

Compass Basics

ESRM 304

Compass

- Looking from point to point, deviation from north is measured
- May include correction for magnetic declination (polar north and magnetic north may vary)
- Mirror allows the user to sight the target and adjust the dial simultaneously
- May need to step away from ferrous metallic objects to avoid magnetic effects

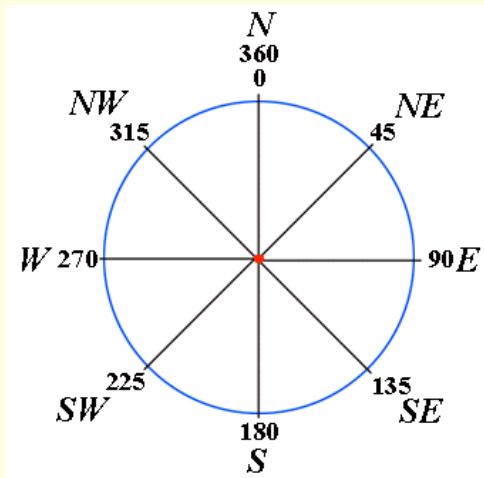


Compass Scale: Azimuths & Bearings

Compass directions are circular

Azimuths are shown here

Azimuths run clockwise from N (0 - 360°)

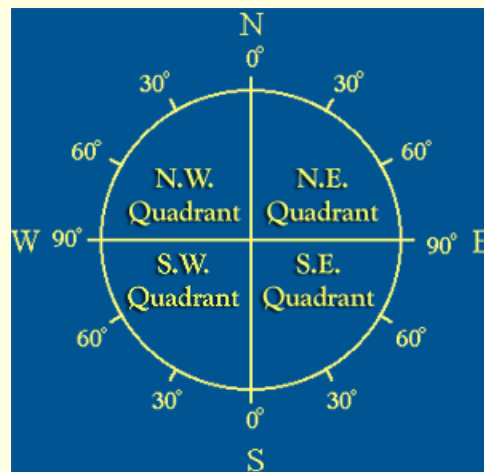


Compass Scale: Azimuths & Bearings

Compass directions are circular

Bearings are shown here

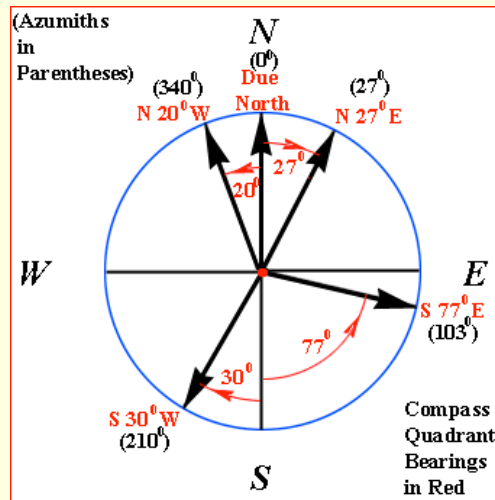
Bearings consist of a latitudinal hemisphere (N or S) followed by 0 - 90° toward either longitudinal direction (E or W)



Compass Scale: Azimuths & Bearings

As expected, can convert from *azimuths* to *bearings* and back again

Bearings shown in red with azimuths in ()

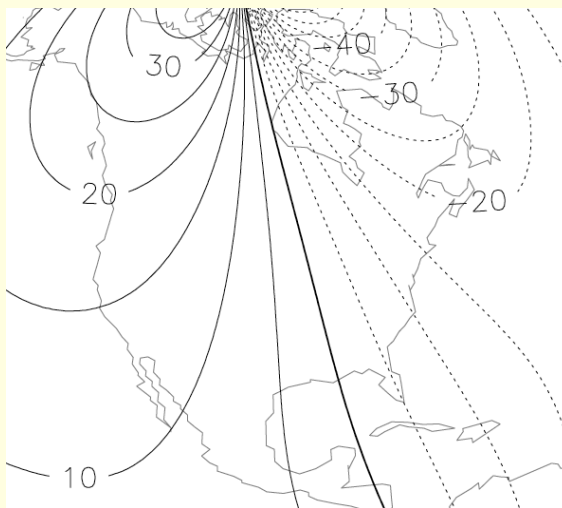


The Compass: Magnetic Declination

Magnetic North does NOT coincide w/ True North

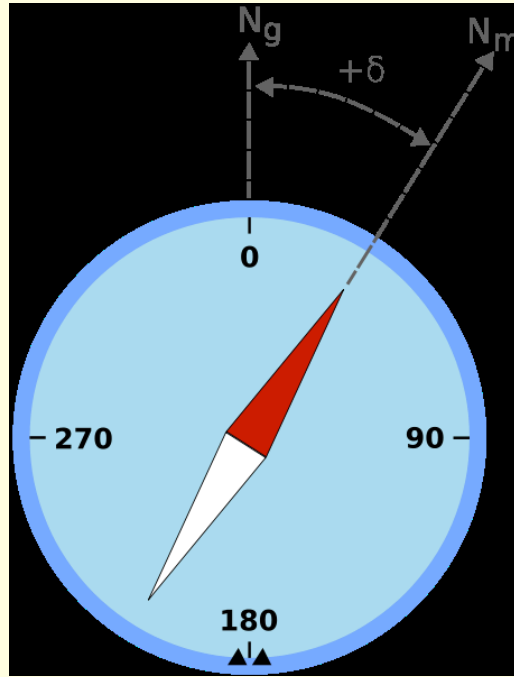
Declinations are constantly moving

2013: Seattle / Kenmore decl. 16° 20' E (moving 10.8' W each year)



