Active Earth Monitor User Survey Results

The AEM survey was sent out to all AEM user emails on Aug 30, 2016, and there were 19 responses.

Of the 19 respondents, 74% of respondents (14) are currently using the AEM. The reasons stated for discontinuing use of the AEM were 1) change in exhibit topic, 2) loaner kiosk relocation, 3) functionality issues with the kiosk, 4) building remodel, and 5) lack of screen space.

Display Information
When in use (currently or previously) the AEM was used as -
- Part of an IRIS kiosk (18%; 3)
- Part of a display using a non-IRIS kiosk (29%; 5)
- Part of a different type of display (i.e. TV screen, computer monitor, etc.)   (53%; 9)

Additional or extended answers included-
- Inside a glass case at a high school (1)
- Part of a UNAVCO kiosk (1)
- PC running porteus kiosk software (1)
- PC and screen (1)
- Hallway display (1)

58% of respondents (11) said that the AEM is a primary display, 32% (7) said it is part of a larger display, and two said it was "other". Of the two "other" responses one was actually part of a larger display and the other was being used for "testing".

The respondents who answered that the AEM was part of a larger display said the theme or focus of the display was:
- earthquakes
- earthquake safety
- earthquake and tsunami hazards
- Earth Science classroom display:
  - -Computer showing our weather station
  - -Computer showing Active Earth
  - -Computer showing our AS-1 display
  - -AS-1 seismometer
  - -Local Short Period Seismometer Drum Heilcorder
- Primary exhibit is the ASL WWSSN Museum display adjoining the ASL conference room. The AEM is a small kiosk in one corner of the conference room
- Live seismic data from jump mat and also school seismometer system using Jamaseis, and Science on a Sphere

Venue Information
The AEM display has been used in venues of all sizes. Most venues displaying the AEM have more than 10,000 visitors a years (37%; 7). 32% have 1,000-5,000 visitors (6) and 21% have less than 1,000 visitors (4). One venue reported having between 5,000-

10,000 visitors and another said they didn't know. The primary audience for these venues is the general public (58%; 11) and school groups (58%; 11). 37% (7) are frequented by high school students, 26% (5) by college students, and the others by perspective students and their parents, conference and meeting attendees, and visiting scientists and professionals.

79% of respondents (15) said that their venue did not have any other displays with content similar to the AEM. 37% (7) said that their venue had no other interactive displays. Of the 10 respondents whose venue had interactive content two specified that the interactive content was 1) fundamentals of science and 2) CISN.

Six respondents reported that their AEM display was in areas of heavy foot traffic, 10 said it was placed in areas of moderate traffic and one said it was in a low traffic area. The comments about the AEM specific locations were as follows –
- Inside a display case
- In front of the theatre
- In a school, location to be determined
- Near the front entrance to the library
- Hallway
- Between two other exhibits
- Mineral gallery
- In the visitors center exhibit area
- In the back corner of the visitor's center
- In a STEM lab area (classes Monday-Friday)
- In ASL conference room (occasional school classes and meetings)
- In the lobby
- Gallery
- In the hallway outside my office
- Museum alcove
- Window display case

Only 32% advertised the AEM (6 of 19) and of those 67% verbally advertised the display, 17% advertised online, 33% made a poster or banner and 17% had exhibit signage.

Navigation and Content
When asked if the display was easy to navigate most said that it was. On a sliding scale from Easy (0) to Hard (100) the average score was 24. Two respondents ranked the display as >70 (hard) while 13 ranked it as <30 (easy). However, only three respondents ranked the display as one (very easy).

When asked if the content was engaging most said that it was moderately engaging. On a sliding scale from "Not Engaging" (0) to "Very Engaging" (100) the average score was 62. Nine respondents ranked it as engaging (>70) while two respondents gave scores of <30 (Not Engaging). No one ranked the display as 100% engaging.

When asked if this content helped to educate their visitors most respondents answered yes. On a sliding scale from No (not educational; 0) to Yes (Educational; 100) the

average score was 80 with 13 respondents giving a score of 70 or higher. Two respondents gave a score of <30.

