



GPS for Beginners

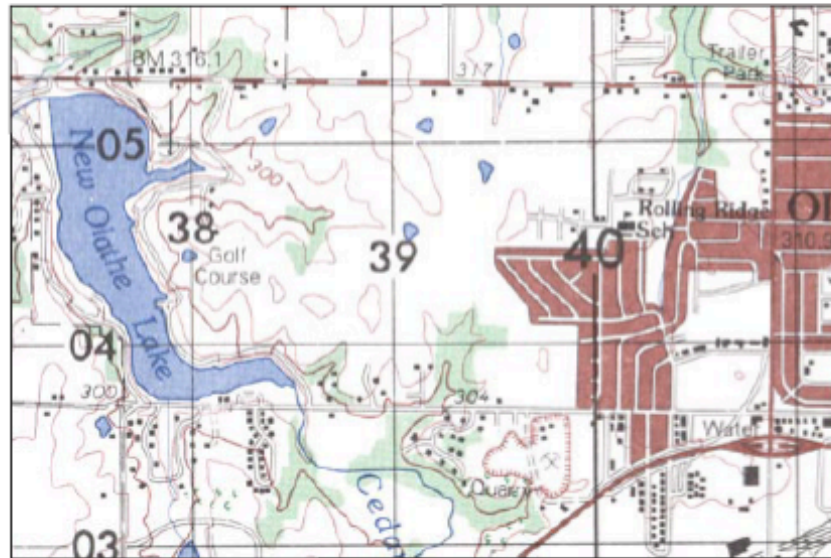
Marking a Puddle:

Satellites & Coordinates

Three Components:

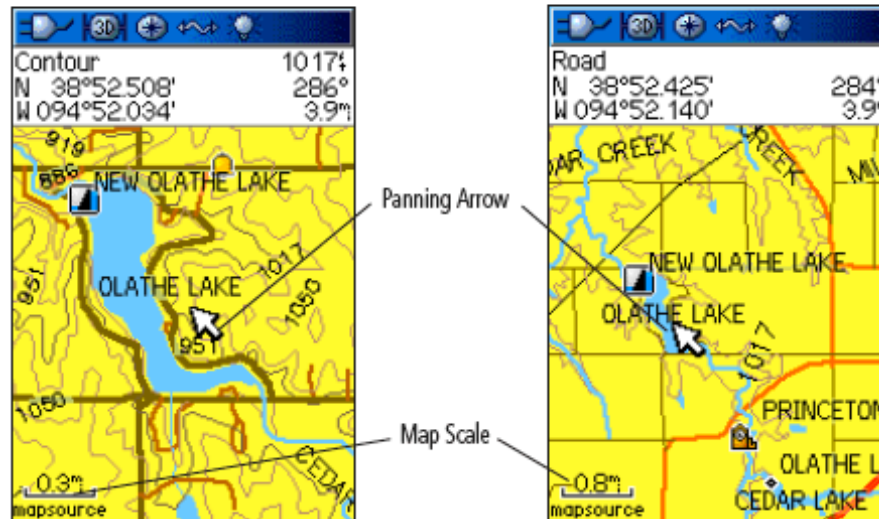
1. Satellites: Transmit information
2. Ground stations: Control satellites & update information
3. Receiver: Collects data from satellites & computes location

Paper Map



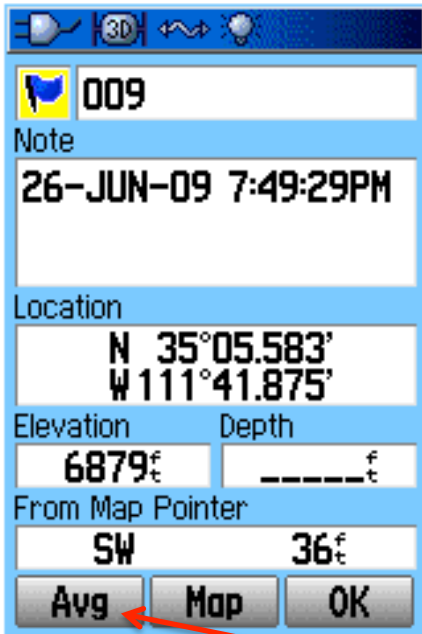
USGS Topographic Map - Scale 1: 50,000

GPS Electronic Map



GPSMAP 60CS GPS
"Zoomed In"
Topographic Map Display

GPSMAP 60CS GPS
"Zoomed Out"
Topographic Map Display



Waypoint Screen:

- Contains Name
- Coordinates
- Date/Time
- Elevation (ignore it!)

