Olympic Peninsula Group

Datasheet for finding GPS location and velocity data from the EarthScope Network of the Americas (NOTA) website for sites NEAH, P401 and P403

Name: _____

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

Geographic coordinates using WGS 1984 datum, North American 2008 stable reference frame (NAM08)

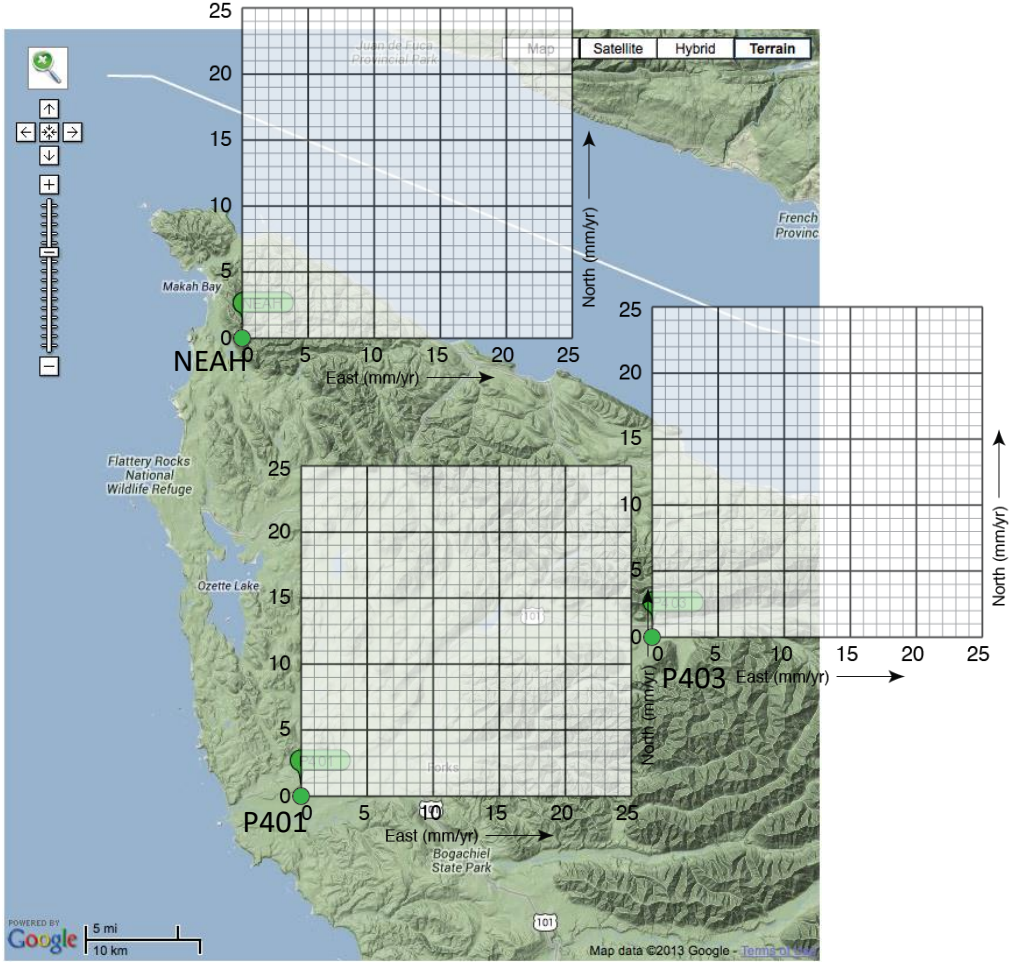
Site	Decimal Lat	Decimal Long
NEAH	_____	_____
P401	_____	_____
P403	_____	_____

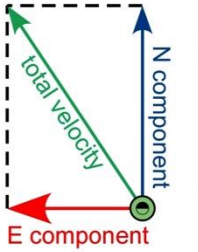
GPS site velocities relative to NAM08, expressed in mm/year

Site	N Velocity ± Uncert		E Velocity ± Uncert		Height Velocity ± Uncert	
NEAH	_____	_____	_____	_____	_____	_____
P401	_____	_____	_____	_____	_____	_____
P403	_____	_____	_____	_____	_____	_____

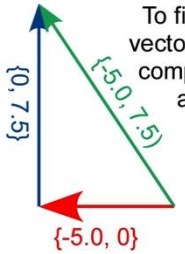
Now plot the horizontal velocities on the map on the following page.

