**Table S1: Site velocities pre-Dusky Sound 2009**

GPS velocities (VE,VN) for the east component and north components respectively for both the ITRF2014 and Pacific Plate-fixed (PA) reference frames, with uncertainties (SE,SN).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Longitude** | **Latitude** | **Ve\_ITRF14** | **Vn\_ITRF14** | **Ve\_PA** | **Vn\_PA** | **Se** | **Sn** | **site** |
| 169.00359 | -43.86081 | -6.91 | 43.27 | 29.16 | 14.95 | 1.76 | 1.81 | 6731 |
| 169.35868 | -44.10025 | -22.97 | 35.95 | 12.97 | 7.52 | 1.61 | 1.47 | A00F |
| 169.07449 | -43.91096 | -11.13 | 40.64 | 24.91 | 12.30 | 1.23 | 3.97 | A071 |
| 169.41631 | -44.31289 | -25.55 | 33.57 | 10.19 | 5.12 | 6.51 | 1.41 | A07H |
| 169.30269 | -44.73319 | -31.95 | 32.64 | 3.31 | 4.22 | 7.63 | 0.66 | A1M4 |
| 168.54036 | -44.11937 | -7.05 | 42.90 | 28.59 | 14.72 | 3.81 | 1.23 | A31R |
| 168.88708 | -43.91304 | -7.83 | 42.52 | 28.14 | 14.24 | 1.74 | 7.66 | A3KQ |
| 169.38411 | -44.38171 | -25.73 | 34.41 | 9.93 | 5.97 | 1.76 | 0.97 | AA8V |
| 169.25068 | -44.19470 | -23.56 | 35.42 | 12.25 | 7.02 | 6.55 | 6.32 | AADY |
| 169.24485 | -44.53500 | -29.83 | 33.28 | 5.62 | 4.88 | 13.93 | 1.42 | AE9G |
| 169.14439 | -43.94258 | -15.98 | 40.32 | 20.05 | 11.95 | 2.79 | 8.39 | B8KF |
| 169.23993 | -43.96076 | -17.35 | 38.69 | 18.69 | 10.29 | 0.26 | 0.08 | B8KT |
| 169.39962 | -43.99913 | -23.61 | 38.16 | 12.45 | 9.71 | 4.90 | 7.04 | B8LG |
| 169.04636 | -43.86093 | -6.74 | 41.70 | 29.34 | 13.37 | 5.77 | 2.70 | B8NA |
| 169.04498 | -43.88000 | -6.94 | 44.24 | 29.12 | 15.90 | 2.08 | 2.04 | B8NC |
| 170.12324 | -45.56568 | -30.81 | 32.37 | 3.86 | 3.70 | 2.14 | 1.11 | DME1 |
| 169.90344 | -44.93835 | -30.20 | 32.83 | 5.05 | 4.22 | 1.07 | 0.90 | DME3 |
| 169.30232 | -44.74860 | -28.29 | 33.91 | 6.96 | 5.49 | 1.45 | 0.91 | DME5 |
| 169.20610 | -44.28608 | -22.89 | 36.62 | 12.80 | 8.23 | 3.75 | 4.58 | DPX3 |
| 170.51725 | -45.37091 | -33.03 | 35.36 | 1.99 | 6.57 | 5.92 | 1.21 | DQYF |
| 170.32168 | -45.46702 | -32.83 | 32.07 | 2.01 | 3.34 | 2.80 | 1.64 | DQYG |
| 170.21599 | -45.38304 | -31.64 | 32.30 | 3.25 | 3.60 | 5.31 | 3.66 | DQYH |
| 170.06688 | -45.28491 | -31.21 | 32.72 | 3.73 | 4.07 | 7.35 | 4.50 | DQYJ |
| 169.80312 | -45.47854 | -30.98 | 32.34 | 3.67 | 3.76 | 3.40 | 2.44 | DQYK |
| 169.97852 | -45.04760 | -31.03 | 32.63 | 4.14 | 4.00 | 2.06 | 1.22 | DQYL |
| 169.62900 | -45.26284 | -31.03 | 33.01 | 3.78 | 4.49 | 2.60 | 2.93 | DQYM |
| 169.61547 | -45.10689 | -31.02 | 33.49 | 3.95 | 4.98 | 1.81 | 1.76 | DQYN |
| 169.35454 | -44.93326 | -30.60 | 33.18 | 4.47 | 4.75 | 2.64 | 2.07 | DQYP |
| 169.42533 | -45.67636 | -31.49 | 32.89 | 2.81 | 4.44 | 3.97 | 5.03 | DQYQ |
| 169.76636 | -45.97025 | -31.39 | 32.32 | 2.73 | 3.76 | 2.18 | 1.49 | DQYR |