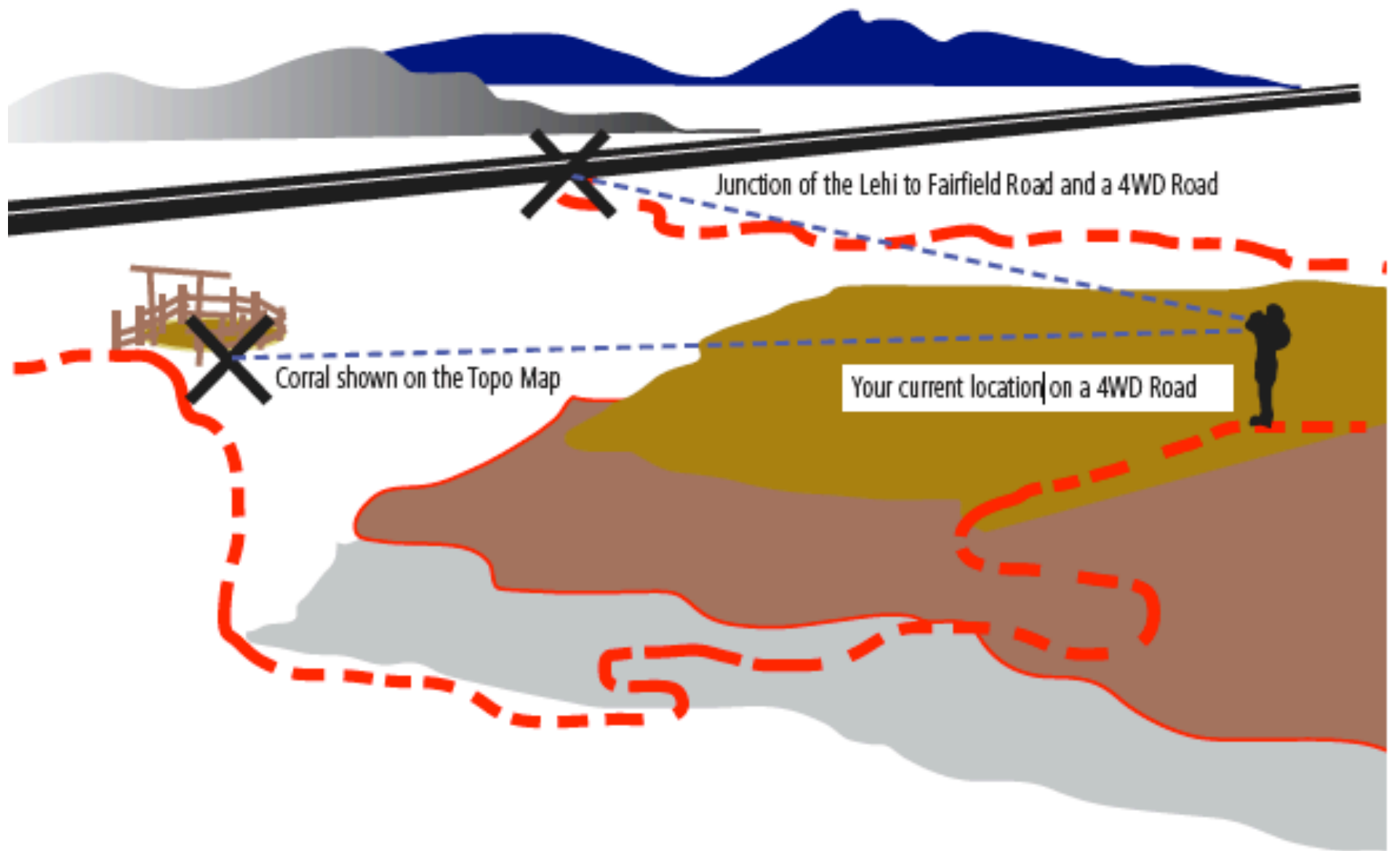
WAY POINT AVERAGING:

?



