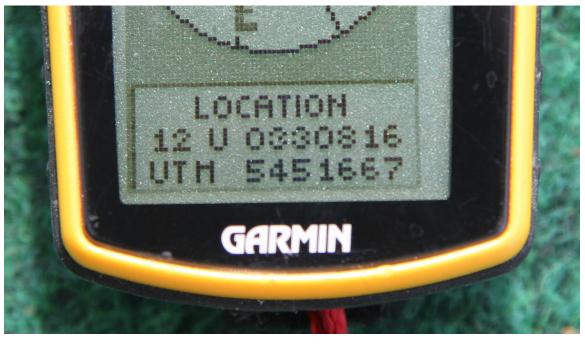
Understanding the UTM Grid

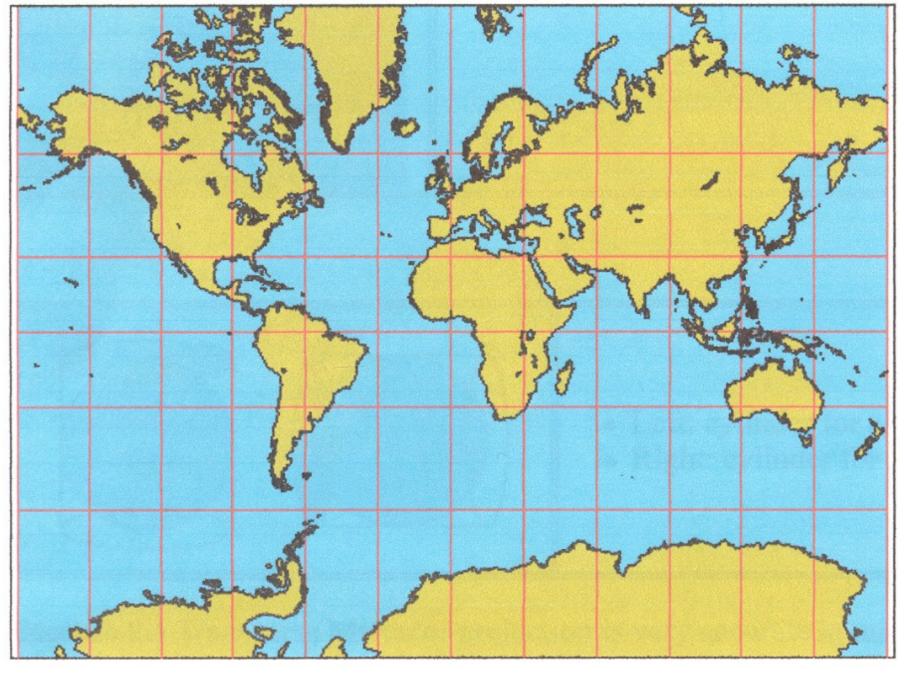
Used on Canadian Topographical Maps

Neldon L. Hatch 403-653-3784 nlhatch@telus.net

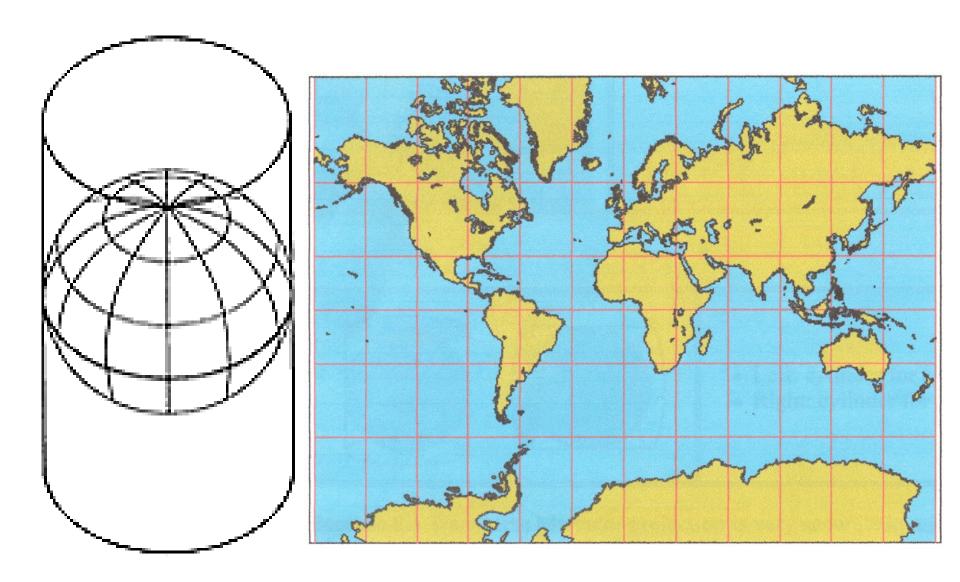




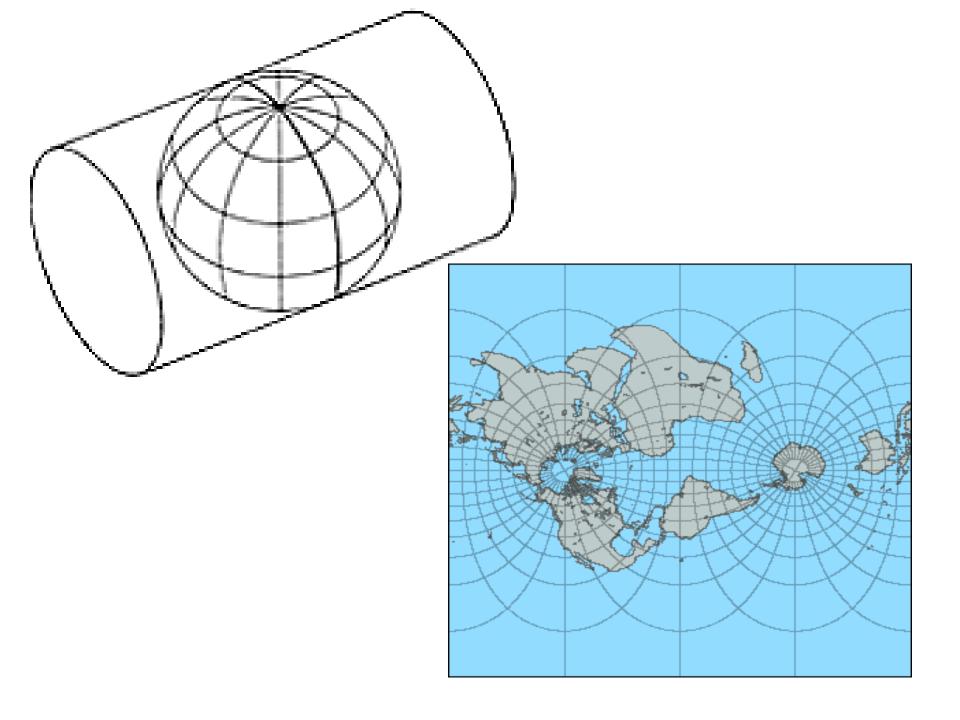
UTM is the abbreviation for "Universal Transverse Mercator"

