

What is Declination?

To understand declination you must first realize that there are two North Poles. There is a True Geographic North Pole at the top of the world, and a Magnetic North Pole which is over 1,250 miles from the True North Pole. A magnetic compass always points toward the Magnetic North Pole. Maps are oriented to the True North Pole. The angular difference between True North Pole and Magnetic North is called declination. Declination varies from 0 to 30 degrees in most populated regions of the world. These declination values usually change slightly over time, as the earth's plates shift. The actual value of declination and its annual rate of change for your area will usually be shown on your map. This will be expressed as either a Easterly or Westerly declination, depending on your location. Below is an actual declination chart from 1990, showing the worldwide declination situation in 1990. The current declination values for today will be very close, if not identical, to the values below.

Many compasses have a fixed declination correction scale to simplify the calculations required. Some compasses even have an adjustable declination correction scale that will allow for the declination compensation. With this type of compass, the true direction can be used directly from the compass. Before buying a compass, you may want to consider whether it has a fixed declination correction scale, an adjustable declination correction scale, or neither.

In WTC, we recommend you use a compass that has the declination indicated on the baseplate. One way this can be accomplished is by using a colored tape arrow pointing to the declination value on the compass. Higher end compasses have a feature that includes an arrow that is adjustable via a screw.

