

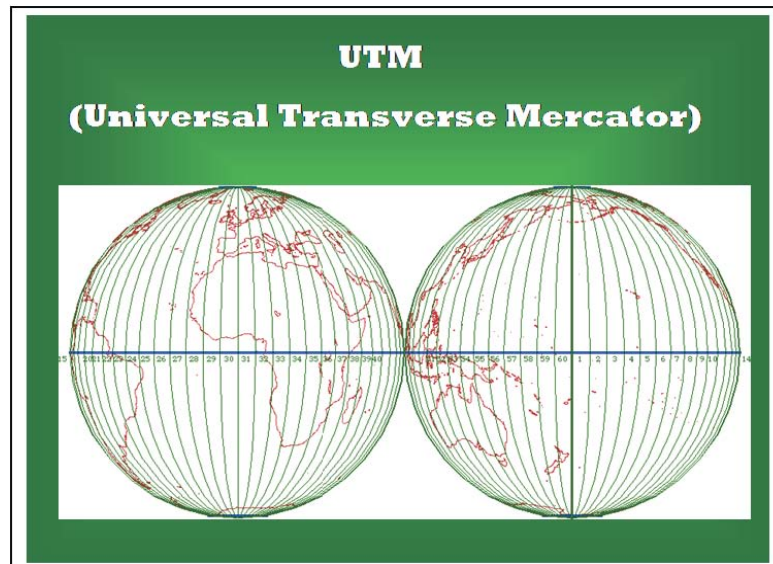
Understanding Different Grid Systems

UTM (Universal Transverse Mercator)

Determining UTM Coordinates

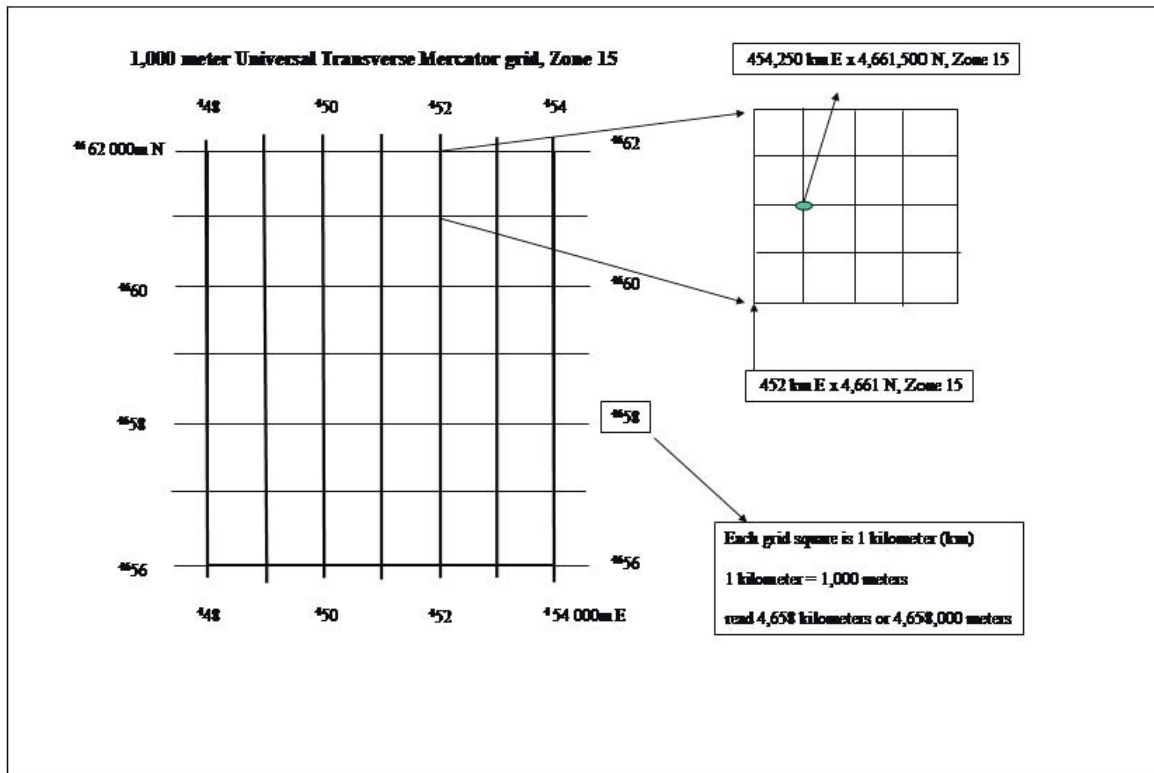
(Taken from the Iowa *NatureMapping* Activities)

The UTM (Universal Transverse Mercator) system is another way to pinpoint your location on a map. The advantage of using UTM's is that they are exact points based entirely on actual distance. On a map, distance and area are important. Latitude and Longitude are an exact point as well, yet the information is not distance-based. You've probably noticed how the 'longitude lines (those running vertically on a globe) converge at the poles. This convergence makes it difficult to convert "degrees" traveled West to East into "distance" traveled West to East.



- The UTM system is laid out in a grid pattern. Think of finding a UTM coordinate like finding an (x) and (y) point in algebra.
- UTM numbers are in Kilometers. Add three zeros and you have converted them to Meters.
- There are two numbers to be found in a UTM coordinate:
 - The first number coincides with an East direction (or "Easting"). This is (x). These numbers can be found along the top and bottom of the quad map.
 - The second number coincides with a North direction (or "Northing"). This is (y). These numbers can be found along the left and right sides of the quad map.
- Always "read RIGHT UP" – find the distance to the EAST, then the distance to the NORTH. Note: since we are in the Northern Hemisphere, we read UTM's to the "North". People in the Southern Hemisphere read UTM's to the "South".
- UTM numbers coincide with a light blue tick mark along the edges of the 7.5 minute quad maps. Some 7.5 minute quad don't have the blue ticks, but instead have a fine black UTM grid laid out over the entire map.
- UTM numbers are not exclusive to just one spot on Earth. They are used over again in each zone.

- It is important to report what zone you are in.
- If you use a GPS to collect data, make sure the correct settings (UTM and zone) are being used.



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