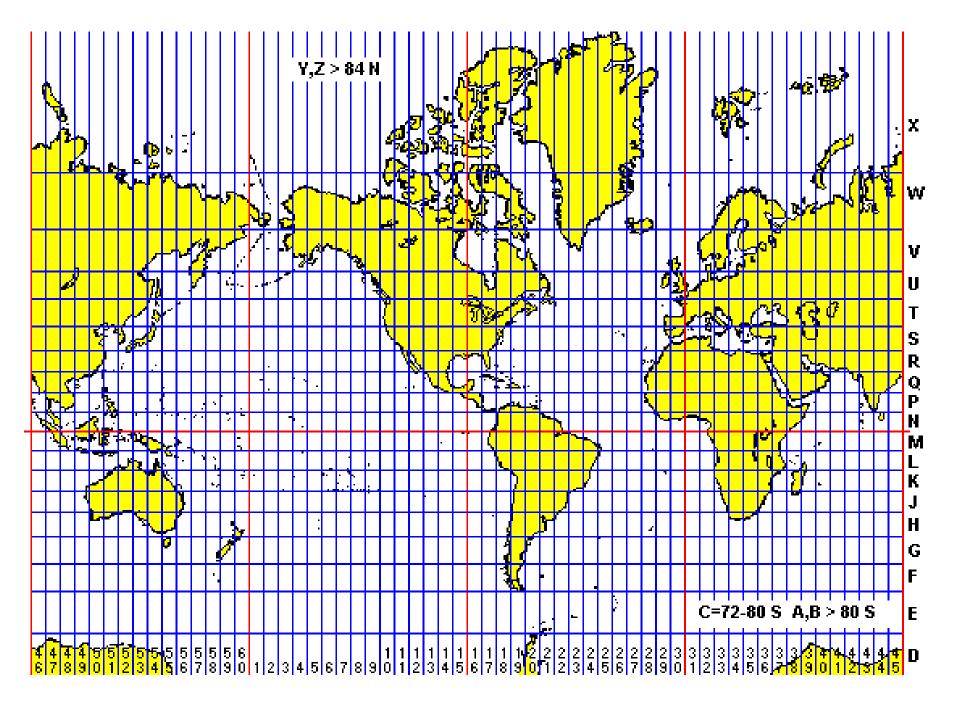


A Mercator Projection Map









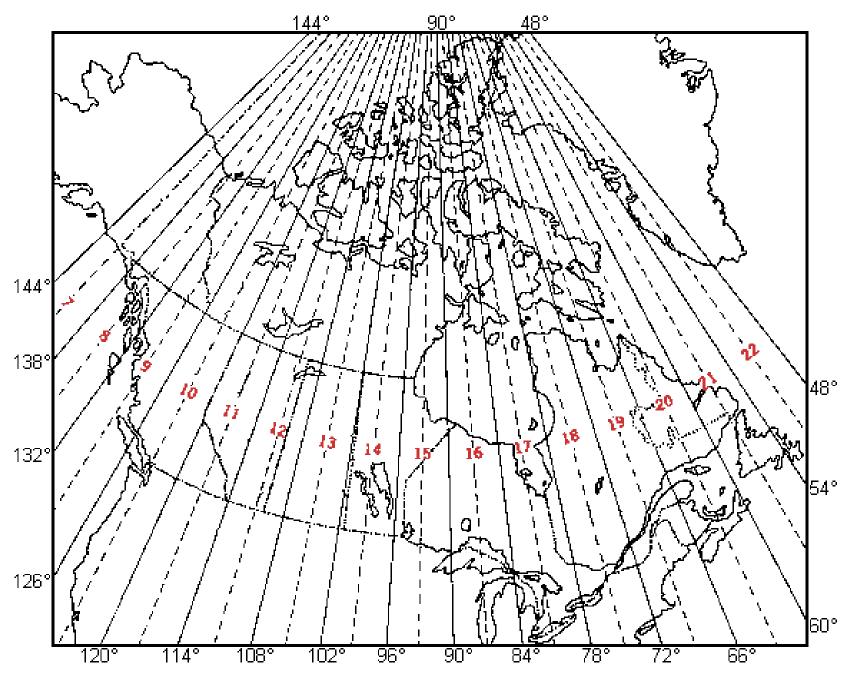


Figure 2 - UTM Zones and Central Meridians for Canada

Zone Width

- 668 Km at equator
- 438 km at 49 deg. N
- 80 km at 84 deg. N

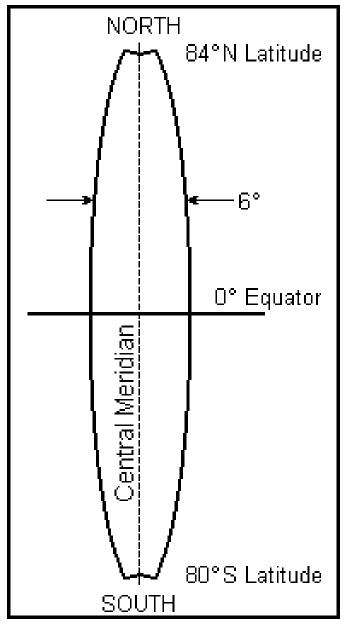


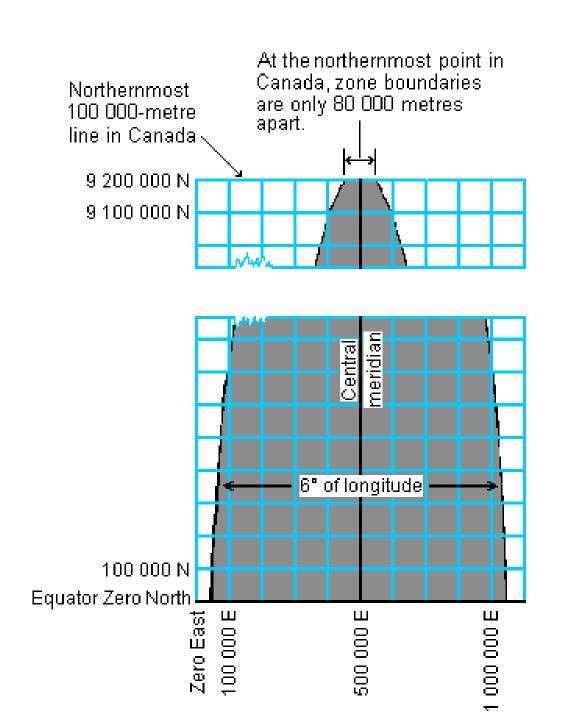
Figure 1 - Shape of a UTM Zone

UTM Zones

- 6 degrees of longitude wide (east to west) and are numbered 1 to 60.
- 8 degrees of latitude high (north to south) and are designated by letters of the alphabet (the letters "i" and "o" are not used).
- Each UTM zone is identified by a number and letter combination (e.g., 12U)

