

**EMWoG Telephone Conference Call
Tuesday March 9, 2006, 2-3.10pm EST
Minutes and Action Items**

Present: Gary Egbert, Kevin Mickus, Steve Park, Rob Evans, Adam Schultz, Martyn Unsworth, Shane Ingate (quorum achieved).

Apologies: Phil Wannamaker, Dean Livelybrooks.

Minutes from Feb 2, and informal notes from Feb 21, were approved and posted on the EMScope web site.

Transportable Pilots:

Group discussed the value of a shorter 20-30 station pilot, viz. complete coverage of the state with 50 sites. Group agreed that a small pilot would not provide accurate assessments of the cost of deploying and maintaining the TA, especially in a state with disparate landforms, land ownership patterns, road systems, etc. The experiment is also aimed at exercising the equipment and the data processing system through a large number of deployment cycles to settle reliability issues. Furthermore, Group indicated that the larger deployment would be more useful to researchers planning to analyze this data set, whereas the smaller deployment would not provide useful data until the remainder of the state was covered.

Group then discussed the budget for the pilot. Given the initial estimate of \$2K/station, approximately \$100K will be assigned. If bids are significantly higher than this number, then the scope will be reduced.

Action: Group unanimously supports a 50-site state-wide experiment.

Group also discussed the need for a scientific justification for its selection of Oregon as the site of the pilot.

Action: Egbert, Livelybrooks and Schultz will pen a 1/2-1 page scientific justification for conducting the pilot experiment in Oregon. Talking points include Cascadia, volcanoes, synchronicity with TA (seismic), synoptic EarthScope databases, etc.

Discussion on NIMS FLASH Cards: Narod recommends only 256 Mb SanDisk cards. This card stores only 21 days of data, which is insufficient for a 1-month deployment. Group has had experience with 1 Gb cards that have proved difficult to use and are not recommended by Narod. Narod is working on certifying other cards. Group has had good experience with 512 Mb SanDisks, especially in the commercial grade "Extreme Grade". Group recommends purchasing and distributing cards to installer. Further discussions on the shipping of cards from the field site to the data center. Egbert indicates that his staff would most likely read and download data from the disk the same day it was received.

Action: Group recommends looking at the bulk purchase of many (50-100) cards and distributing these to contractor at the beginning of the contract. This way, cards would never have to be shipped back to the field, thus saving some shipping costs. Ingate will evaluate the cost implications.

Contractual Items: Group discussed whether the ESMT-POM contract should be fixed-cost or fixed-cost plus incentive. ESMT-PSP uses a cost-plus model, because the cost of individual permits are unknown. ESMT-POM can be defined on a cost/station schedule. An incentive fee based on deployment could encourage a contractor to demobilize sites as quickly as possible (within the 21-day recording requirement), which could lead to an experiment with 21-day deployments rather than 30. Group had mixed opinions of the value of 30-day over 21-day deployments. Group instead discussed an incentive fee based on data quality.

Action: For the Oregon pilot project, ESMT-POM will remain a fixed-cost project. Group will consider and refine the concept of an incentive fee for ESMT-TSP.

1-Pager (Hosting MT):

Action: Schultz recommends different images. Group recommends changing MKS measurements to Imperial. Otherwise, approved for distribution. Ingate to redraft new images.

Planning for TA in Other States:

Group discussed the need to define a process by which regions of scientific interest are selected that require 70-km inter-site arrays, vis sparser arrays in regions of less scientific value.

Group agreed that MT east of the Rocky Mountains will probably use sparse arrays, except in New England and possibly around New Madrid. Only one BB/LP experiment has been conducted in the east, a line along the Appalachians. MT is not tied specifically to tectonic regions, as the central plains region (?????) in the US is not tectonic, but has many geological questions that need to be solved.

Historical experiments in the west include EMSLAB (a E-W line in OR, 14 stations with 10-km inter-station spacing, frequencies below 300 sec); N. Dakota lines in the 1960s (Booker claims these are pre-EMSOC, but Group feels that the data should be rescued and archived); additional ND-MT lines run by Unsworth in the 1990s; Wannamaker has run lines all over NV, UT and Colorado Plateau; deGroot-Hedlin has had an experiment on the Snake River Plain; Unsworth collected LP data from Olympic Mountains (WA) in the 1990s; Unsworth have data from NW WA and San Juan Is. In 2004.

Action: The map of previous broadband/long-period experiments is key to commencing this discussion. Park will commence acquiring experiment details (e.g., dates, lat, long, etc), and should have this complete by the end of March. Unsworth will collect Canadian sites close to the 49th parallel.

Backbone Scheduling:

Action: Ingate will work with Schultz to draw up a preliminary schedule for Backbone permitting and installation and will distribute to EMWoG.

Magnetospheric Physics at UCLA:

Park will meet with this group in early Spring. This group uses N-S and E-W lines of (relatively poor quality) magnetometers and use travel-times for tomographic imaging to measure plasma density, etc. Two items of interest to both groups will be discussed: 1) co-location of EMScope instruments at UCLA magnetometer sites, and data sharing of EMScope data. Issues will be timing of the Transportable seismic Array (because EMScope TA is embedded within its footprint), and working with the contractor to work in N-S or E-W swathes.

Action: Park will keep Group appraised.

IRIS Pre-Workshop Course on MT:

The following syllabus is being used in the 3-day Memphis course, and by eliminating the field work (system set-up and take-down), should be easy to achieve in a 1-day course:

- Introduction
- What does the MT method sense?
- Electromagnetic Theory behind MT Method
- MT Transfer Functions: Impedance and Vertical Magnetic Field Transfer Functions
- 1-D, 2-D, and 3-D Interpretation
- MT Instruments – EMSOC, US Array
- Data Access – IRIS DMC, BSN
- Data Analysis - WinGlink
- 1-D Interpretation
- Designing 2-D Models
- 2D MT Inversion Examples
- Beyond Conductivity – Back to physical properties and joint modeling with seismic data

Park indicates that 15-20 participants working in pairs would be the maximum number. Pre-workshop requirements are that participants would download WinLink from the web onto their Windows/XP/equivalent machine. Apple-equipment and LINUX will not work. WinLink is free software, but requires a licensed dongle. Park and Wannamaker will round up 10+ dongles for use at this course.

Meetings:

- UNAVCO Science Workshop, March 14-16.
- Transportable Array Working Group, April 10-11.
- SSA 1906 Earthquake meeting, April 18-22.
- IRIS CoCom/BoD, May 3-5 2006 (I need to submit a semi-annual report).

- USAAC telecon, TBD (but within next 2 weeks). USAAC wants to be updated on all MT developments.
- USAAC meeting, May 16-17.
- USArray Review and EFEC meeting, May 17-18.
- IRIS Workshop, June 8-10.

Next Telecon:

Thu 23 Mar 2-3 pm EST.