

**Notes from Telephone Conference  
ANSS-IMW Regional Advisory Committee (RAC) and Working Group (WG)  
Friday, July 21, 2006 (2:00–3:00 pm MDT)**

**Participants**

Walter Arabasz, Regional Coordinator/Recorder  
Dave Brumbaugh (WG) — Arizona  
Vince Matthews (stand-in for Colorado RAC members) — Colorado  
Roy Breckenridge (RAC) — Idaho  
Ed Deal (RAC) — Montana  
Mike Stickney (WG) — Montana  
Glenn Biasi (WG) — Nevada  
Wallace Ulrich (RAC) — Wyoming

**Agenda**

1. Introduction and background information: Opportunity for funding a special meeting to begin outlining a long-term strategic plan for unified seismic monitoring throughout the ANSS Intermountain West Region (AZ, CO, ID, MT, NM, NV, UT, WY) — Walter Arabasz
2. Discussion to decide whether to pursue the opportunity for the strategic planning meeting. If YES, decide on dates (effectively constrained to be in August) and probable head count so cost-proposal can be submitted ASAP to ANSS managers; if NO, discuss other options and timetable for shaping the IMW strategic plan.

*Note: Glenn Biasi kindly provided his notes from the teleconference. I've incorporated his information into the general account documented here (intended only to capture the gist of the discussion); I assume responsibility for any inadvertent errors. — Walter Arabasz*

**1. Introduction and background information**

Walter Arabasz described how the funding opportunity for the IMW meeting arose. Bill Leith, ANSS coordinator for the U.S. Geological Survey (USGS), recently offered to each ANSS regional coordinator the chance to convene a meeting of their Regional Advisory Committee (RAC) in advance of a September 13 proposal deadline for three-year renewals of USGS cooperative agreements that support regional seismic monitoring. (The last meeting of the IMW-RAC was in November 2005 via teleconference.) In discussing the IMW region, Bill and Walter judged that a meeting to start on a region-wide strategic plan would be particularly valuable—hence, involvement not just of the IMW RAC but also network operators in the region.

Because network operators funded by the USGS will be involved in proposal writing in early September, and because any outcome of a strategic planning meeting would be relevant, such a meeting would have to be in August. Walter pointed out the possibility of meeting later in the Fall if participants felt too time-pressured by the prospect of an August meeting. However, options seemed to be limited to the third week of September or November.

The IMW RAC many times has gone through the exercise of outlining ANSS needs in the IMW region. For the most recent summary in November 2005, see <http://www.seis.utah.edu/anss/summary4NSC.pdf>.

**The CISN model.**— In Walter's view, the strategic plan created by the California Integrated Seismic Network (CISN) ([http://www.cisn.org/program/CISN\\_Strategic\\_Plan.2002.pdf](http://www.cisn.org/program/CISN_Strategic_Plan.2002.pdf)) offers a good model for other ANSS regions. California is an ANSS region whose boundaries coincide with the boundaries of a single state. The California Office of Emergency Services (OES) brought together the operators of existing separate seismic networks in California, determined desirable earthquake information products and services that the state OES needed, and then helped facilitate a strategy for integrating the separate networks into a single seismic monitoring system. Basic elements of the plan—equally relevant to the IMW region—included unified seismic monitoring throughout the region, assured response to large earthquakes, and fast reliable information flow to emergency managers.

**Example IMW needs.**— Seismic monitoring needs in the IMW range from sensors to data processing to information flow. The existing patchwork of stations at both regional and local scales requires more sensors for coherent monitoring. There currently are 22 unfunded stations in the ANSS national backbone in the continental U.S. Ten of those stations are in the IMW region—including Arizona (3), New Mexico (3), Colorado (2), Wyoming (1), and Nevada (1). The deployment of USArray broadband stations in the IMW region during the next year or so will temporarily fill in holes in the national backbone, but completing the latter stations remains important. Colorado does not have a statewide regional seismic network and depends on scattered broadband stations for monitoring, which is handicapped by the absence of funding for national-backbone stations at Maybell in NW Colorado and at the Kit Carson site in eastern Colorado.