Zone 12U

- Goes from 108 to 114 degrees west longitude and from 48 to 56 degrees north latitude.
- The central meridian is 111 degrees west longitude.



UTM Numbering System

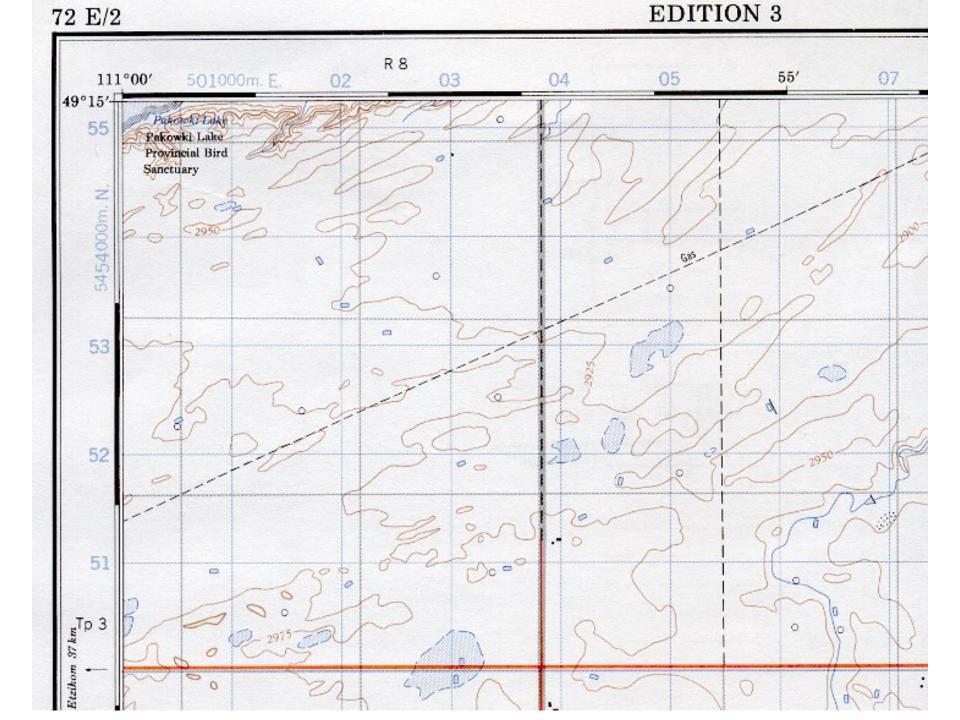
- Easting values are measured in relationship to the central meridian. Grid lines west of the central meridian are less than 500,000. Those to the east are greater than 500,000.
- Northing values are measured in relationship to the equator and are actual distances from the equator.

