EDUCATIONAL PARTNERSHIP EVENT REPORT AND RECOMMENDATIONS

Attendee and Report Writer's Name:
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Event: GIS Course for EPA Region 8 Staff

Location: Denver, Colorado

Event Date(s): February and March 2005

At the request of Lee Shanklin and Marilynn Mueller, EPA Region 8 GIS Specialists, I conducted two three-day GIS classes for the GIS staff of EPA Region 8 headquarters. It was a great privilege to do so, as I have much respect for the work that the EPA is doing.

Site of GIS course at EPA Region 8 headquarters in Denver, Colorado. Region 8 includes the states of Colorado, Utah, North Dakota, South Dakota, Wyoming, and Montana. Because it works with a vast amount of environmental data, EPA makes extensive use of GIS and spatial analysis.

Marilynn Mueller, Lee Shanklin, and Joseph Kerski in the GIS Lab, Region 8. I thank Marilynn and Lee for inviting me to teach this course and I thank them for their assistance in ensuring the classes were a success.

By conducting this training, I sought to further our partnership with the US EPA. USGS already cooperates with EPA on such projects as environmental research and the National Hydrography Dataset (NHD).

Participants in the EPA course included scientists from the air quality programs, computer programmers, water quality programs, and other programs. Our goal for this course was to use EPA, USGS, Census, and other spatial data, tools, and methods in the same problem-solving contexts as the EPA staff would use them, and thus help EPA staff to make more full

use of GIS in their everyday analysis.

One activity of the course was to do some field work and collect GPS coordinates and field attributes. We chose to include a large air quality monitoring station (above) in downtown Denver as part of our field work.

Above, Marilynn works with participants in the course. Lee and Marilynn helped individuals with the GIS-based problems, and helped me incorporate EPA GIS data into the course. I was extremely impressed with the EPA ArcSDE server, and the time that Marilynn and Lee have spent maintaining it. We made extensive use of the SDE server, as it contains water and air quality stations, power plants and anything else imaginable that would potentially have an impact on the environment, hydrography, Census data, transportation, DRGs, soils, geology, DEMs, and much more. We used the Terraserver tool for DOQ acquisition.

The lessons I created for the course were based on ArcGIS 9 and included:

analyzing natural hazards around the world and in Region 8,

analyzing local population values and change as related to environmental assessment,

siting an air quality monitoring station based on elevation, existing stations, and slope requirements,

geocoding addresses for the purpose of environmental enforcement,

registering imagery and creating layouts,

incorporating spatial data from the Internet and from the EPA ArcSDE server into GIS-based analysis,

incorporating GPS and field work data and hyperlinks within GIS,

making derivative data sets from and querying raster data such as elevation and land cover,

identifying abandoned lead mines near lakes,

and selecting the best study site for a rare plant based on soils, land ownership, streams, and office location.

We received positive comments from participants in the daily evaluation forms that we distributed, including the remark that “this was the best training I have received from the EPA, bar none!”

I believe that Lee, Marilynn, and I made a good team as we all believe in the power of GIS but also we take care in creating the course to be enjoyable, useful, and practical.

Acknowledgements

I would like to thank the EPA for the privilege of working with them. They made certain that we had the proper computer support for the event. We are planning a series of short workshops and another course in Fall 2005 with some of the same and also additional EPA staff.

*** End of EPA GIS Training Report ***