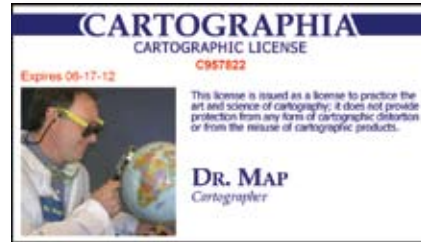


Ask Dr. Map!

Loops, angles, kings, wet T-shirts and lingerie

Dear Dr. Map



Q: What is geographically significant about New Madrid, Missouri?

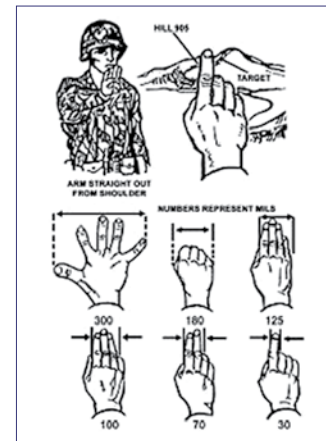
A: New Madrid, MO, is geographically significant as the epicenter of a series of over 1,000 earthquakes in 1811 and 1812, up to about magnitude 8, and the most powerful earthquake ever in the United States not on a plate boundary. From the history buff's perspective, New Madrid is also known as being close to the site of the Battle of



Island Number Ten, on the Mississippi River, during the Civil War. But most geographically significant, without doubt, is the curious fate of the Kentucky/Missouri/Tennessee border just south of New Madrid. A careful look at a map of Kentucky will show an odd outlier, just to the west of the point where the state comes to a point as the Tennessee/Kentucky border reaches the Mississippi River. This 17 1/2 square mile slice of land has been called the Kentucky Bend, the New Madrid Bend, Bessie Bend, and Bubbleland. It is the inside of an

oxbow loop meander of the Mississippi River surrounded by Tennessee and Missouri. In the 2000 census, the population was a mere 17 persons, officially known as Fulton County West Census County Division. The cause of the loop was in fact the shift in the Mississippi's path after the New Madrid earthquakes. Initially, the Kentucky/Tennessee boundary was estimated to end where it met the Mississippi. The western border of Kentucky is legally the Mississippi River, and so is the eastern border of Missouri, leaving the loop in a legal loophole, so to speak. Tennessee fought the inclusion of Bubbleland within Kentucky until 1848, but the dispute eventually became resolved to the current bizarre geographical outlier.

trained to estimate the number of miles using combinations of fingers, their fist, and hands held at arm's length. So if you see an artillery observer gesturing with his fingers toward you, don't give the single finger salute back, DUCK!



Q: What kind of angle is a MIL?

A: In many mapping applications, we divide horizontal angles into degrees, with 360 degrees of azimuth making a circle. The MIL is an alternative angular division commonly used by military organizations that usually (within NATO) divide the circle into 6400 MILs. MILs are shown on the declination diagram on many topographic maps. The link to the radian gives rise to the convenient fact that an object of size s that subtends an angle A angular mils is at a distance $d = 1000s/A$. If the distance is known, we can determine the size of an object by $s = A d/1000$. The result is easy to remember: an object that covers 1 mil at 1 km is 1 m in size. Artillery forward observers are usually

Q: What is the world's smallest German-speaking country?

A: The miniscule alpine principality known as Liechtenstein is, at 160 sq. km (62 sq. mi), one of the smallest independent countries in the world. With only about 35,000 Liechtensteiners, it is the only German-speaking country not to recognize officially any other language. The country took its moniker from the dynasty that ruled it, named for the Castle Liechtenstein in Wienerwald, south of Vienna. Liechtenstein may have been the first country in modern times to do without an organized military, it disbanded the 80-member army in 1868. Home of the only Jewish crowned head of Europe,

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the wife of Franz I, the king abdicated in 1938 rather than see Germany invade. In fact, the Nazis left Liechtenstein alone. In 2003, prince Hans-Adam won a referendum expanding the monarchy's powers, a rather unique fact in modern European history.



Q: Where can I get some cartographically savvy T-shirts?

A: Dr. Map's attention was recently drawn to the web site www.gisnuts.com. In rather nerd-fashionable and subtle colors, T-shirts with slogans such as: "Preserve Area: Use Albers Equal Area Conic"; and "NAD 83: We're not in Kansas anymore" would no doubt break the ice at even the most nerdy of cartographic cocktail parties. Dr. Map's favorite: "Never make cartographers mad: They'll tell you where to go, and draw you a map."



Q: What is ubiquitous mapping?

A: Mapping anywhere, anytime. Allow me to illustrate. The October 31st issue of *GPS World* carried a story about a Brazilian clothing designer who places a GPS receiver into a line of lingerie called "Find Me if You Can." For about

Mormon influence. The author calls Utah's bloated L-shape a "blemish" on the national map, but I think it lends the state distinction. Generations of map-dazed schoolchildren have confused Colorado with Wyoming, but everyone knows Utah.

After describing the liposuction of Colorado (it might have had Santa Fe!) into the stolid rectangle we know today, Mr. Stein observes: "The northern and southern borders of Colorado are artifacts of something remarkable. Or perhaps they are artifacts of something we think is remarkable, but which goes on more than we realize.

They are artifacts of foresight and planning by our elected representatives."

Bah. Give me the splendid irregularities any day. God bless the panhandles and notches, the West Virginias and Oklahomas. Good old North Dakota could use a knob; Wyoming would look good with a few zigzags. And, yes, we do need Delaware.



\$800, you get a lace bodice, bikini bottom, and faux pearl collar with a GPS unit in a see-through

section of the bodice. Designer Lucia Lorio says her product is aimed at the technologically savvy woman, "who will only be found when she wants to be found." Needless to say, only a few sets have sold so far. Must cost a fortune to do laundry! Highly suitable for wearing under the gisnuts T-shirts no doubt.

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