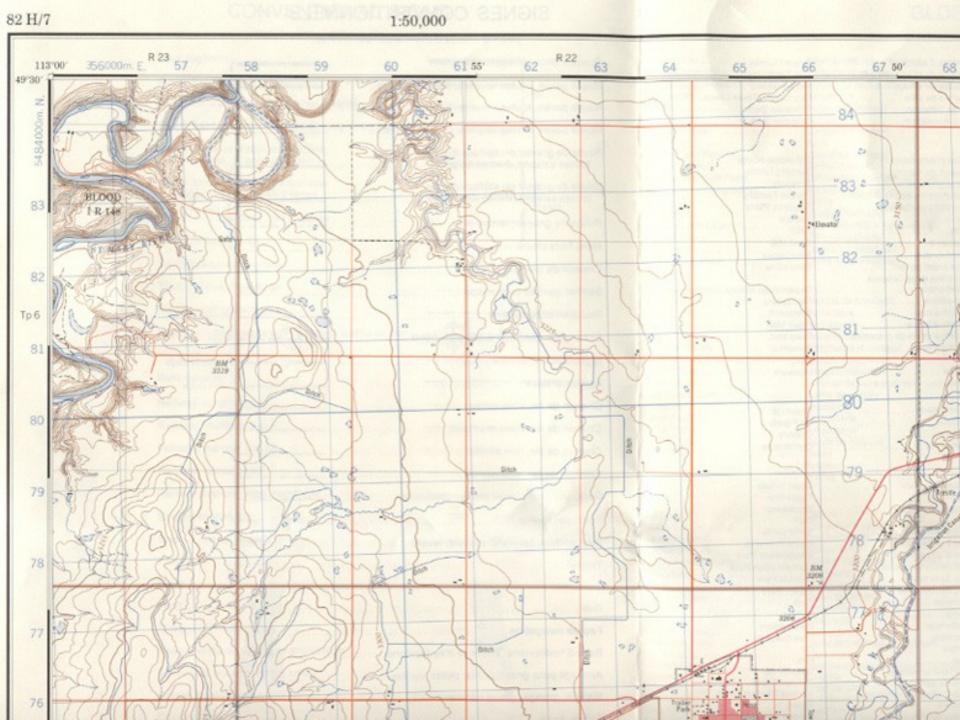
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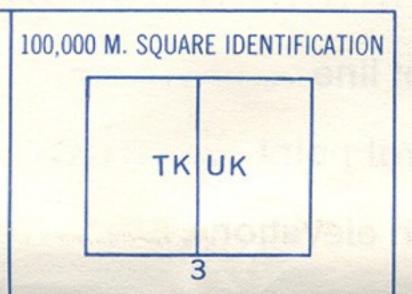