When asked about the length of the content 11% (2) said it was too long, 79% (15) said it was about right and one respondent said that they had customized the length to make it much shorter.

The most widely used content set was the "General Seismicity (aka AED)" set with 14 of the 19 people reporting that they used this content (74%). This was followed by the EarthScope content set with four users (21%), the New Madrid and All/Widescreen both had three users (16%), the Basin & Range and "Unsure" had 11% (2 users) and the Alaska and Cascadia content sets had one user each (5%). Only 16% of respondents (3) were not aware that there were multiple content sets.

Most users did not customize the AEM (61%; 11), but the 39% that did said that they added content, including:
- regionally specific content (Alaska)
- real-time geophysical data, weather, local seismic station information
- volcano cams
- NPS websites

The users that did not customize the display cited time constraints (30%; 3), lack of expertise (20%; 2), no wish to change the display (20%; 2) and lack of knowledge that customization was an option (30%; 3) as reasons for not changing the display. One person said they tried to customize the display and it was too complicated.

When asked what they would change about the content sets they replied:
- Love it, very educational and hits on many layers of knowledge. Only thing I would change is adding an active regional earthquake tracker.
- It used to be interactive and now it just sits there
- Switching up the content so that they engaging component is first and then proving paths to dig deeper. Use more of the exploratory components.
- The new seismograph pages take too long to load and aren't as clear (crisp) as the old ones.
- I especially like those with simple animations as I have my AED in non-interactive mode. The recent seismograph slide for ANMO hasn't changed recently, so I'm not sure if there's a glitch or if it isn't actually a near real-time seismogram slide anymore. It would be nice to have a real-time one on one there.
- Add new Alan Jones seismic waves html5 display by default
- Add some photos of seismic stations
- More interactive
- The color schemes are a bit garish and don't look like a modern design. It would be nice to have updated visuals.
- List showing previous days/weeks earthquakes.

Most users opted to turn off the sound on the display (74%; 14) mainly because it was distracting (58%; 7) or they didn't think it was needed (33%; 4). Other reasons for not using sound were that there were other displays with sound or the display did not have sound functionality.

Visitor Response to the AEM
Respondents reported that about 33% of their visitors interacted with the AEM. Three respondents reported that at least 75% of visitors used the AEM, while nine said that 25% of less of their visitors used the AEM. Additionally, they reported that most visitors used the AEM for about three minutes.

When asked if visitors interact with the AEM more or less than other similar displays most respondents said it was about the same (50%; 9) while 28%(5) reported less use and 22% (4) reported more use.

Most respondents (84%; 16) said there was increased interest in the AEM after an earthquake or other newsworthy geologic event.

Operation and issues

Ten people are running the AEM using Windows XP, three are using Windows 8, three are using Windows 10, two are using Windows 7, one is using MacOS, one is using Linex Porteus and one is unsure (probably Windows 8).

39% of respondents (7) are using Explorer to run the AEM, 33% are using Firefox (3) and 28% (5) are using Chrome.

Only 37% (7) of respondents reported issues or challenges with the AEM. Of those that had issue two said the issues were never resolved, others said they had problems with the computer locking down or updating, while others had issues with slow loading content, the dependence on Flash, and internet availability.

General Comments
- This unit is a great addition to our earthquake exhibit
- We are not using it to its full capacity and it would be great to have a guide to trouble shoot it
- Asking for average time is misleading. The range of interactions is from 30 sec to 15 minutes
- Overall, it's great. Would love to customize for our exhibit but may wait for a newer operating system.
- Seismograph pages are very popular, but they take too long to load and are blurry. Much preferred the old tables.
- Would like to promote use in schools with very low cost hardware but problematic with Flash
- The last I was aware the proportion of the display is in an old format. It would be nice to see it updated to a 16x9 widescreen format for modern touchscreens.
- The kiosk and associated displays are a valued addition to our museum.

September, 29, 2016   *Wendy Bohon and Russ Welti*