One example of the need for improved data processing is the Teton seismic array in NW Wyoming. Earthquakes as small as magnitude 3 may be located by NEIC and posted on the Web, but there is no uniform cataloging of smaller earthquakes being recorded by that network. In terms of information flow, the assumption is that each state has a desire and vested interest in being able to provide earthquake information to its state officials directly by someone within the state—whether a network seismologist, state geologist, emergency manager, or the like. The reliable and quick delivery of information to such individuals from an ANSS system has to be designed.

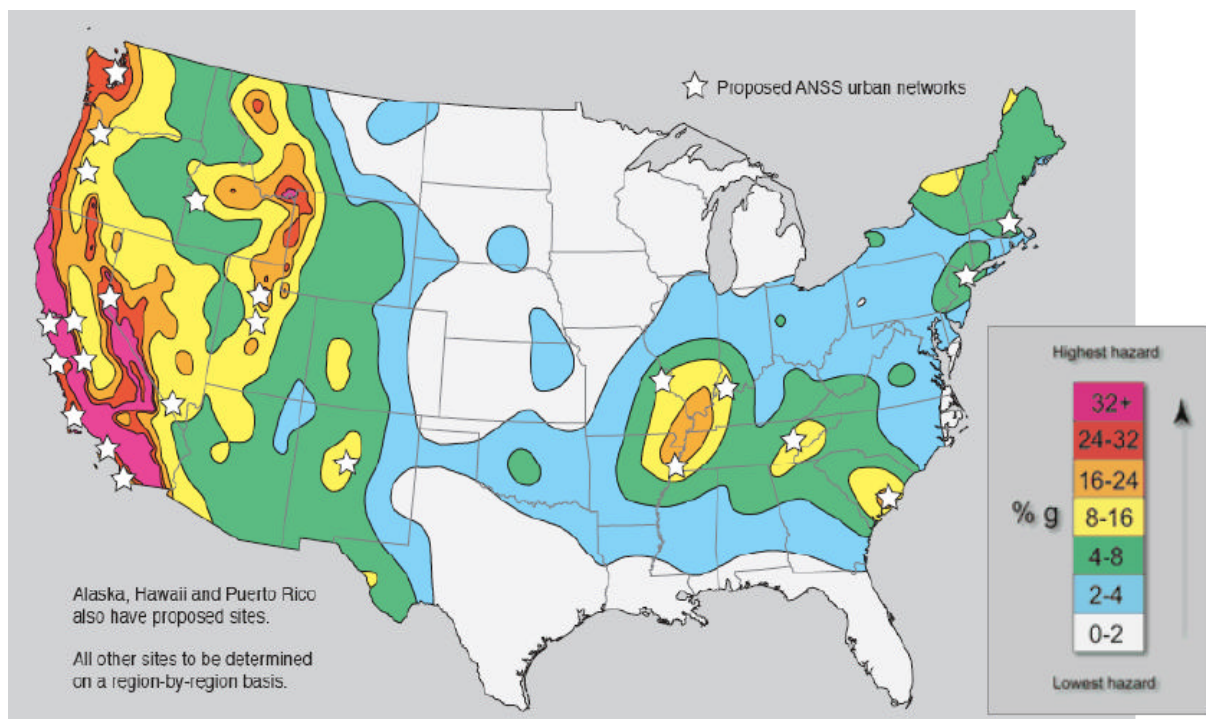
**Political activism.**— A possible outcome of consensus on a strategic plan for the IMW region is joint political activism to get the necessary resources. There was discussion of a draft request for a congressional earmark of \$8.6 million for Nevada, currently in an early planning stage and being put forward by Jon Price, Nevada State Geologist (details of the draft earmark request were circulated by Jon to all the IMW state geologists, three of whom were on this teleconference). The desired funding request includes dollars for retaining EarthScope Transportable Array stations temporarily installed in Nevada, telecommunications to incorporate the stations into the Nevada regional seismic network, some GPS equipment, an increase of \$1 million in the USGS external research program (with 50% earmarked for research in the IMW region), and ongoing operations and maintenance costs. Nevada's intent is to try to make the one-time increase a permanent addition to the USGS/ANSS base budget so that other states can be helped in future years. Earmark requests for the FY2008 budget cycle would typically have to be made to congressional staff by February or March of 2007. If an IMW strategic plan is to be a springboard for earmark requests for FY2008, the plan would have to be ready by the end of the 2006 calendar year.