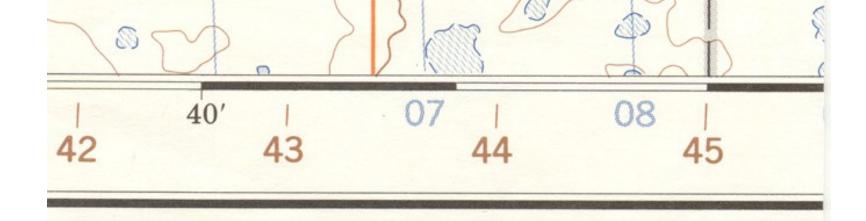


ONE THOUSAND METRE UNIVERSAL TRANSVERSE MERCATOR GRID ZONE 12

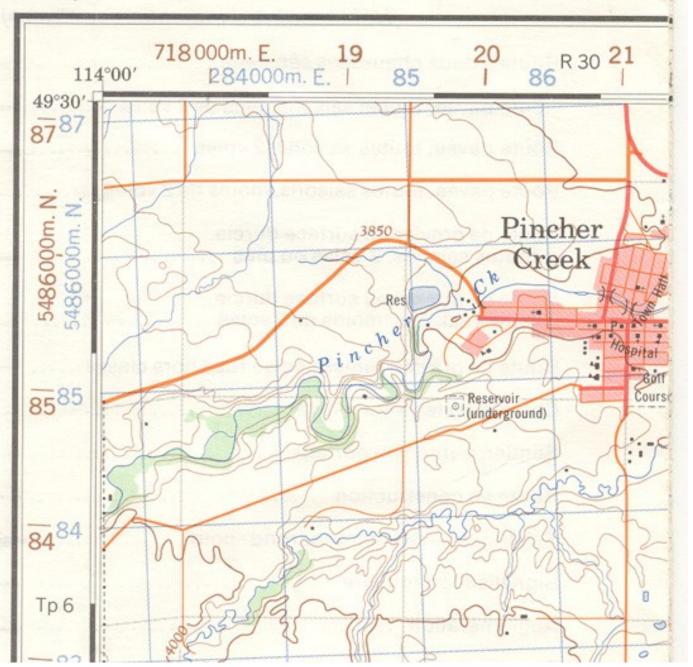
GRID ZONE DESIGNATION

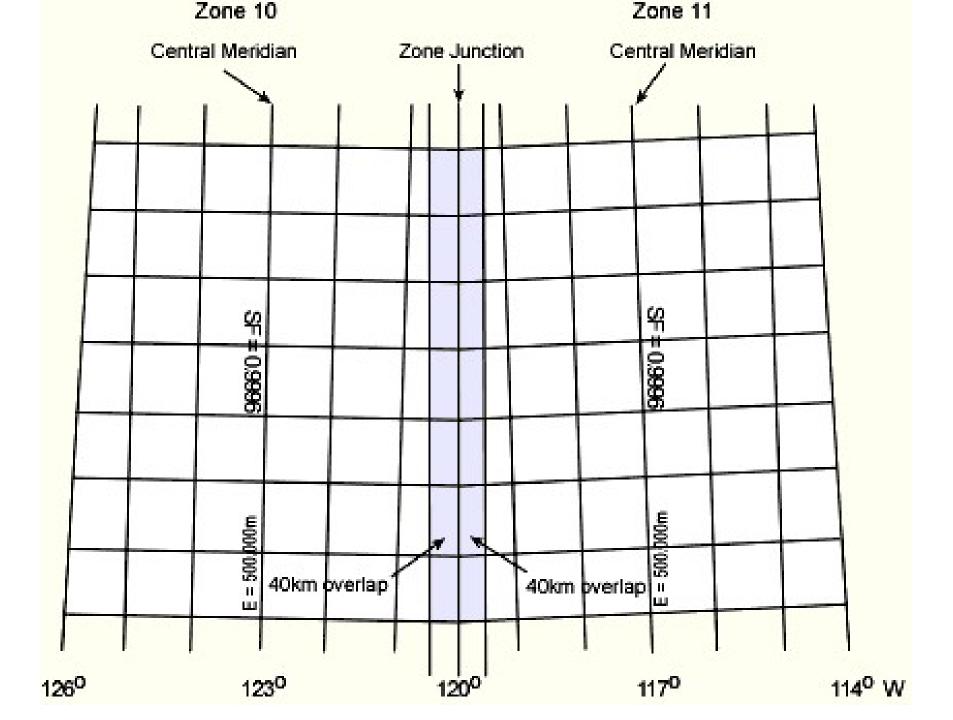
12 U





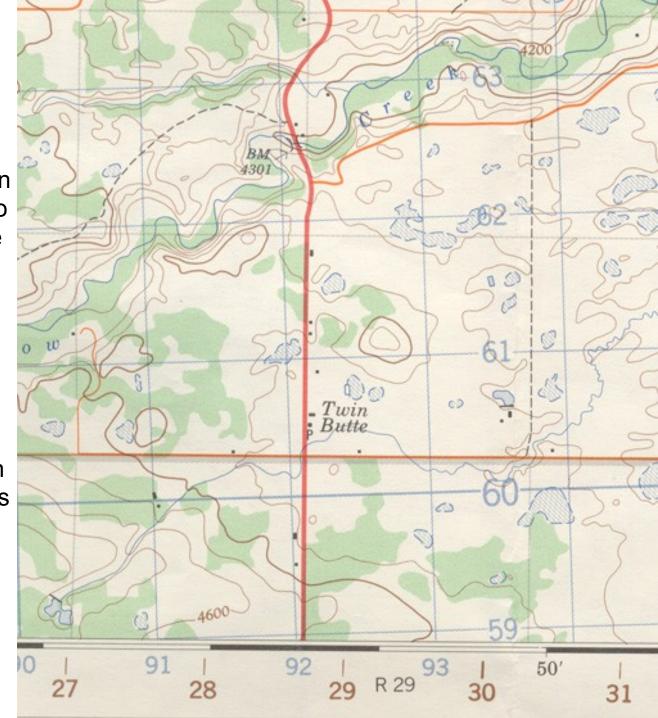
CONTOUR INTERVAL 50 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection



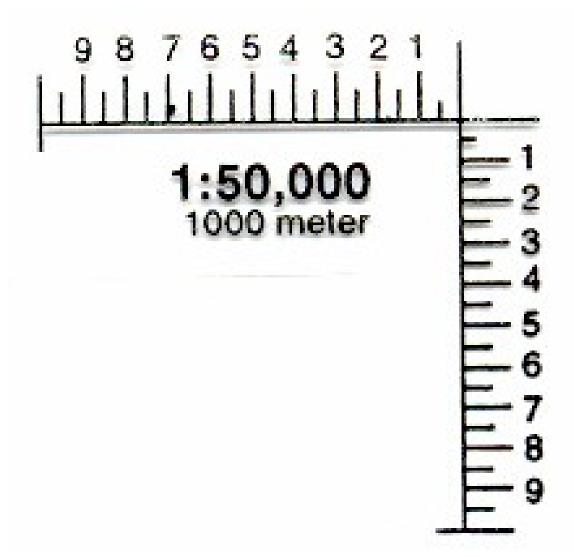


Any point on the map can be identified by using two sets of coordinates. The first coordinate is called the "easting" and the second is called the "northing".

