

Datasheet for finding GPS location and velocity data from the EarthScope Plate Boundary Observatory website for sites P395, P396 and P404 (<https://www.unavco.org/instrumentation/networks/status/pbo/overview/P395> and so on)

Name: _____

Date on which the data were acquired from the PBO website: _____

Geographic coordinates using WGS 1984 datum, North American 2008 Reference Frame (NAM08)

Site	Decimal Lat	Decimal Long
P395	_____	_____
P396	_____	_____
P404	_____	_____

GPS site velocities relative to NAM08, expressed in mm/year

Site	N Velocity ± Uncert	E Velocity ± Uncert	Height Velocity ± Uncert
P395	_____	_____	_____
P396	_____	_____	_____
P404	_____	_____	_____

Now plot the horizontal velocities on the map on the following page and then answer the following questions.

Use your group’s map of the velocity field to hypothesize (infer) the instantaneous deformation for this set of stations.

Approximate Magnitude (mm/yr)

Approximate Azimuth (ex. “north” or “southwest”)

Translation: _____

Rotation direction (+ = counter clockwise, - = clockwise):

Strain:

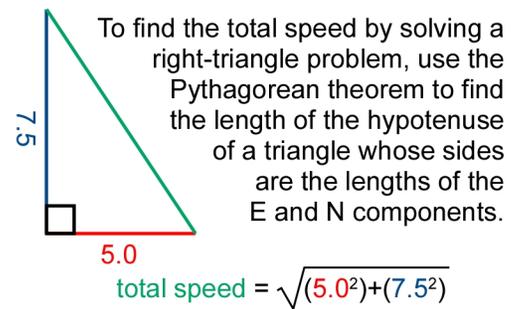
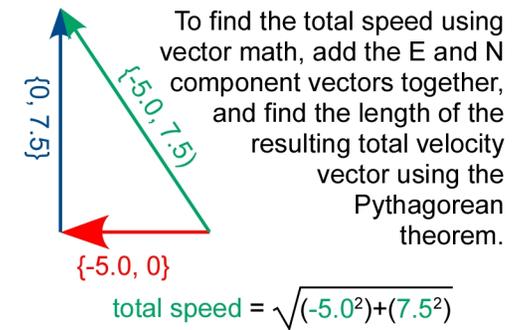
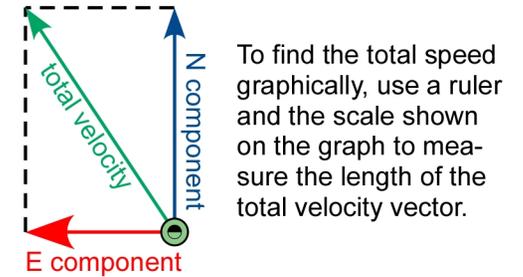
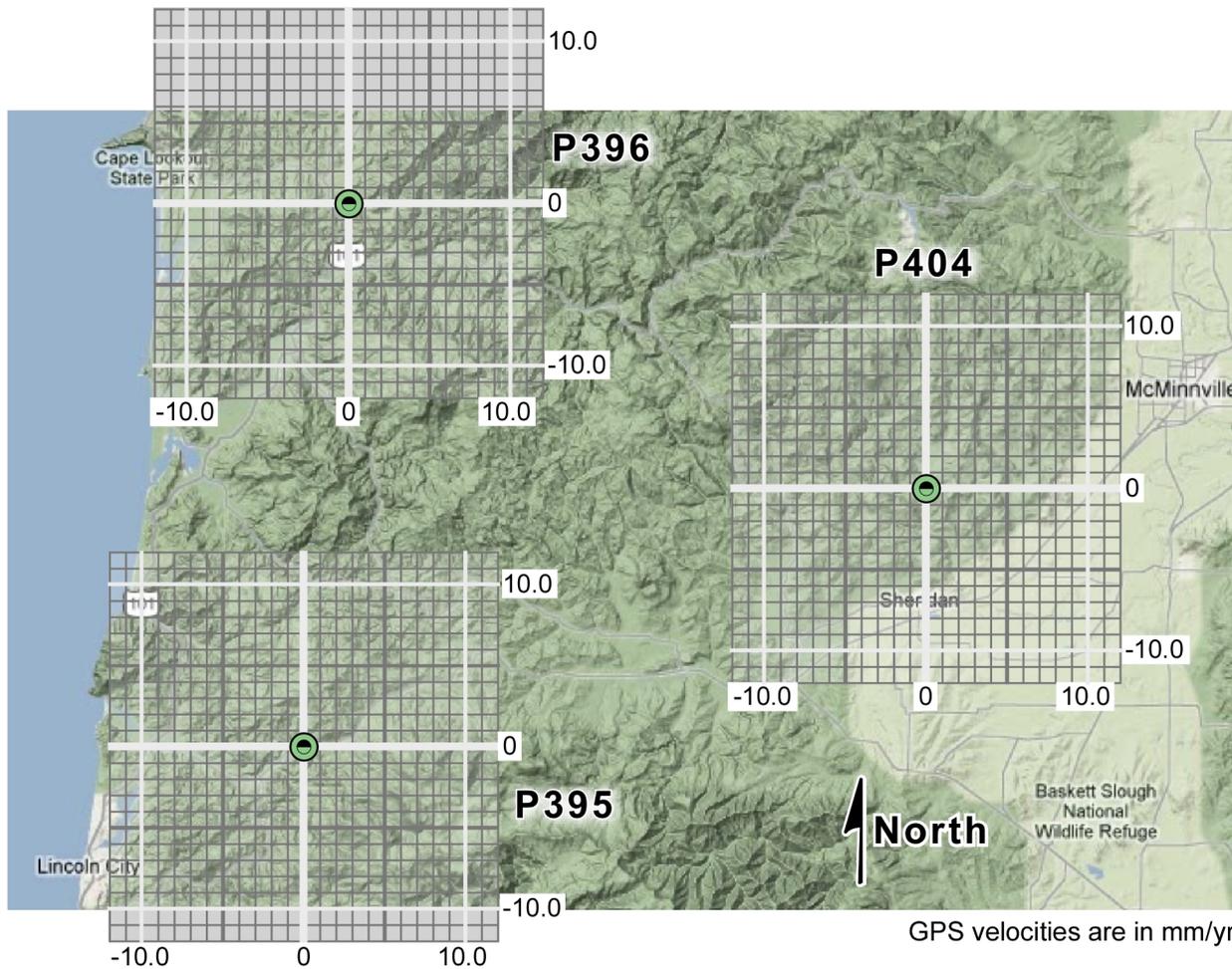
Sign (+ = extension, - = contraction)

Approximate Azimuth

Max horizontal extension _____

Min horizontal extension _____

Carefully draw the E-W and N-S velocity vectors associated with the three PBO GPS sites shown as green dots in the map below. A negative east component is a vector pointing west, and a negative north component is a vector pointing south. The graphs are scaled in units of millimeters per year. Then draw the total horizontal velocity vector for each site, and determine the horizontal speed (that is, the length of the total horizontal velocity vector) of each site. You can determine the total horizontal speed by one of the methods shown at right below.



Total horizontal speeds: P395 _____ mm/yr; P396 _____ mm/yr; P404 _____ mm/yr