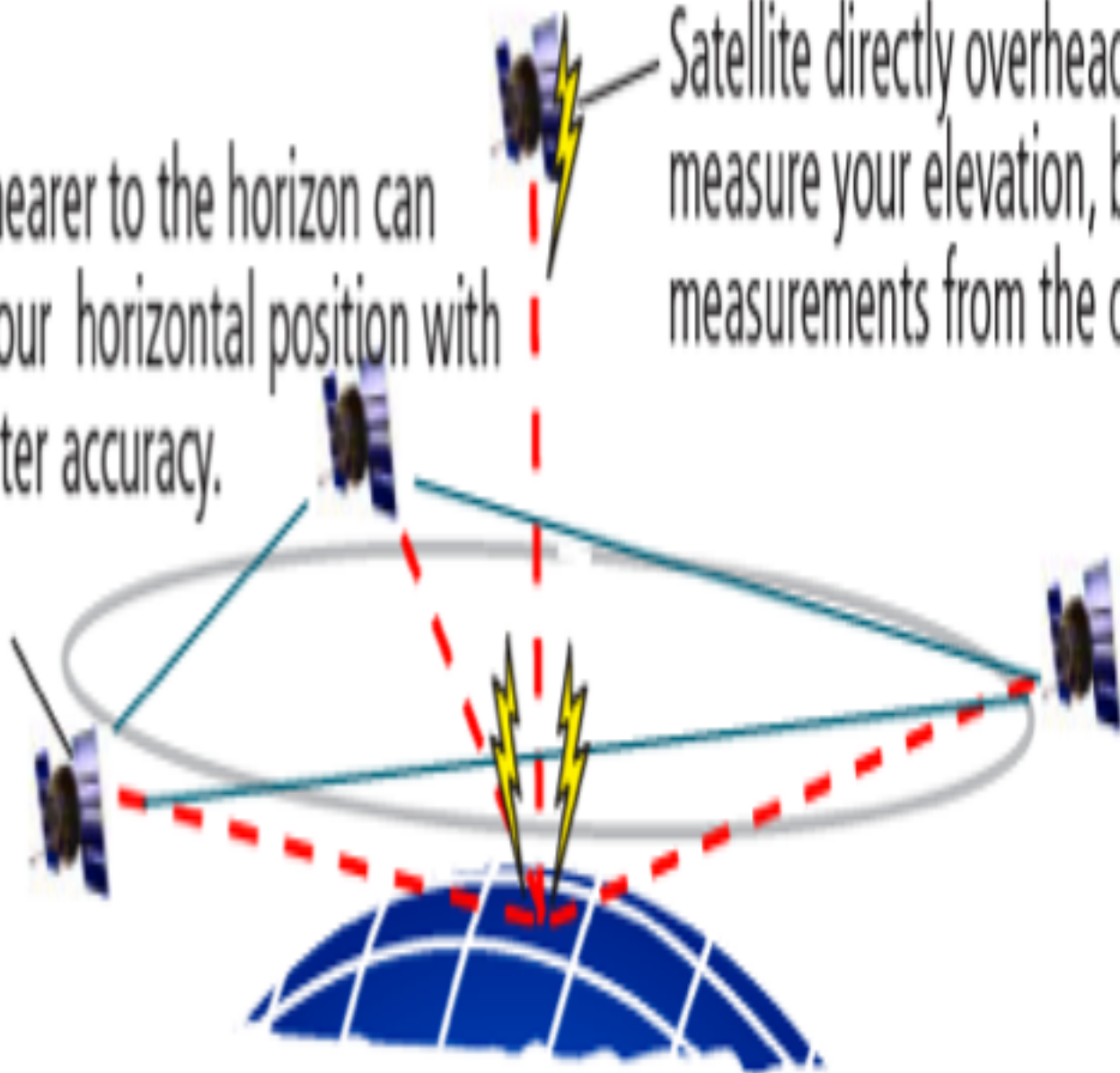
You can change:

- Waypoint Name
- Change Symbol (if desired)



Satellites nearer to the horizon can measure your horizontal position with much greater accuracy.