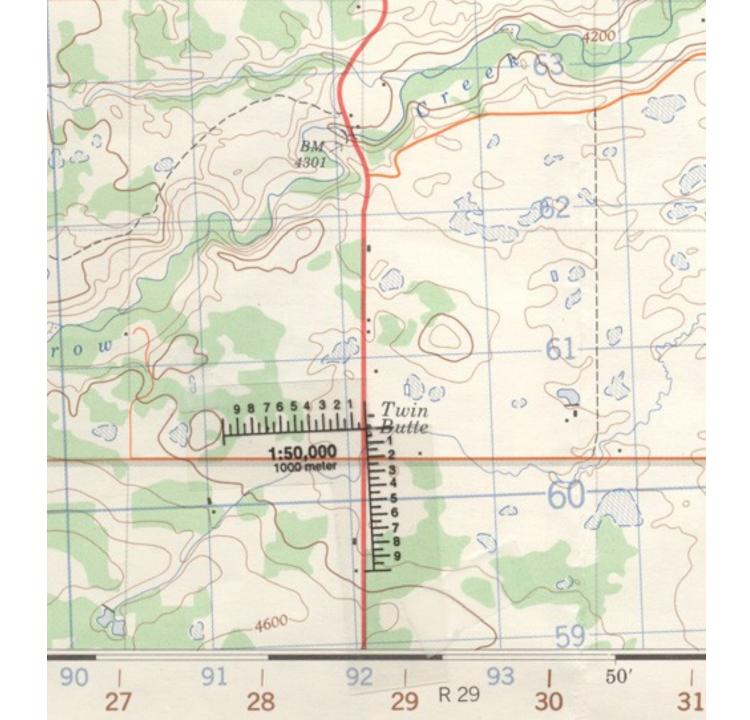
Eastings are measured from the central meridian of the zone and northings are measured from the equator.





