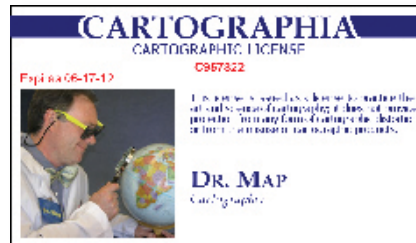


Ask Dr. Map!

Dear Dr. Map,



Q: I've heard reports that the monument marking where four states join at four corners is mislocated. Is that true?

A: The Four Corners Monument marks the location in the Navajo Nation and Ute Mountain Tribal Lands where the states of Arizona, Colorado, New Mexico, and Utah join. It is the only location in the U.S. where the boundaries of four states meet. The monument is located on the Colorado Plateau, 40 miles southwest of Cortez, Colorado, at 36°59'56.31532"N 109°02'42.62019"W. The point was originally declared by Congress to be (with respect to the Washington Meridian) equivalent to 37°N 109°W. It was initially surveyed by E. N. Darling in 1868, and a permanent marker was added in 1912. The current monument, in granite and bronze, with state flags and seals, was added in 1992. Both a surveying error and a datum change have moved the location to approximately 2.5 miles east of the current monument, where there is a simple Bureau of Land Management cadastral marker. As with many landmarks, a century of tradition and tourist developments (not to mention a \$3 admission fee) at the site make moving the monument unlikely. So in Dr. Map's opinion, the monument is exactly where it is and always has been. It is testimony to Congress's original goal of making states of equal size, four by seven degrees, and to the surveying standards of the late 19th century. The actual location, however, is not where the monument is! The web site www.confluence.org, dedicated to finding intersections of the world's graticule at one degree increments on WGS-84, places the location not 2.5 but 2.2 miles (3.5 km) East of the monument, 115 meters north of the Colorado/New Mexico state line on the Ute Mountain Reservation. It is a bit more than a mile south of U.S. Highway 160, but only 300 m north of the south bank of the San Juan River on the Navajo Nation, for which you will need a permit. Apparently you will also need a canoe. Makes the tourist traps at the monument sound a little more attractive!



Q: The attached map is of the Rochester, NY subway. What is its story?

A: A hundred years ago, Rochester, NY, was one of America's largest cities with over 330,000 inhabitants. With the decline of light manufacturing industry, today it stands at just over 200,000, but with a metropolitan area of about 1 million. In 1900, the city fathers decreed that the Erie Canal, which ran straight through downtown, was an eyesore, and would be the location for Rochester's subway. By 1927, a subway started to run along Broad Street, making Rochester perhaps the smallest city ever to have the luxury. Only 2 miles of track was actually underground, with most of the track in the uncovered canal bed and going under the street-level bridges. The subway lasted until 1956. The map shown (Source: <http://strangemaps.wordpress.com>) is apparently wishful thinking. The blue line is the actual subway, and the map follows the Harry Beck style (of the London Underground



map fame), topologically correct but distorted. The yellow, red, and orange lines were all at some time proposed as extensions to the subway, and would have greatly enlarged the transit system, but they were not to be. Not only is the blue line gone, the yellow, red, and orange lines have the distinction of never having existed at all, so this is what might be called an ex-future map. Consequently, Dr. Map

concludes that the Rochester subway map story is in its final chapter, and is part tragedy but mostly fiction.

Q:

Where does Norcal become Socal?

A:

Dr. Map detects that the author of this question is probably from the Golden State. Californians have long identified with their ends of the state, LA vs. San Fran, Oakland Raiders vs. LA Dodgers, and so forth. Left as a wide boundary zone in the middle is what has been called Central California, the Central Coast, and other names. In an effort to make a definitive statement on the issue, California-based map company Maps.com ran a web experiment. Users on the internet could draw a line on a state map dividing sports affiliations as they saw them between norcal and socal. The hundreds of lines were averaged (Dr. Map wonders how, and on what projection), and a definitive line was drawn. Maps.com is happy to sell you the resultant map for \$50 (\$60 laminated) from their website (<http://www.maps.com/maps.aspx>). Just for good measure, alternate lines for latitude, precipitation, and population are included too. Somewhere between Cambria and Visalia lies the answer. There obviously still is plenty of room at the Hotel California.

Dr. Map has a PhD and a cartographic license. Send questions to Dr. Map at askdrmap@cox.net or visit him on the web at <http://www.drmap.info>.



**The Pennsylvania State University
Mont Alto**

Position Title Part-Time Surveying Program Lab Coordinator and Advisor

Starting Date August 2009

Responsibilities Serve as campus lab coordinator and advisor for students in two-year surveying degree program extended via distance education by Penn State Wilkes-Barre and taught by faculty at Wilkes-Barre. The coordinator will spend an average of 12 hours a week to instruct students in the lab components of surveying courses and serve as advisor to students taking the program at Mont Alto.

Qualifications Minimum a Masters degree in surveying engineering or a closely related field such as civil engineering with surveying experience; registration as a professional surveyor in a state (preferably PA) required. Prior collegiate level teaching experience a plus.

Application and Inquiries Submit letter of application, resume, and names and addresses, phone numbers, and e-mail addresses of three references to:
Dr. Francis Achampong
Director of Academic Affairs
Penn State Mont Alto
Mont Alto, PA 17237
E-mail: fka3@psu.edu
Phone: (717) 749-6050

Closing Date Applications accepted until position filled, but priority will be given to candidates who send in applications by April 1, 2009. Please see <http://www.psu.edu.ohr> for more job and campus information

Penn State is committed to affirmative action, equal opportunity and the diversity of its workforce.