

LATITUDE-LONGITUDE DECIMAL CONVERSION CHART

When coordinating between GPS (or LORAN) units to maps or to different equipment (other GPS receivers, for example) you may have to convert from a whole number format to a decimal format, or vice-versa. This chart simplifies the math for conversion between formats. **MOST** GPS units (and AFRCC SARSAT hits) use whole degrees with decimal minutes, NOT seconds! The format looks like this: DD MM.mmm. Here is a chart of possible formats:

LATITUDE-LONGITUDE FORMATS (all of these represent the same point on the Earth)							
DECIMAL MINUTES		DECIMAL DEGREES		DEG-MIN-SEC		NEGATIVE DECIMAL	
44° 59.34'N	92° 44.82'W	44.989° N	92.747° W	44° 59' 20.4"N	092° 44' 49.2"W	44.989°	-92.747°

MINUTES TO DECIMAL DEGREES or SECONDS TO DECIMAL MINUTES							
Min	Dec	Min	Dec	Min	Dec	Min	Dec
01'	0.017	16'	0.267	31'	0.517	46'	0.767
02'	0.033	17'	0.283	32'	0.533	47'	0.783
03'	0.050	18'	0.300	33'	0.550	48'	0.800
04'	0.067	19'	0.317	34'	0.567	49'	0.817
05'	0.083	20'	0.333	35'	0.583	50'	0.833
06'	0.100	21'	0.350	36'	0.600	51'	0.850
07'	0.117	22'	0.367	37'	0.617	52'	0.867
08'	0.133	23'	0.383	38'	0.633	53'	0.883
09'	0.150	24'	0.400	39'	0.650	54'	0.900
10'	0.167	25'	0.417	40'	0.667	55'	0.917
11'	0.183	26'	0.433	41'	0.683	56'	0.933
12'	0.200	27'	0.450	42'	0.700	57'	0.950
13'	0.217	28'	0.467	43'	0.717	58'	0.967
14'	0.233	29'	0.483	44'	0.733	59'	0.983
15'	0.250	30'	0.500	45'	0.750	60'	1.000

To convert whole minutes to decimal degrees, add the decimal value of the minute (from chart) to the decimal number of degrees. Example:
 $98^{\circ} 49' = 98 + 0.817 = 98.817^{\circ}$

You can also use the same numbers to convert SECONDS to DECIMAL MINUTES. This will likely be the most common conversion you will need to make. Example:
 $40^{\circ} 11' 17'' = 40^{\circ} 11 + 0.283 = 40^{\circ} 11.283'$