for nomination process for observatories, but nothing prior to that or beyond that
 - (a) Likely a single proposal in January 06 for all observatories at all locations
 - (b) Uniform design funding (adjusted for cost)

xii) Boundaries?

- (1) Think of as community boundaries; map may not look like that once observatories are formulated
 - (a) Can be more or less based on observatories
 - (b) National model not the one asked for by NSF
- (2) Still volatile

xiii) Hydroecology?

- (1) Folks complained about the lack of a non-terrestrial perspective on the world
- (2) May still change: case could be made for something else (like soils)
- (3) Emerging issues door available for yet other things

xiv) Oregon meeting: attempts to integrate operational philosophies of other groups?

- (1) Yes, both within foundation observing systems (defer to other groups for monitoring methods), federal agencies (standardize data collection and avoid duplication), and push to include international realm (will become part of global earth observation system)

xv) To prepare for October, what do we need to do to be prepared?

- (1) Identify attributes of the people and institutions to be involved**
 - (a) Need to know diversity and abilities of the regions (agencies, NGOs, institutions, etc.)**
 - (b) How do we do this without knowing what MAREO and NEON will eventually be like?**
 - (i) More simple than that: a roster from participating groups and individuals**
 - (ii) Issues of fidelity for later: must be won**
 - (iii) Keep as open as possible**
 - (c) Need to approach agencies with knowledge of who is, and who could be, participating**
- (2) People to nominate for committees**
 - (a) Also want people to read and comment on documents even if they can't get to the actual meetings**
 - (b) Grad students can be nominated, postdocs are available for science/management positions in NEON**
 - (i) Will we take best scientists and put into management roles?**
 - 1. not for everybody: some people would fit well (science and policy management folks would work well)**
 - (c) Think about our future: what is the next big idea? The next methodologies and equipment?**

xvi) Communication between the regional groups, picking standardized methods and research questions: regional approach or larger?

- (1) Must convert any regional issues and approaches into national questions and political dialog
- (2) If only of interest to one place, probably won't have enough interest to make it to the top of the priority list

xvii) Not much time: should we be discussing themes with other regions

- (1) Not much theme discussion yet; mostly integration of institutions and/or technology
- (2) Oregon will probably provide more assignments than answers

- xviii) We already have the LTER: are the differences with LTER identified anywhere?
 - (1) Verbally only thus far; we aren't really public yet
 - (2) There is a litany (large areas, generational time scales, common approach), but not printed out for congressional staffers or agency funders
 - (3) Hope that regions will garner political support
- xix) Model of a network accommodating experimental work still exists?
 - (1) Yes, but there is a need for a national model or theme and broad experimentation on appropriate time scales
 - (a) Longer than the life of a graduate student: other locations fund that work
- xx) What about things that aren't easily automated? How to pay for this?
 - (1) Three kinds of money
 - (a) infrastructure (comes to an end: ex. construction is done)
 - (b) operations support (ex. managing data streams)
 - (c) research money (for proposals to use the network)
 - (2) down the road: updating and modernizing the observatories
- h) bph@virginia.edu if you need to contact him: use an important-sounding heading
- 12) Rina: NEON evolution
 - a) Keep within the national NEON trends
 - b) National workshops held
 - i) Come up with design recommendations for the planning phase
 - c) Regional groups have self-organized to find interested people and identify available infrastructure
 - i) AIBS involved to help with planning effort
 - ii) Six original Grand Challenges came from these meetings
 - d) Details to figure out
 - i) What's the science to be done at NEON
 - ii) Conclusions we are after? Who will care?
 - iii) Who will lead the effort? What will NEON look like?
 - e) Latest workshop based on the challenges
 - i) Identify organizing questions
 - ii) Requirements to answer them
 - iii) Needed infrastructure
 - (1) But no context for the recommendations
 - (2) Try to let the science drive the infrastructure; can justify need for these components
 - f) New meetings to identify high-priority questions that relate to one or many themes, are appropriate to NEON, span applied and basic science, and expand existing infrastructure or approaches
 - i) Invasive species workshop
 - (1) What makes a population/species invasive?
 - (2) What are the consequences of invasions on ecosystem structure and function?
 - (3) Are there general ecosystem characteristics that make them vulnerable to invasion?
 - (4) Are these all appropriate to NEON? Not necessarily: might not withstand vetting process and could end up lower priority if this is all there is to work from
 - (a) Might be both large and small scale
 - (5) Infrastructure/science requirements

