

## Data Set S1. GPS Velocities

station	Longitude (°E)	Latitude (°N)	Period start end		relative to North America				Central Colorado Plateau	
					V <sub>east</sub>	V <sub>north</sub>	C <sub>east</sub>	C <sub>north</sub>	V <sub>east</sub>	V <sub>north</sub>
ALAM	-115.158	37.358	1999.4	2010.1	-3.00	0.67	0.04	0.04	-2.15	-0.53
ALUT	-111.620	40.584	2005.8	2010.1	0.42	0.13	0.24	0.23	0.60	-0.54
APEX	-114.932	36.319	1999.2	2009.5	-2.77	0.83	1.25	0.35	-1.71	-0.33
AZCL	-111.515	32.984	2005.4	2010.1	-1.54	0.28	0.40	0.22	0.15	-0.37
BLKV*	-80.415	37.206	1999.3	2010.1	0.35	0.22	0.13	0.10	1.74	4.08
BLYT	-114.715	33.610	1996.0	2010.1	-2.48	0.59	0.28	0.30	-0.88	-0.54
BRMU*	-64.696	32.370	1996.0	2010.1	-0.09	-0.19	0.20	0.19	2.91	5.61
CAE1	-115.230	34.751	2007.1	2010.1	-2.56	1.24	0.23	0.18	-1.19	0.04
CAE2	-115.230	34.751	2007.1	2010.1	-2.68	1.25	0.27	0.18	-1.31	0.04
CAST**	-110.677	39.191	1997.2	2010.1	-0.41	0.46	0.11	0.07	0.04	-0.07
CEDA	-112.860	40.681	1996.5	2010.1	-2.89	-0.22	0.09	0.07	-2.72	-1.07
CLOV	-114.874	40.558	2006.9	2010.1	-2.86	-0.05	0.24	0.15	-2.65	-1.20
COON	-112.121	40.653	1996.5	2010.1	-2.08	-0.02	0.12	0.10	-1.91	-0.76
DQUA*	-94.290	34.111	1997.0	2010.1	0.00	-0.28	0.10	0.11	1.57	1.63
ECHO	-114.264	37.916	1999.4	2010.1	-2.95	0.28	0.10	0.05	-2.21	-0.78
EGAN	-114.939	39.345	1997.2	2010.1	-3.24	0.33	0.12	0.10	-2.79	-0.84
FERN	-112.455	35.342	1999.4	2010.1	-1.71	1.00	0.08	0.05	-0.48	0.21
FOOT	-113.805	39.369	1997.2	2010.1	-2.85	0.25	0.10	0.07	-2.41	-0.75
FORE	-111.380	40.512	2007.3	2010.1	-0.19	0.29	0.28	0.18	0.00	-0.34
FRED	-112.499	36.988	1999.4	2010.1	-1.34	0.54	0.09	0.05	-0.43	-0.26
GMPK	-114.827	33.051	2005.8	2010.1	-2.20	2.46	0.21	0.15	-0.50	1.32
GNPS	-114.189	34.309	2006.1	2010.1	-1.75	2.22	0.16	0.16	-0.30	1.17
GODZ*	-76.827	39.022	2002.4	2010.1	-0.18	-0.19	0.15	0.10	1.03	4.15
GOSH	-114.180	40.640	1996.5	2010.1	-3.22	0.02	0.14	0.08	-3.03	-1.03
HEBE	-111.373	40.514	1996.5	2007.5	-0.74	0.13	0.16	0.12	-0.55	-0.50
HLFX*	-63.611	44.684	2003.0	2010.1	-0.12	-0.35	0.19	0.16	0.89	5.57
HURR	-113.575	37.064	2005.7	2010.1	-1.89	1.02	0.11	0.08	-0.99	0.07
IID2	-115.032	32.706	1999.6	2010.1	-2.19	2.20	0.23	0.19	-0.41	1.02
IMPS	-115.145	34.158	1999.4	2010.1	-2.74	1.52	0.20	0.13	-1.25	0.32
KAYO	-113.461	35.195	2005.7	2010.1	-2.27	0.88	0.14	0.11	-1.00	-0.06
LMUT	-111.928	40.261	2006.4	2010.1	-1.72	0.02	0.20	0.16	-1.48	-0.70
MFP0	-105.194	39.950	2007.2	2010.1	0.09	-0.17	0.44	0.38	0.38	0.13
MPUT	-111.634	40.016	2003.3	2010.1	-0.94	0.45	0.19	0.11	-0.65	-0.22
MYT1	-110.048	40.103	2002.2	2008.6	0.24	1.13	0.14	0.11	0.51	0.70
MYT2	-110.049	40.103	2002.2	2010.1	0.56	1.12	0.11	0.11	0.82	0.69
NMGR	-107.930	35.217	2006.3	2010.1	-0.60	0.86	0.17	0.14	0.63	0.74
P003	-114.005	32.723	2006.1	2010.1	-2.65	1.10	0.19	0.11	-0.89	0.08
P004	-112.152	34.784	2007.1	2010.1	-1.79	0.31	0.31	0.16	-0.45	-0.43
P005	-115.279	39.910	2006.8	2010.1	-2.99	0.43	0.22	0.15	-2.64	-0.78
P008**	-111.130	36.143	2007.2	2010.1	-1.31	0.62	0.23	0.14	-0.25	0.03
P009	-112.223	38.480	2006.1	2010.1	-1.61	0.17	0.41	0.29	-1.01	-0.59
P010	-113.731	34.667	2007.1	2010.1	-2.15	1.15	0.16	0.21	-0.78	0.17
P011**	-109.519	36.150	2005.3	2010.1	-1.22	0.54	0.12	0.09	-0.17	0.19
P012**	-109.334	38.097	2006.2	2010.1	-0.52	0.16	0.18	0.09	0.14	-0.16
P015**	-110.009	34.264	2005.2	2010.1	-1.23	0.61	0.16	0.14	0.20	0.18
P016	-112.361	40.078	2006.3	2010.1	-2.20	0.24	0.19	0.03	-1.91	-0.54
P026	-107.195	32.659	2004.4	2010.1	-0.72	0.23	0.18	0.20	1.02	0.23
P027	-105.804	32.802	2007.1	2010.0	-0.56	0.85	0.33	0.19	1.15	1.06
P028	-107.908	36.032	2005.3	2010.1	-0.71	0.66	0.14	0.12	0.36	0.55