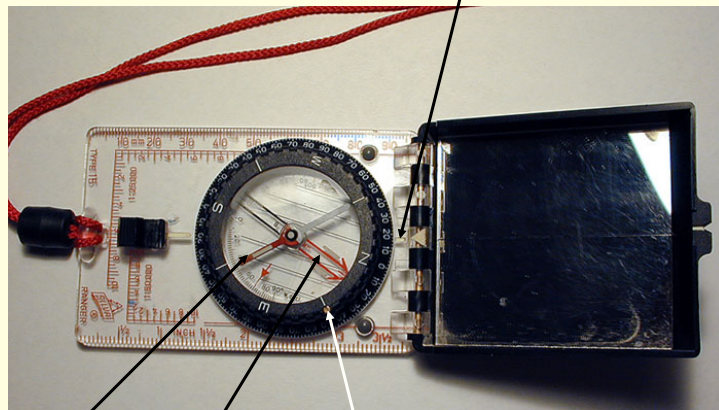
Declinations as of 2000 C.E.

Magnetic Declination Affects Your Compass Reading



Compass Parts

Always read compass here: "Fred"



Needle "Red"

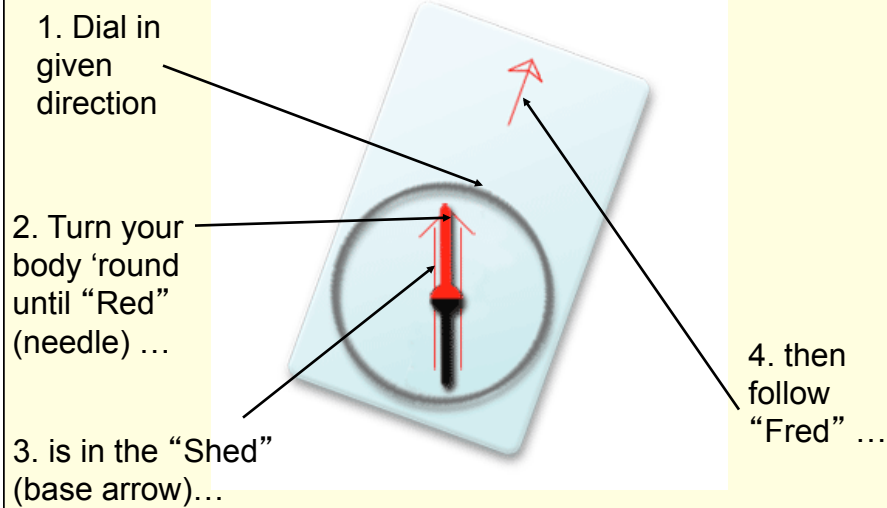
Base arrow "Shed"

Screw to set declination: No further declination corrections needed!

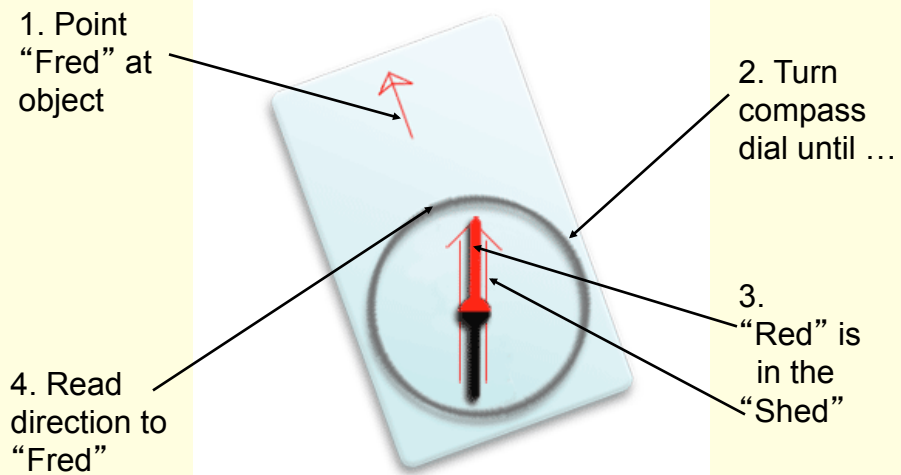
A Compass Adjusted for E Declination



Following a given direction ...



Determining a direction ... (to an object, landmark, etc.)



Summary – Compass Basics

- Compass parts
 - Mirror (cover), base, dial, needle, declination set screw (some models)
- Uses
 - Determine a direction to travel
 - Determine direction to known object
 - Triangulating your position from or onto a scaled map