Satellite directly overhead which tries to measure your elevation, but isn't aided by measurements from the other direction.



Decimal Degrees (WGS84)

Latitude

49.508333

Longitude

-123.175

UTM

X

10N

487331

Y

5483982



GPSMAP 60CS GPS

GPS Coordinate Converter, Maps and Info

Enter coordinates

49 30.5 - 123 10.5

(like 37 23.516 -122 02.625, but it's flexible)

Convert and Map

Decimal Degrees (WGS84)

Latitude

49.508333

Longitude

-123.175

Degrees, Minutes & Seconds

Latitude

N49 30 30

Longitude

W123 10 30

GPS

Latitude

N 49 30.500

Longitude

W 123 10.500

UTM

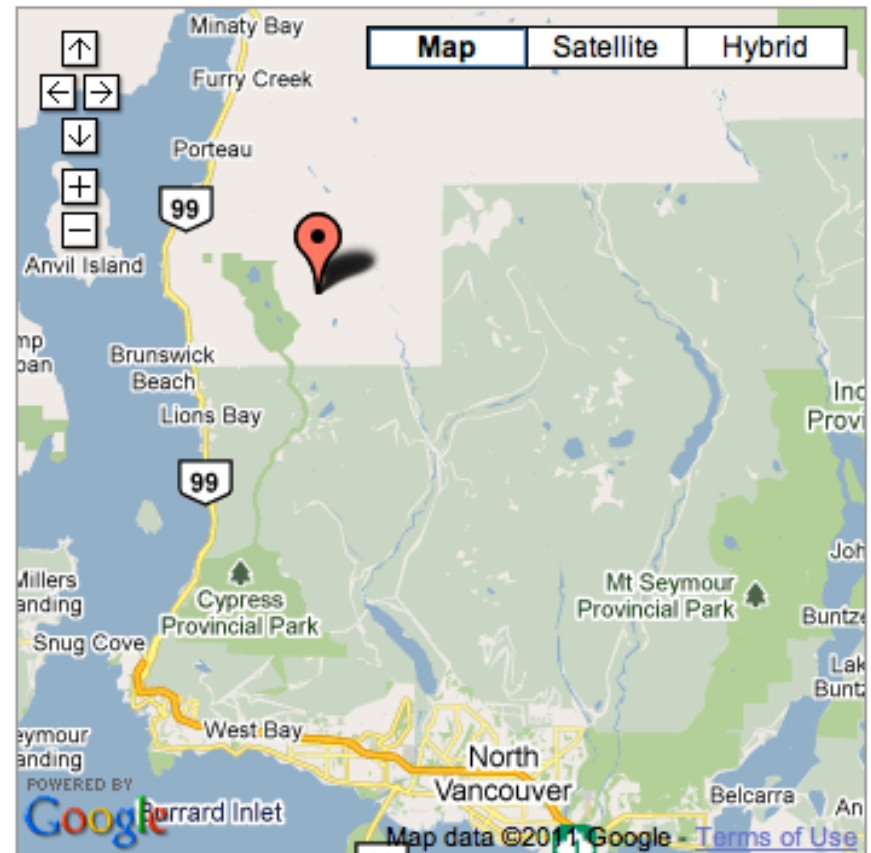
10N

X

487331

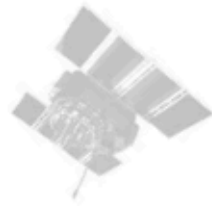
Y

5483982



Clicked At:

<http://boulter.com/gps/>



GPS GUIDE

for beginners



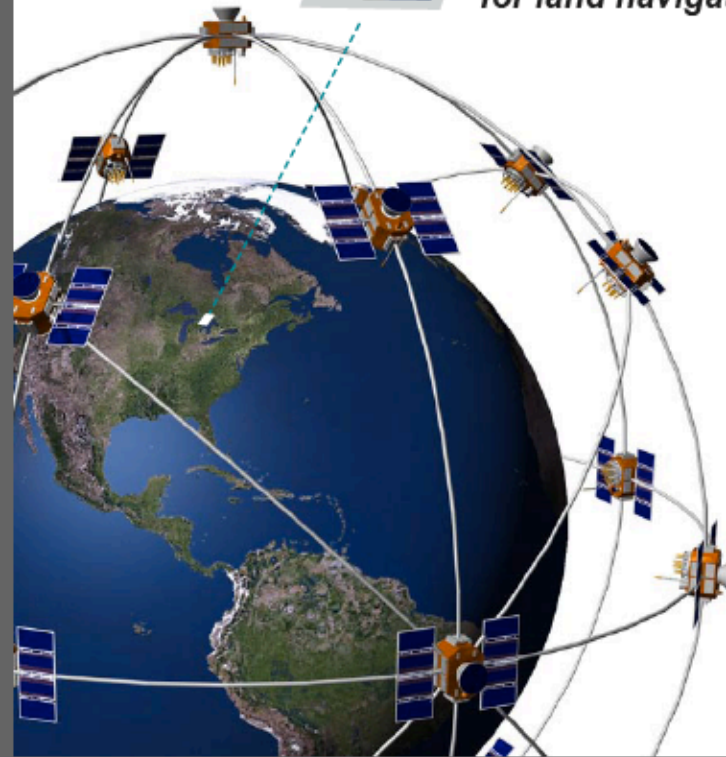


An introduction to...

Using a Garmin GPS



*with paper maps
for land navigation*



<http://www8.garmin.com/learningcenter/>

Learning Center

Garmin's Learning Center is your 1-stop online resource for Garmin product information and all things GPS.



[Training Videos](#)

Short video clips offer expert tips and step-by-step instructions on how to use your device.



[GPS Academy](#)

Get back to school and brush up on the latest in GPS. Interactive tutorials in the form of detention, Driver's Ed and quizzes make learning fun.

GPS with mapping capability



NEW [Montana 600](#)



NEW [Montana 650](#)
WITH 5MP CAMERA



NEW [Montana 650t](#)
5MP CAMERA & US TOPO



NEW [eTrex 10](#)



NEW [eTrex 20](#)



NEW [eTrex 30](#)
3D COMPASS &
ALTIMETER



NEW [GPSMAP 62](#)



NEW [GPSMAP 62s](#)
3D COMPASS & ALTIMETER



NEW [GPSMAP 62st](#)
US or **CANADA** TOPO



NEW [GPSMAP 78](#)



NEW [GPSMAP 78s](#)
3D COMPASS &
ALTIMETER



NEW [GPSMAP 78sc](#)
US COASTAL

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3D COMPASS



[Oregon 450t](#)
3D COMPASS & TOPO



[Oregon 550](#)
CAMERA!



[Oregon 550t](#)
CAMERA & TOPO MAPS!



[Dakota 10](#)
FITS IN YOUR PALM!



[Dakota 20](#)
WITH COMPASS &
ALTIMETER

Compare Garmin eTrex GPS Units Here



[eTrex Legend H](#)



[eTrex Legend HCx](#)



[eTrex Venture HC](#)



[eTrex Vista H](#)



[eTrex Vista HCx](#)



[eTrex Summit HC](#)



[GPSMAP 60CSx](#)



[GPSMAP 76CSx](#)



Don't forget your other **outdoor essentials** for your adventures!

