

CONVERTING GPS FORMATS

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by **Widnight Wind**

The question comes up a lot about converting GPS waypoints from one format to another. Most of the time it is when changing to a new unit or entering coordinates from several different charts.

While trying to keep this simple, a few basics are needed. First is the chart projection. (How to get something round, the earth, on something flat, a chart) Basically all charts used for fishing would be the Mercator projection, but it doesn't hurt to check. Second is the Geodetic Datum. WGS 84 is the current standard most newer charts are based on. You need to make sure your GPS is set to the same datum as the chart the waypoints are coming from.

Latitude lines run east and west on a chart and measure distance in degrees north and south of the equator. The equator is 0 and the North or South Pole is 90. One minute of latitude equals one nautical mile anywhere in the world.

Longitude lines run north and south on a chart and measure distance in degrees east and west of the Greenwich Meridian out to 180 east and west. One minute of longitude equals one nautical mile at the equator, and decreases to zero as you reach the poles.

There are 60 minutes in a degree, and 60 seconds in a minute.

GPS FORMATS

There are three formats the average fisherman will encounter:

DDD MM.MMM

(degrees/minutes. minutes)

DDD MM SS.S

(degrees/minutes/seconds.seconds)

DDD.DDDDD

(degrees.degrees)

Taking WR-4, we can express it in any of the above three ways:

N33 52.034 / W77 28.886 (degrees/minutes.minutes)

N33 52 02.0 / W77 28 53.2 (degrees/minutes/seconds.seconds)

N33.86723 / W 77. 48143 (degrees.degrees)

Most of us use DDD MM.MMM (33 52.034 / 77 28.886)

To convert from one to another, using the 60 minutes in a degree/60 seconds in a minute knowledge, we can divide or multiply by 60 and convert manually.

Example: to go from ddd mm.mmm (33 52.034) to ddd.ddddd, we take 52.034 and divide by 60 and come up with 33.8672333. Round off to .86723 To go back, we would take .8672333 and multiply by 60, coming up with 33 52.033998. Round off to 52.034.

Most newer GPS units, and computer programs will do this for us. GPSU, Mapsource, EasyGPS, and Home Port are a few. Just set the unit or computer program to the format your waypoint is in and enter it. Then go back to your settings and change it to the one you want. Again, DDD MM.MMM is the most common one used.

Also it helps to know which heading your unit is set for. True or Magnetic. Using WR4 again, it is 23.88 nm's from Masonboro Sea Buoy. 149 degrees Magnetic, and 140 degrees True. Assuming a 9 degree west Magnetic variation.

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