- (a) Monitoring distributions
 - (b) Experimental infrastructure
 - (c) Modeling capability
 - (d) Archive facilities
 - (e) Cyber-connection
- ii) Biogeochemistry (bgc) workshop
 - (1) Regulation and connections of bgc cycles
 - (2) Anthropogenic influences on bgc cycles
 - (3) Keystone bgc processes (tolerance and weakening)
 - (4) Infrastructure/science requirements
 - (a) Material transport measures
 - (b) Land use change data
 - (c) Historic bgc data
 - (d) Bgc scaling and modeling
- iii) Biodiversity (bdv) workshop
 - (1) What is the bdv of US?
 - (2) What are evolutionary and ecological patterns?
 - (3) What are evolutionary and ecological processes?
 - (4) Human dimensions of bdv?
 - (5) Making predictive models?
 - (6) Infrastructure/science requirements
 - (a) Database for bdv and ecological/environmental data
 - (b) Analytical tools
 - (c) Field testing
- iv) Climate change workshop
 - (1) Large scale phenology and vegetation dynamics
 - (2) Soil ecosystem dynamics
 - (3) Eco-hyd-atmos coupling
 - (4) Terrestrial-aquatic linkages and productivity
 - (5) Infrastructure/science requirements
 - (a) Six-layer infrastructure (large to small regions)
 - (b) Baseline data from historic or paleo data
 - (c) US phenological network
 - (d) National scale soil characteristics for baseline
 - (e) Comprehensive water budget evaluation
 - (f) Hierarchical river basin network
 - (g) Collaboration of wexisting programs
 - (h) Central laboratory
- v) Land use workshop
 - (1) Rate and trajectories of land use/cover changes
 - (2) Causes of trajectories
 - (3) Predicting consequences of trajectories
 - (4) Infrastructure/science requirements
 - (a) Land cover (current and historic)
 - (b) Drivers
 - (c) Human demography
 - (d) Urban and suburban changes

- (e) Socioeconomic data
 - (f) Commerce and transportation
 - (g) Land value and ownership
- vi) Infectious disease workshop
 - (1) What is out there?
 - (2) Transmission dynamics
 - (3) Community dynamics
 - (4) Forecasting and early warning
 - (5) Infrastructure/science requirements
 - (a) Host and vector population dynamics and distribution
 - (b) Long term satellite, meteorological, and GIS data
 - (c) Contamination data
 - (d) Pathogen preference etc.
- g) Similarities across workshops
 - i) Baseline data
 - ii) Modeling
 - iii) Sampling along gradients
 - iv) Manipulative experiments
 - v) Using existing data and filling in gaps
 - vi) WEON (world ecological observatory network)
- h) Didn't get
 - i) Sampling locations and intensities
 - ii) Location of observatories
 - iii) What data to be collected, and at what frequencies
- i) Challenges
 - i) Community involvement
 - ii) Be selective: not everything for everyone, but what can we do best?
 - iii) Flexible design, but with scientific rationale
 - iv) Specificity of questions
- j) Design consortium will lead, coordinate, organize, and provide focal point
 - i) Project office will define the science, design the network, and plan implementation
 - ii) Workshops will provide that jumping off point
- k) Questions
 - i) Is this process meant to go further than designing structure; do we design data, questions, etc.? (structure first, or questions first)
 - (1) Started infrastructure first, but didn't know justification for components
 - ii) Shouldn't design to narrowly?
 - (1) Once you consider what the hardware and people can do, you know what the questions might be
 - (2) MAREO may not be an entity per se; it costs too much to keep it going to wait until someone comes along to use it
 - (a) Need to have a function for it almost continuously: huge data streams
 - iii) Is this a platform still, or are we becoming question driven?
 - (1) We build a platform to study these things
 - (a) The questions are subsumed in the design
 - (2) Questions developed to give justification to the design folks