GARMIN

<http://www.gpscentral.ca/products/handheldgpscomparison.htm>

Handheld GPS Comparison Chart

Garmin, DeLorme, Magellan, Lowrance



GARMIN MODEL	CHANNELS	WAYPOINTS	ROUTES	TRACK LOG	BUILT-IN MEMORY	EXPANDABLE MEMORY	MEMORY CARD TYPE	BATTERY TYPE	BATTERY LIFE	TOUCHSCREEN	COLOUR	CAMERA	GARMIN MODEL	ELECTRONIC COMPASS	BAROMETRIC ALTIMETER	AUTO ROUTING	EXTERNAL ANTENNA	AUDIBLE ALARMS	USB CABLE
Montana 600	12	2000	200	10,000	3.0GB	Y	microSD	rechargeable Li-Ion/AA	16/22	Y	Y	-	Montana 600	3 axis	Y	Y	Y	Y	Y
Montana 650	12	2000	200	10,000	3.0GB	Y	microSD	rechargeable Li-Ion/AA	16/22	Y	Y	Y 5MP	Montana 650	3 axis	Y	Y	Y	Y	Y
Montana 650t	12	2000	200	10,000	3.5GB	Y	microSD	rechargeable Li-Ion/ AA	16/22	Y	Y	Y 5MP	Montana 650t	3 axis	Y	Y	Y	Y	Y
GPSMAP 62	12	2000	200	10,000	1.7GB	-	-	AA	20	-	Y	-	GPSMAP 62	-	-	Y	-	Y	Y
GPSMAP 62s	12	2000	200	10,000	1.7GB	Y	microSD	AA	20	-	Y	-	GPSMAP 62s	3 axis	Y	Y	Y	Y	Y
GPSMAP 62st	12	2000	200	10,000	500MB	Y	microSD	AA	20	-	Y	-	GPSMAP 62st	3 axis	Y	Y	Y	Y	Y
GPSMAP 78	12	2000	200	10,000	1.7GB	Y	microSD	AA	20	-	Y	-	GPSMAP 78	-	-	Y	Y	Y	Y
GPSMAP 78s	12	2000	200	10,000	1.7GB	Y	microSD	AA	20	-	Y	-	GPSMAP 78s	3 axis	Y	Y	Y	Y	Y
GPSMAP 78sc	12	2000	200	10,000	1.7GB	Y	microSD	AA	20	-	Y	-	GPSMAP 78sc	3 axis	Y	Y	Y	Y	Y
GARMIN MODEL	CHANNELS	WAYPOINTS	ROUTES	TRACK LOG	BUILT-IN MEMORY	EXPANDABLE MEMORY	MEMORY CARD TYPE	BATTERY TYPE	BATTERY LIFE (hours)	TOUCHSCREEN	COLOUR	CAMERA	GARMIN MODEL	ELECTRONIC COMPASS	BAROMETRIC ALTIMETER	AUTO ROUTING	EXTERNAL ANTENNA	AUDIBLE ALARMS	USB CABLE
Legend H	12	1000	20	10,000	24MB	-	-	AA	18	-	-	-	Legend H	-	-	-	-	-	Y
Legend HCx	12	1000	50	10,000	-	Y	microSD	AA	25	-	Y	-	Legend HCx	-	-	Y	-	Y	Y
Vista H	12	1000	20	10,000	24MB	-	-	AA	18	-	-	-	Vista H	Y	Y	Y	-	-	Y
Vista HCx	12	1000	50	10,000	-	Y	microSD	AA	25	-	Y	-	Vista HCx	Y	Y	Y	-	Y	Y
Dakota 10	12	1000	50	10,000	850MB	-	-	AA	20	Y	Y	-	Dakota 10	-	-	Y	-	-	Y
Dakota 20	12	1000	50	10,000	850MB	Y	microSD	AA	20	Y	Y	-	Dakota 20	3 axis	Y	Y	-	-	Y
Oregon 300	12	1000	50	10,000	850MB	Y	microSD	AA	16	Y	Y	-	Oregon 300	Y	Y	Y	-	-	Y
Oregon 400	12	1000	50	10,000	-	Y	microSD	AA	16	Y	Y	-	Oregon 400	Y	Y	Y	-	-	Y
Oregon 450	12	2000	200	10,000	850MB	Y	microSD	AA	16	Y	Y	-	Oregon 450	3 axis	Y	Y	-	-	Y