## 2. Discussion on strategic planning—and a meeting in August

One justification for strategically adding sensors in the IMW region, according to Glenn Biasi, is that significant hazards may still be unknown. There are mapped faults whose activity is uncertain, and there are seismically active areas that are poorly instrumented.

Vince Matthews emphasized the potential value of a consensus document that could be used to approach congressional delegations. Pursuing earmarks may be the only realistic way to get more funding for ANSS. Walter asked Vince about an earmark request made this past year. [The Colorado Earthquake Hazard Mitigation Council submitted a request to Colorado's congressional delegation advocating \$150,000 for three additional ANSS seismographs in Colorado.] Vince replied that it wasn't an active effort and that it was hard to get attention from their congressional representatives.

Walter pointed out that a recently released document on "ANSS Performance Standards" (see [http://www.seis.utah.edu/anss/ANSS\\_Perf\\_Standards\\_v2\\_4.pdf](http://www.seis.utah.edu/anss/ANSS_Perf_Standards_v2_4.pdf)) provides two important pieces of guidance for prioritizing seismic monitoring. First, for urban strong-motion monitoring, the Standards define "high-risk urban areas" as the 26 metropolitan areas listed in Table 3 of USGS Circular 1188. For the IMW region, these include (see stars in the map below): Salt Lake City and Provo-Orem, Utah; Reno and Las Vegas, Nevada; Albuquerque, New Mexico; and Boise, Idaho. Second, for regional monitoring, "moderate-to-high hazard regions" are defined as areas having an earthquake hazard probability—based on the national, 2% in 50 years, probabilistic seismic hazard maps—of 8% peak ground acceleration or higher (see areas in yellow, orange, red, and pink in the map below).



Regarding the seismic hazard guidelines, Vince Matthews argued that Colorado was caught in a “Catch 22”: the seismic hazard in Colorado may be underestimated because of the historical lack of seismographic coverage there, which then lowers the priority for adding new stations.

Glenn Biasi emphasized that EarthScope’s USArray offered an important opportunity for IMW states and that an inheritance or buyout of every third or fourth USArray station would lead to a huge improvement of seismographic coverage in all IMW states. Mike Stickney seconded Glenn’s idea. Further, by seeing how individual stations performed, one could select the best ones. Roy Breckenridge concurred, noting that in Idaho they had a lot of input to the siting process for USArray stations.

Wallace Ulrich described the importance of partnerships and local support from the Teton County Commission as key to Wyoming’s success in getting congressional funding for the Teton seismic network.

Vince Matthews asked whether the IMW strategic plan might be a place to discuss post-earthquake clearinghouses, which have been the focus of lots of discussions among IMW state geologists and emergency managers. Walter said he’d thought that was an appropriate part of earthquake information flow.

Roy Breckenridge commented that Steve Weiser, one of Idaho’s representatives on the IMW Regional Advisory Committee, had recently retired and that David Jackson had replaced Steve as Idaho’s state hazard mitigation officer.

Walter asked the group whether they were ready to have a strategic planning as early as August or whether individual states needed more time, say to talk among themselves and forge partnerships where there were natural affinities. Possibilities might be Idaho and Montana, Colorado and New Mexico, and perhaps Arizona and New Mexico. Looking at the seismic geography (see map on preceding page), Dave Brumbaugh observed that his network area in northern Arizona had a closer affinity to the seismic belt continuing into Utah. Walter pointed out that an affinity didn’t necessarily have to be unidirectional. Nevada’s regional seismic network, for example, shares a major interest with California in monitoring seismicity along the California-Nevada border but also has interests eastward in the Basin and Range.

Once again the question was put to the group about how to proceed. The strong sense of the group was to forge ahead with a strategic planning meeting. Factors influencing the decision to meet sooner rather than later included (1) momentum, (2) timeliness for coordinating ANSS political activism for the FY2008 budget cycle, and (3) the imminent arrival of USArray stations in the IMW region—requiring early efforts toward finding funding to retain some of the stations.

The selected dates were August 14 and 15, 2006, in Salt Lake City. Recognizing that costs had to be kept reasonable, Walter said he would request support from Bill Leith to pay travel costs for at least one network operator and one RAC (or equivalent) representative from each IMW state. The group agreed with that plan.

The teleconference ended at 3:00 pm (MDT).