Olympic Peninsula Group. Carefully draw the E-W and N-S velocity vectors associated with the three NOTA 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.



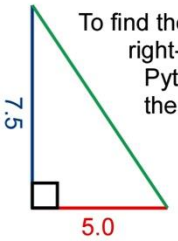


To find the total speed graphically, use a ruler and the scale shown on the graph to measure the length of the total velocity vector.



To find the total speed using vector math, add the E and N component vectors together, and find the length of the resulting total velocity vector using the Pythagorean theorem.

total speed = $\sqrt{(-5.0^2)+(7.5^2)}$



To find the total speed by solving a right-triangle problem, use the Pythagorean theorem to find the length of the hypotenuse of a triangle whose sides are the lengths of the E and N components.

total speed = $\sqrt{(5.0^2)+(7.5^2)}$

Total horizontal speeds: NEAH _____mm/yr; P401 _____mm/yr; P403 _____mm/yr

Wasatch Front Group

Datasheet for finding GPS location and velocity data from the EarthScope Network of the Americas (NOTA) website for sites P088, P116 and COON

Name: _____

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

Geographic coordinates using WGS 1984 datum, North American 2008 stable reference frame (NAM08)

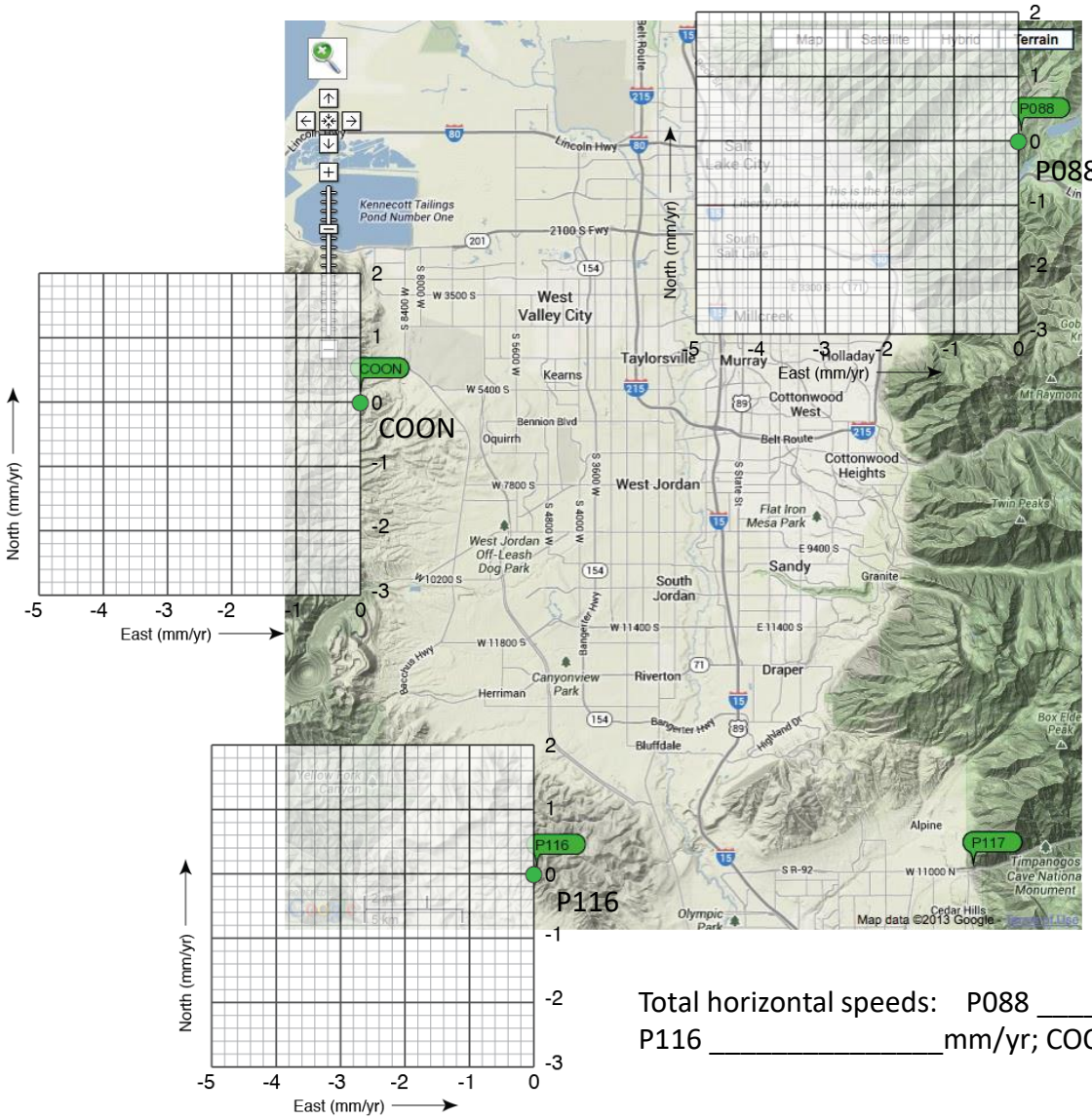
Site	Decimal Lat	Decimal Long
P088	_____	_____
P116	_____	_____
COON	_____	_____