- iv) Eventually, will have to cut out some of these grand challenges (themes), since the designs will be different for different themes. So why not do it first and save a lot of time?
 - (1) Like betting on the winning horses only: how do we know which themes will rise to the top
 - (2) Can't exclude things ahead of time and get the best choices
 - v) When are documents on the web?
 - (1) Mid-late October
- 13) What we have done (MAREO exec)
- a) Bruce to national effort, appointed interim leaders and executive board to keep things moving, along with John porter on databases
 - b) This meeting was planned to give big picture information and run small group discussions of questions to take to Oregon meeting in October
 - i) Want a little outline of information reflecting MAREO's input into planning process
 - c) Created a working governance resolution: one page assembled by leaders as an interim document for the next year
 - i) Build governance structure and form network
 - ii) Read from the document: goals, terms of appointment
 - iii) Recommend constitution, bylaws, and officers for next stage of structure development
 - (1) Anyone can join in
 - iv) Bylaws, facilities, vision and mission groups: feel free to join in
 - d) Organize a facilities/resources database
 - i) Try to build a national database of use to more groups than just us
- 14) John Porter: site database
- a) Provide information on available resources for field research consistently
 - i) Provide information for selecting sites for particular issues
 - b) Several scientific networks to be integrated and to use database
 - c) Dynamic database can be viewed multiple ways
 - i) Hierarchical administration and structure
 - (1) Can drill down to individual sensors if you wish to enter it
 - d) Web form-based interface with password control
 - i) Database input form on-line; general and specific information can be entered
 - ii) Types: general, affiliations, research sites, research themes (selection criteria), facilities
 - iii) Can I select by affiliations? Queries presently very plain, but structure lends itself to searching once fully operational
 - e) Status: conference call with all groups and demos completed
 - i) Roll-out of system for November
 - f) How to make sure that MAREO is well-represented?
 - i) Instructions for use, periodic reminders, committee to track process and use, etc.
 - ii) Other strategies discussed in small groups
 - g) Database covers the country, but we can find specific sections once it is operational
 - i) Want it to be as wide-ranging within field ecology/biology as possible
 - h) Can it be expanded beyond field stations down the road (ex. archives, soil tests, etc.)?
 - i) Structure of database is around sites rather than capabilities, but possible to add these places into database anyway
 - (1) Could create a separate database later

- i) A lot of this data already exists: could just lift data in? Won't data base just contain already existing information?
 - i) Many of these groups are involved and pushing for this dynamic form: modernize the system
 - ii) People won't have to put data in a lot of times
 - j) Can we separate individual members from institutional members?
 - i) Right now, "affiliation" is defined by whoever puts data in
 - ii) Will eventually need formal papers signed for every institution that will participate, or we are participating as individuals only and not as institutional representatives
- 15) Small group breakout
- a) Focusing on the questions for October meeting
 - b) Separate notes for each group

Notes Wednesday Morning/Afternoon 092904

- 16) I couldn't take notes for group 1 discussion: laptop was in use with projector
- 17) Discussion for group 2
- a) Boundaries need to be defined more understandably
 - b) Are administrative and negotiable
 - i) For participation and planning purposes; work doesn't stop at boundaries and planning units go away
 - ii) Regional units for national-scale scientific issues: regions should be defined in a way useful to these issues
 - iii) Boundaries are fuzzy: should not be an issue
 - c) Boundaries are self-fulfilling prophecies: will eventually need a rationale
 - i) Perhaps should be sent back to national level for resolution
 - ii) Some thought initially, but some significant political input
 - iii) No natural system of boundaries will solve everything
 - d) Boundaries can be changed; can be sent back to national
 - i) Are these the best boundaries?
 - ii) **What do these boundaries actually mean?**
 - e) Boundaries may form more clearly once the observatories are sited
 - i) Summer workshop: no detailed discussion of boundaries and observatories
 - ii) Bruce's discussion: new idea to think of observatories as entities rather than regional groups, with a region having one or more observatories (regions were observatories at one time)
- 18) Discussion for group 3
- a) Need some verbiage for nominations of other people; should be a supporting statement from MAREO for these nominations
 - b) Bruce/AIBS will contact individuals to see if they are willing to serve, but anyone nominating others should check to see if they are willing first
 - i) Nominator should provide some biographic information
 - c) Collect names of people willing to serve, someone in group must make a nomination with substantive information
 - i) If we need an endorsement, MAREO should vote on that endorsement
 - ii) Sheets here are informational, but people nominated will have to enter their information on the website
 - (1) Person doesn't have to be on-board right now: they will be contacted beforehand
 - iii) Nominees will be responsible for attending all of the three meetings in the next year plus a training meeting (1 full day)
 - (1) People must be dedicated to creating a national organization; some political work
 - d) Will there be commitments outside of the meetings? Not as far as they are aware
 - e) Training for heads of each subcommittee only, but some nominees might be heads of subcommittee
 - f) Subcommittees will play an important role in vetting and narrowing questions? Rina doesn't know how that will happen
 - g) What about the other 7 committees (not Science and Human Dimension)? MAREO needs to populate these as well