| 170.59716 | -45.88366 | -31.97 | 30.87 | 2.53 | 2.05 | 0.27 | 0.27 | DUND |
| 170.62940 | -45.81431 | -31.65 | 31.75 | 2.94 | 2.93 | 0.23 | 0.23 | DUNT |
| 170.85798 | -45.35703 | -31.39 | 32.01 | 3.76 | 3.12 | 2.41 | 2.19 | DY3P |
| 170.04809 | -45.78191 | -31.82 | 32.22 | 2.60 | 3.58 | 5.50 | 5.93 | E2K3 |
| 169.16975 | -45.08037 | -31.14 | 33.63 | 3.71 | 5.26 | 3.24 | 0.92 | E2K4 |
| 169.32067 | -45.47388 | -30.62 | 33.03 | 3.86 | 4.61 | 5.56 | 2.15 | E2K6 |
| 170.86534 | -45.39270 | -32.14 | 31.54 | 2.98 | 2.64 | 2.13 | 2.55 | E2K7 |
| 170.84155 | -45.38222 | -32.12 | 30.07 | 3.00 | 1.18 | 2.45 | 4.47 | EAYV |
| 170.08116 | -46.20192 | -26.96 | 25.03 | 7.02 | -3.63 | 5.84 | 3.23 | ECFG |
| 170.12119 | -46.14653 | -32.30 | 33.88 | 1.75 | 5.21 | 7.40 | 2.81 | ECFH |
| 170.15048 | -46.16310 | -35.50 | 33.62 | -1.45 | 4.94 | 6.03 | 3.24 | ECFJ |
| 170.21835 | -46.05589 | -37.45 | 25.33 | -3.27 | -3.37 | 1.46 | 6.73 | ECFK |
| 170.21746 | -46.05651 | -31.90 | 31.56 | 2.29 | 2.87 | 1.43 | 0.74 | EM6L |
| 168.78555 | -44.07320 | -12.93 | 41.08 | 22.84 | 12.82 | 0.15 | 0.21 | HAAS |
| 169.68411 | -45.03834 | -31.56 | 30.96 | 3.51 | 2.43 | 0.46 | 0.41 | LDRZ |
| 169.30824 | -45.23101 | -29.80 | 32.59 | 4.94 | 4.18 | 0.47 | 0.31 | LEXA |
| 170.51091 | -45.86950 | -31.80 | 30.86 | 2.69 | 2.08 | 0.08 | 0.07 | OUSD |

**Table S2: Site velocities post-Dusky Sound 2009**

GPS velocities (VE,VN) for the east component and north components respectively for both the ITRF2014 and Pacific Plate-fixed (PA) reference frames, with uncertainties (SE,SN).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Longitude** | **Latitude** | **Ve\_ITRF14** | **Vn\_ITRF14** | **Ve\_PA** | **Vn\_PA** | **Se** | **Sn** | **Site** |
| 169.00359 | -43.86082 | -7.79 | 43.32 | 23.68 | 12.67 | 1.76 | 1.81 | 6731 |
| 168.54036 | -44.11938 | -11.96 | 40.84 | 31.01 | 16.48 | 3.81 | 1.23 | A31R |
| 169.25069 | -44.19471 | -4.80 | 44.88 | -0.65 | 3.79 | 6.55 | 6.32 | AADY |
| 170.12325 | -45.56568 | -35.32 | 32.46 | 1.21 | 3.71 | 2.14 | 1.11 | DME1 |
| 169.90345 | -44.93835 | -34.04 | 32.32 | 3.15 | 4.02 | 1.07 | 0.90 | DME3 |
| 169.30232 | -44.74860 | -32.09 | 32.44 | 6.97 | 4.98 | 1.45 | 0.91 | DME5 |
| 169.20610 | -44.28609 | -28.72 | 33.36 | 0.74 | 3.06 | 3.75 | 4.58 | DPX3 |
| 170.51726 | -45.37091 | -34.28 | 31.85 | 0.14 | 2.90 | 5.92 | 1.21 | DQYF |
| 170.32169 | -45.46702 | -34.71 | 31.63 | 0.16 | 2.55 | 2.80 | 1.64 | DQYG |
| 170.21600 | -45.38304 | -34.73 | 31.24 | -0.89 | 3.60 | 5.31 | 3.66 | DQYH |
| 170.06689 | -45.28491 | -35.83 | 32.26 | -0.45 | 3.31 | 7.35 | 4.50 | DQYJ |
| 169.80313 | -45.47854 | -35.10 | 31.88 | 1.64 | 2.69 | 3.40 | 2.44 | DQYK |