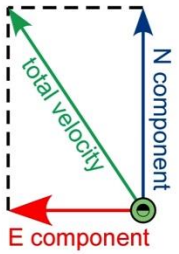
GPS site velocities relative to NAM08, expressed in mm/year

Site	N Velocity ± Uncert		E Velocity ± Uncert		Height Velocity ± Uncert	
P088	_____	_____	_____	_____	_____	_____
P116	_____	_____	_____	_____	_____	_____
COON	_____	_____	_____	_____	_____	_____

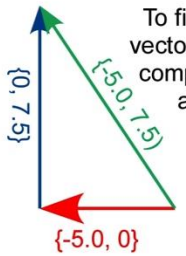
Now plot the horizontal velocities on the map on the following page.

Wasatch Front Group. Carefully draw the E-W and N-S velocity vectors associated with the three NOTA 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.



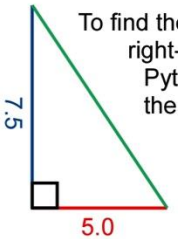


To find the total speed graphically, use a ruler and the scale shown on the graph to measure the length of the total velocity vector.



To find the total speed using vector math, add the E and N component vectors together, and find the length of the resulting total velocity vector using the Pythagorean theorem.

total speed = $\sqrt{(-5.0^2)+(7.5^2)}$



To find the total speed by solving a right-triangle problem, use the Pythagorean theorem to find the length of the hypotenuse of a triangle whose sides are the lengths of the E and N components.

total speed = $\sqrt{(5.0^2)+(7.5^2)}$

Total horizontal speeds: P088 _____mm/yr;
P116 _____mm/yr; COON _____mm/yr

San Andreas Group

Datasheet for finding GPS location and velocity data from the EarthScope Network of the Americas (NOTA) website for sites P538, P539 and P541

Name: _____

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

Geographic coordinates using WGS 1984 datum, North American 2008 stable reference frame (NAM08)