- h) So people should be pretty liberal about listing people who would be good choices; list is information for us
 - i) People aren't official MAREO nominees in the sense they aren't voted on
- i) Everyone in the room can nominate people outside of this meeting or listing
 - i) Can add your voice outside of MAREO

19) Discussion for group 4

- a) Engaging other groups now: we don't have any other activities planned soon
 - i) Should have educators involved for next September, educator or two on executive board for January meeting
 - ii) It might take someone knocking on doors to get people involved: an invitation might not work
- b) Who are the "policy makers"?
 - i) Congressional representatives or legislators, reps from state environmental or policy agencies
- c) Policy makers are busy: will want something concrete to get involved in, but early enough to catch input
 - i) Hold next MAREO meeting in DC to make it easier for policy makers to attend
 - ii) Target appropriate committee members
- d) How important is this? Should we set up a committee or executive board subcommittee to do this?
 - i) Will need a tight story (what we are doing, where we are going, etc.) to approach legislators or you will look poor and won't get future access because you wasted their time
 - (1) Might be more effective to develop (instead or in conjunction with personal approaches) relationships with the institutions where we are, because institutions can help influence congressional staffs
 - ii) Staffers are very interested in NEON; we could go to our local representatives about NEON and MAREO (the more local part of it all)
 - (1) Get them up to speed on where we are and what we are, and the importance of supporting NSF in its efforts to fund NEON
 - iii) Once we get through the planning process, it would be a good time to go to the Hill
 - (1) Fight our label as being "vague"

20) Other morning things

- a) Mailing list of people who can come and folks who are interested but can't be here
 - i) Do we want a listserv instead? Some support for it, but means more e-mail
 - (1) Transfer all on e-mail list to listserv, and folks can remove themselves if they wish
 - (2) Include information on adding in so we can send it to others
 - ii) Moderated? Someone would have to volunteer to be the moderator
- b) Leaders will review big points after lunch
- c) MAREO relative to NEON relative to other regional groups
 - i) Suggestion that MAREO remain partly distinct beyond planning phase, but other regions could follow other models? Is there a forced model that will be required by NEON?
 - (1) Uncertain, but NEON will need each observatory to have certain attributes, so likely to have some standardization but not necessarily all aspects mandated