| 169.97853 | -45.04760 | -33.53 | 31.32 | 0.90 | 3.96 | 2.06 | 1.22 | DQYL |
| 169.62900 | -45.26284 | -33.92 | 32.48 | 0.91 | 4.02 | 2.60 | 2.93 | DQYM |
| 169.61548 | -45.10690 | -34.07 | 32.53 | 2.78 | 4.25 | 1.81 | 1.76 | DQYN |
| 169.35455 | -44.93327 | -32.29 | 32.68 | 0.30 | 3.49 | 2.64 | 2.07 | DQYP |
| 169.42533 | -45.67637 | -34.00 | 31.94 | -0.35 | 3.04 | 3.97 | 5.03 | DQYQ |
| 169.76636 | -45.97025 | -34.47 | 31.60 | 2.73 | 1.28 | 2.18 | 1.49 | DQYR |
| 170.59717 | -45.88366 | -31.77 | 30.10 | 2.98 | 0.92 | 0.27 | 0.27 | DUND |
| 170.62941 | -45.81432 | -31.61 | 29.75 | 1.12 | 2.59 | 0.23 | 0.23 | DUNT |
| 170.85798 | -45.35704 | -34.03 | 31.48 | -0.33 | 4.13 | 2.41 | 2.19 | DY3P |
| 170.04809 | -45.78191 | -34.74 | 32.78 | 2.09 | 3.92 | 5.50 | 5.93 | E2K3 |
| 169.37306 | -46.12974 | -32.53 | 32.45 | 1.27 | 4.02 | 0.34 | 0.36 | EEBF |
| 168.82117 | -45.91302 | -32.78 | 32.58 | 1.06 | 4.32 | 1.79 | 0.74 | EEBG |
| 168.70860 | -45.45651 | -32.44 | 33.84 | 1.84 | 5.62 | 2.44 | 0.75 | EEBH |
| 168.75573 | -45.12799 | -31.72 | 32.85 | 2.93 | 4.61 | 2.05 | 1.25 | EEBJ |
| 169.49640 | -44.69765 | -30.37 | 32.19 | 4.99 | 3.71 | 1.38 | 1.19 | EEBK |
| 169.86691 | -44.54375 | -30.61 | 32.40 | 5.04 | 3.80 | 2.46 | 1.25 | EEBL |
| 170.24890 | -44.61757 | -32.63 | 30.93 | 3.07 | 2.22 | 5.77 | 5.57 | EEBM |
| 170.53421 | -44.80704 | -32.88 | 31.02 | 2.73 | 2.22 | 1.28 | 0.86 | EEBN |
| 170.70015 | -44.98254 | -33.06 | 31.47 | 2.42 | 2.62 | 2.24 | 2.33 | EEBP |
| 170.21746 | -46.05651 | -31.90 | 31.56 | 24.49 | 13.71 | 1.43 | 0.74 | EM6L |
| 168.68554 | -44.10511 | -11.21 | 41.93 | 27.39 | 14.73 | 1.63 | 1.60 | EMYH |
| 168.58954 | -44.07952 | -8.31 | 42.92 | 23.78 | 13.33 | 2.68 | 1.31 | EMYJ |
| 168.57875 | -44.14430 | -11.85 | 41.52 | 26.19 | 13.79 | 1.88 | 2.52 | EMYK |
| 168.48111 | -44.14886 | -9.40 | 41.95 | 22.54 | 13.46 | 1.16 | 1.22 | EMYL |
| 168.48323 | -44.20655 | -12.99 | 41.62 | 24.85 | 15.21 | 5.55 | 4.17 | EMYM |
| 168.41509 | -44.16433 | -10.70 | 43.35 | 23.20 | 12.62 | 1.22 | 1.63 | EMYN |
| 168.36308 | -44.25372 | -12.24 | 40.74 | 27.05 | 15.22 | 4.06 | 4.90 | EMYP |
| 168.24517 | -44.26411 | -8.34 | 43.30 | 21.61 | 12.90 | 2.01 | 3.20 | EMYQ |
| 168.26292 | -44.32801 | -13.72 | 40.99 | 23.27 | 15.94 | 2.60 | 6.38 | EMYR |
| 168.08881 | -44.33111 | -11.99 | 43.96 | 19.21 | 14.16 | 2.37 | 4.30 | EMYT |
| 168.08965 | -44.43158 | -15.95 | 42.19 | 2.25 | 2.11 | 2.12 | 2.91 | EMYU |
| 170.01351 | -46.16295 | -31.75 | 30.74 | 3.59 | 0.97 | 0.51 | 0.47 | SC02 |
| 170.01286 | -46.05740 | -30.52 | 29.60 | 2.78 | 2.53 | 0.71 | 0.64 | SC03 |
| 170.08678 | -45.96627 | -31.45 | 31.19 | 2.64 | 3.11 | 0.66 | 0.50 | SC04 |
| 170.25273 | -46.00028 | -31.61 | 31.82 | 28.27 | 15.00 | 0.58 | 0.50 | SC05 |