On order

\$299.95

In stock

\$399.95



GPSMAP® 62



GPSMAP® 62s



GPSMAP® 62st



Prairie Geomatics Ltd



GPSMap 62
010-00868-00
\$319.00

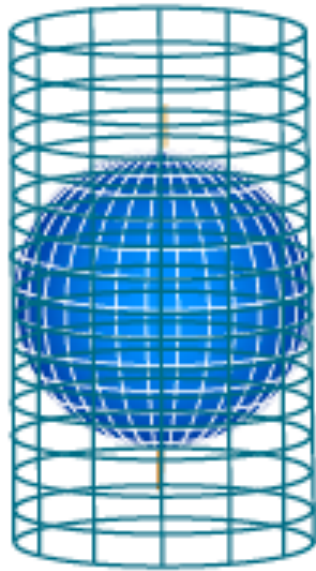


GPSMap 62s
010-00868-01
\$399.00

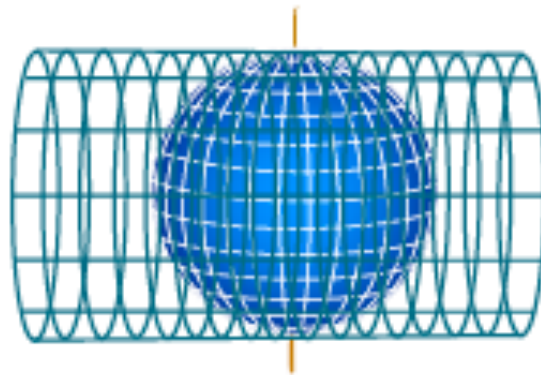


GPSMap 62st
010-00868-05
\$499.00

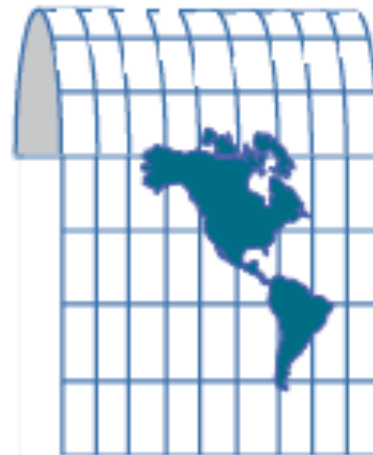
Map Projections



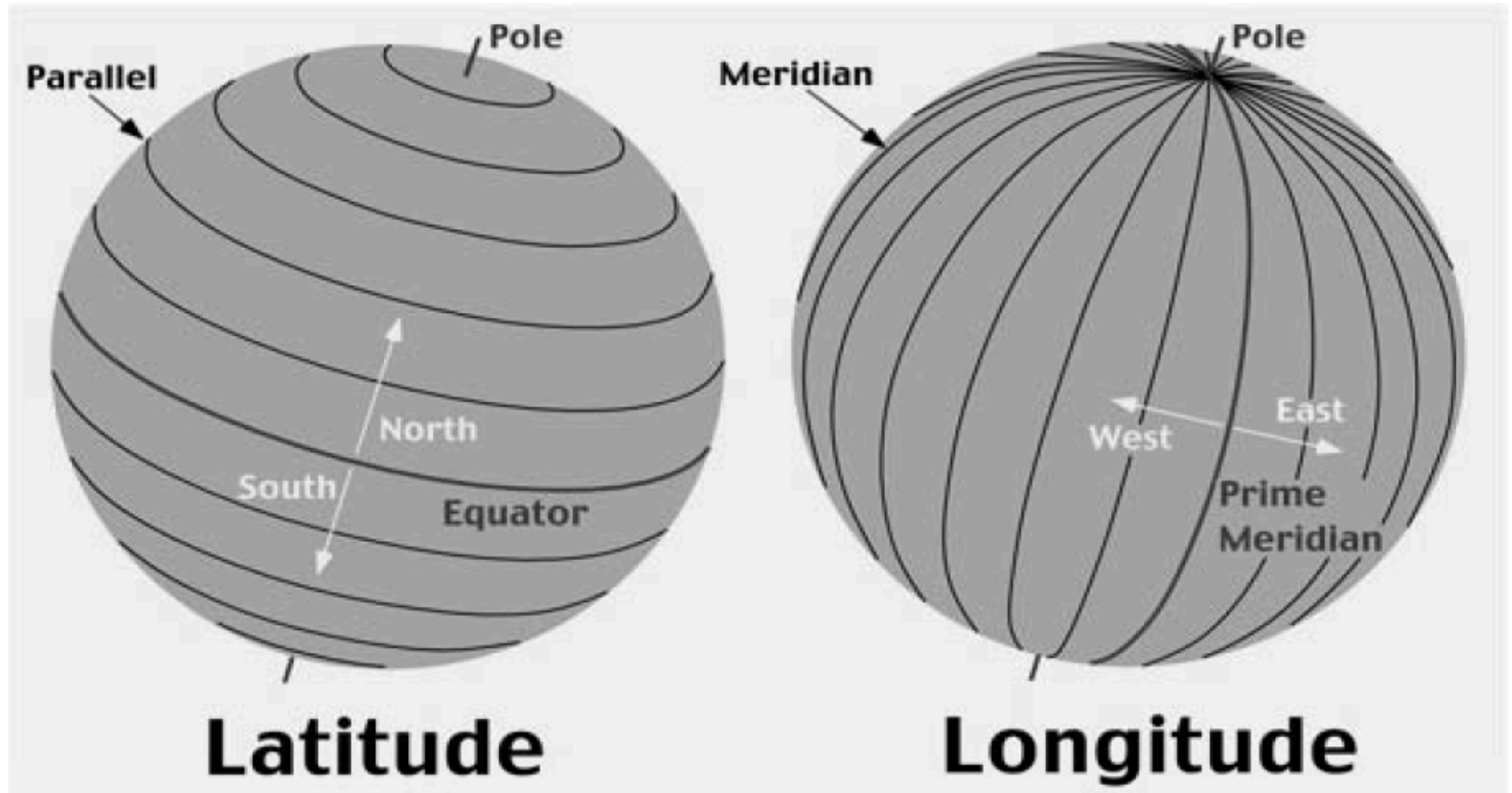
Mercator Projection