- ii) A minimal level of standardized organization, but other regions can be quite different without affecting us or NEON
- d) Will we talk about MAREO committees?
 - i) Will discuss after lunch
- 21) Lunch
- 22) Odds and ends
 - a) Powerpoints, key documents, and images are on the MAREO web already
 - b) Will go over key ideas, may get out early
- 23) Major points from groups
 - a) Group 1
 - i) 4 strawman scenarios were good
 - (1) Favored strawman 4 (semi-autonomous MAREO, integrated tightly to NEON but having a substantive structure for pursuing independent projects
 - (2) If NEON disappeared, MAREO could continue
 - b) Group 2
 - i) Boundaries were a key issue; were they right? Useful?
 - ii) Important to form linkages to other regions
 - iii) Corridors and gradients should be considered
 - iv) Strong expression of strengths of MAREO: justify our existence
 - v) Sampling across gradients will be a key to MAREO
 - (1) Also in group 4 report
 - c) Group 3
 - i) National committees being formed, we can nominate people (ourselves and others)
 - ii) Importance of brochure: need to communicate our mission better and bring others in
 - iii) Creation of the national database: make it easy for people to participate
 - d) Group 4
 - i) Phase in challenges, some are lower order than others (needed to explore the others)
 - (1) Gradients key to us, good for conducting comparisons across regions
 - (2) Not prioritizing so much as distinguishing among them, but all are important
- 24) MAREO committees
 - a) Vision and Mission: Write a vision, mission, and purpose statement for MAREO (to be voted on next September)
 - i) Brent Yarnal, Mike Reiter, Pat McGonigal
 - ii) Evolving concepts: subject to change
 - iii) Smithsonian document on MAREO could be useful as a starting point
 - iv) Draft to bring to Executive Board meeting in Jan/Feb
 - b) Bylaws: Put together the bylaws for MAREO
 - i) Bob Gardner, Mike Bass, Bill McShea
 - ii) Implies organizational structure is known: might be more info on this after Oregon meeting
 - (1) Could also provide options for bylaws based on different structures
 - iii) Write a compact as well, to give reasoning for bylaws
 - iv) Draft to bring to Executive Board meeting in Jan/Feb
 - c) Resource Identification and Inventory: Search and recruitment for facilities that could be an important part of MAREO
 - i) Eric Nagy, Chris Jones, Everett Joseph, Jose Fuentes

- (1) Everyone can help by recommending facilities in their areas, or places that aren't yet represented
 - (a) Could use other organizations (ex. ESA) to advertise so people will contact us
- ii) Will presently registered facilities be rolled over into the database?
 - (1) Look for a convenient way to take our database information and transfer it to others, though the data needs aren't identical among the databases
- iii) Is it worth registering now, before the new database is up?
 - (1) Waiting is fine: existing registrants will be notified of the new database
 - (2) Can send data to John, but it would be nice if people are responsible for their own entries
- iv) Will be able to search for MAREO sites in the new database? Somehow, yes.
- v) By January: current MAREO info into database, status report at Exec Board meeting, requests for participants out to large distribution sites
- d) Create a fourth: Internal Outreach: developing MAREO-specific links with potential regional stakeholders (agencies, organizations, institutions, individuals) and institutional administrators for buy-in and data access
 - i) Mark Luckenbach, Beth Adams, Rich Pouyat
 - ii) Should they develop a brochure? Hard to do without more details on structure, organization, etc., but can think about what information should be there for when we are ready
 - (1) Can also develop initial links to pave the way for this step later
 - (2) Educate various stakeholders on NEON and MAREO concepts (short summaries are fine)
 - iii) NEON poster is on the NEON website (documents, outreach)
 - iv) Group leaders should review last January document
 - v) By January: status report on what should go into a brochure
- e) If committees talk to each other, they can provide information necessary for each others' tasks (especially first two committees talking to the other two)
- 25) Executive committee meeting Jan/Feb (after national committee meeting)
 - a) Will need full group meeting about a year from now
 - i) Will call one earlier if needed (April?)
 - b) Need more executive committee meetings?
 - c) Will give a report to group: keep folks up to speed
 - d) Too conservative an approach?
 - i) Be ready to be flexible after the October meeting
 - ii) Try to have a really good proposal in order to be among the first proposals funded
 - (1) Expect others have more-developed ideas
 - iii) If representatives feel this is true, will need to be open to holding another meeting to "keep up with the competition"
 - (1) Need a meeting if there is a specific purpose, not just to meet
 - (2) Will there even be proposals? Proposals just for observatories within the region?
 - iv) In our best interest to be in the first group
- 26) Date for exec committee set: Feb. 1 and 2, 2005
- 27) Interesting period for NEON: some definition but still flexible
 - a) Time to create some input into the structure
 - b) Regional vs national concerns are important to structure: keep developing recommendations and present them

c) Important to be involved in the design process