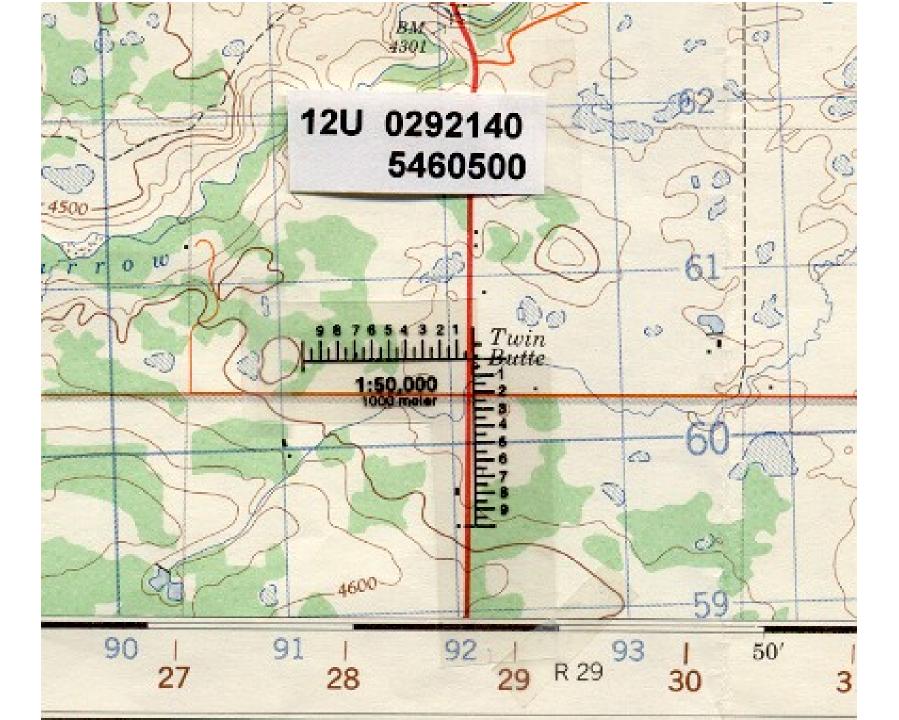


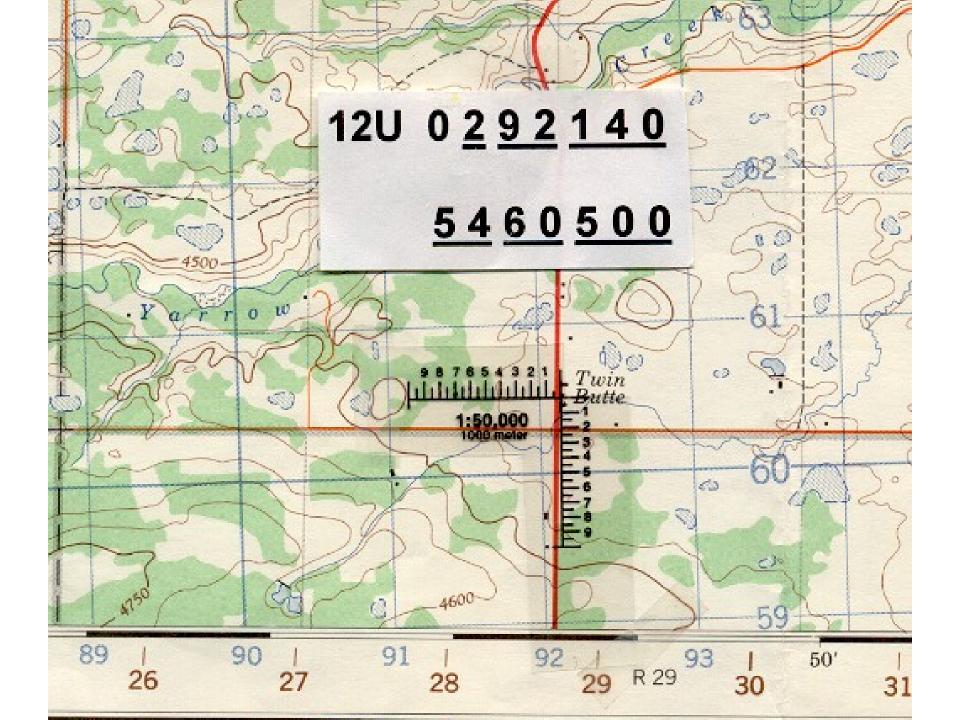
A "roamer" is a measuring device for increasing the accuracy when reading a grid reference from a topographic map.

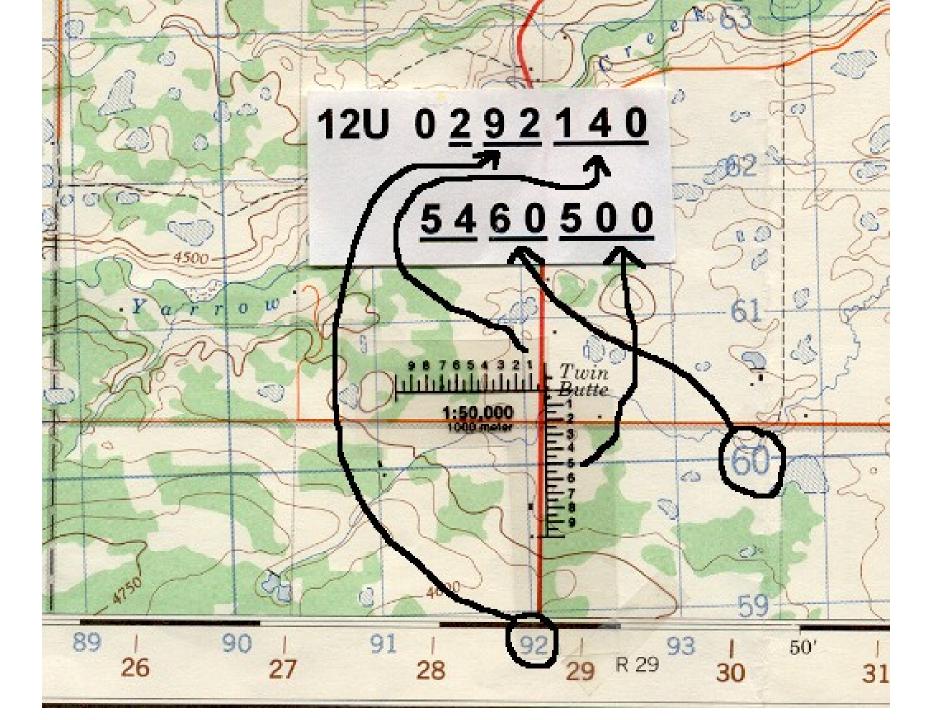












UTM Coordinates

- On GPS receivers they are expressed as 17 digits (the zone designation plus 7 easting values and 7 northing values).
- Sometimes in search and rescue operations the coordinated are expressed as 6 digits (no zone designation and 3 easting values and 3 northing values).