Universal Transverse Mercator Projection (UTM)

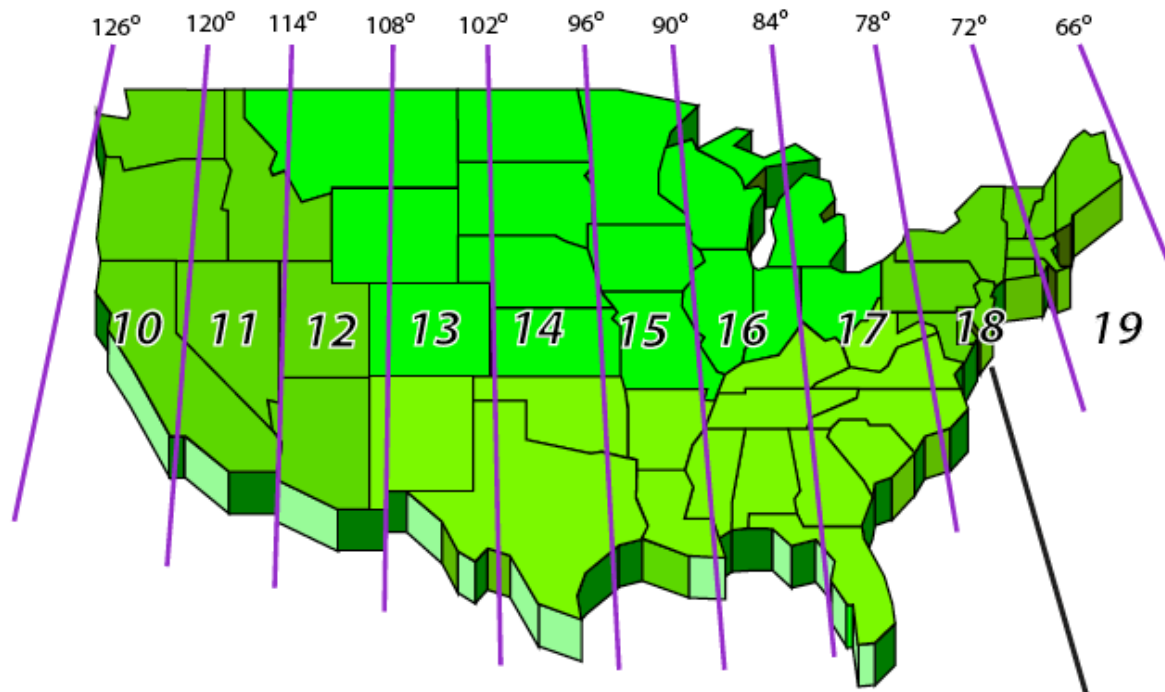


Latitude and Longitude



UTM basics:

- Metric units (meters) from the equator (northing) and from the center of each zone (easting)
- Most maps based on NAD83 (this should be set in your GPS unit - WGS84 is equivalent)
- Vancouver is UTM zone 10, band U



Example: 15 S 0343911 E/4302262 N

UTM Zone

UTM Band

Latitude
in Meters

Longitude
in Meters