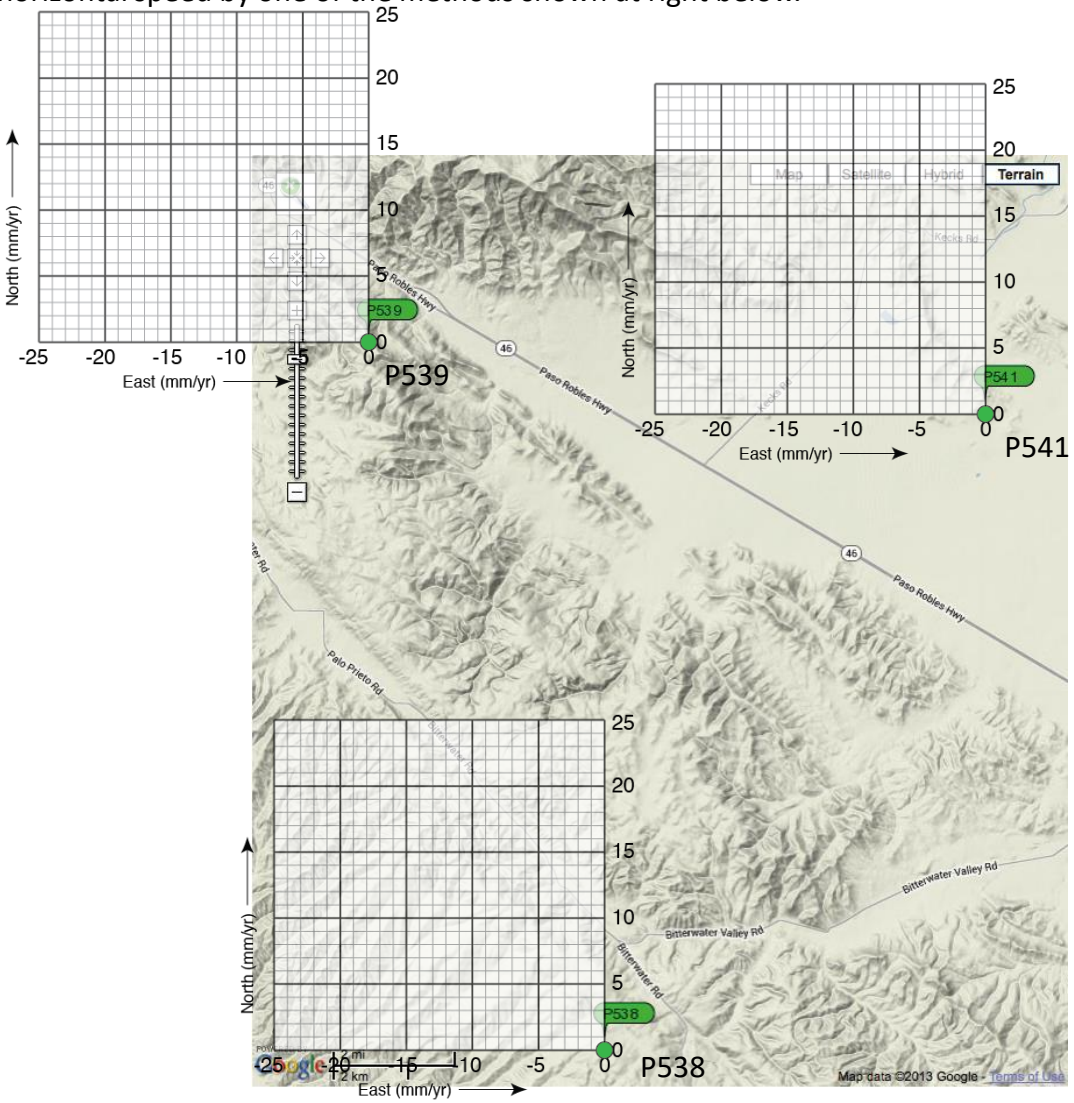
Site	Decimal Lat	Decimal Long
P538	_____	_____
P539	_____	_____
P541	_____	_____

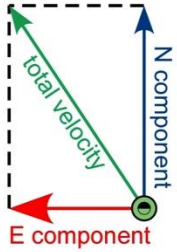
GPS site velocities relative to NAM08, expressed in mm/year

Site	N Velocity ± Uncert		E Velocity ± Uncert		Height Velocity ± Uncert	
P538	_____	_____	_____	_____	_____	_____
P539	_____	_____	_____	_____	_____	_____
P541	_____	_____	_____	_____	_____	_____

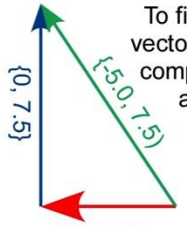
Now plot the horizontal velocities on the map on the following page.

San Andreas group. Carefully draw the E-W and N-S velocity vectors associated with the three NOTA 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.



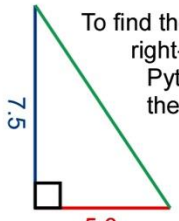


To find the total speed graphically, use a ruler and the scale shown on the graph to measure the length of the total velocity vector.



To find the total speed using vector math, add the E and N component vectors together, and find the length of the resulting total velocity vector using the Pythagorean theorem.

total speed = $\sqrt{(-5.0^2)+(7.5^2)}$



To find the total speed by solving a right-triangle problem, use the Pythagorean theorem to find the length of the hypotenuse of a triangle whose sides are the lengths of the E and N components.

total speed = $\sqrt{(5.0^2)+(7.5^2)}$

Total horizontal speeds: P538 _____mm/yr; P539 _____mm/yr; P541 _____mm/yr