P029	-107.638	38.439	2007.3	2010.1	-1.18	-2.35	0.34	0.20	-0.59	-2.42
P031	-107.909	39.515	2006.2	2010.1	2.13	-0.08	0.23	0.17	2.51	-0.19
P034	-106.459	34.946	2004.4	2010.1	-0.44	0.59	0.16	0.09	0.84	0.70
P035	-105.184	34.601	2005.2	2010.1	-0.48	0.72	0.15	0.11	0.88	1.01
P036	-105.294	36.420	2004.6	2010.1	-0.29	0.33	0.43	0.22	0.70	0.61
P037	-105.105	38.422	2004.4	2010.1	-0.09	0.17	0.18	0.11	0.51	0.47
P038	-103.407	34.147	2005.2	2010.1	-0.40	0.38	0.15	0.11	1.06	0.95
P039	-103.154	36.448	2005.2	2010.1	-0.10	0.69	0.18	0.11	0.90	1.29
P041	-105.194	39.949	2004.1	2010.1	0.02	0.19	0.14	0.09	0.31	0.48
P044	-103.222	40.172	2004.9	2010.1	-0.04	0.23	0.15	0.11	0.22	0.82
P070	-104.698	36.045	2007.2	2010.1	-0.96	1.34	0.38	0.24	0.12	1.71
P080	-114.277	39.119	2006.8	2010.1	-3.03	0.32	0.27	0.06	-2.54	-0.75
P081	-113.871	39.067	2006.3	2010.1	-2.84	0.46	0.13	0.08	-2.34	-0.55
P082	-113.505	39.269	2006.4	2010.1	-2.44	0.20	0.18	0.08	-1.98	-0.74
P084	-113.054	40.494	2006.4	2010.1	-2.83	-0.18	0.22	0.08	-2.62	-1.06
P086	-112.282	40.649	2005.0	2010.1	-1.79	0.60	0.15	0.11	-1.62	-0.16
P088	-111.723	40.772	2006.7	2010.1	-0.45	0.06	0.25	0.11	-0.31	-0.62
P089	-111.415	40.807	2004.7	2008.7	-0.29	0.36	0.21	0.12	-0.15	-0.28
P104	-112.717	39.186	2006.3	2010.1	-2.08	0.60	0.15	0.09	-1.61	-0.23
P105	-112.504	39.388	2004.7	2010.1	-1.95	0.11	0.16	0.22	-1.53	-0.69
P106	-112.262	39.459	2006.3	2010.1	-2.23	0.25	0.17	0.13	-1.82	-0.51
P107	-107.880	35.132	2006.2	2010.1	-0.86	0.82	0.23	0.18	0.39	0.71
P108	-111.945	39.589	2005.8	2010.1	-1.41	0.41	0.15	0.10	-1.03	-0.31
P109	-111.651	39.597	2007.2	2010.1	-0.90	0.13	0.35	0.19	-0.52	-0.55
P110	-111.571	39.715	2005.8	2010.1	0.52	-0.46	0.39	0.29	0.88	-1.12
P112	-111.450	39.817	2005.9	2010.1	0.01	0.26	0.19	0.08	0.34	-0.38
P113	-113.278	40.671	2006.3	2010.1	-2.80	-0.06	0.19	0.06	-2.63	-0.98
P114	-112.528	40.634	2005.6	2010.1	-2.55	-0.11	0.21	0.06	-2.38	-0.91
P115	-112.428	40.474	2007.2	2010.1	-2.38	-0.12	0.38	0.23	-2.17	-0.91
P116	-112.014	40.434	2007.3	2010.1	-1.93	-0.14	0.27	0.15	-1.72	-0.86
P117	-111.751	40.435	2006.3	2010.1	-1.84	-0.57	0.26	0.10	-1.63	-1.26
P118	-111.350	40.635	2005.9	2010.1	0.18	0.35	0.20	0.09	0.35	-0.28
P119	-111.258	40.732	2005.3	2010.1	-0.23	0.32	0.20	0.13	-0.08	-0.29
P120	-105.626	35.007	2007.1	2010.1	-0.61	0.80	0.25	0.20	0.66	1.03
P123	-105.911	36.635	2006.2	2010.1	-0.76	0.41	0.19	0.15	0.19	0.60
P500	-115.300	32.690	2005.3	2010.1	-4.22	9.84	0.20	0.14	-2.43	8.62
P501	-115.398	32.876	2005.2	2010.1	-2.38	6.55	0.20	0.12	-0.64	5.31
P509	-115.294	32.891	2006.0	2010.1	-0.63	3.91	0.20	0.13	1.11	2.69
P510	-115.343	33.144	2006.0	2010.1	-2.84	2.78	0.18	0.10	-1.14	1.56
P511	-115.296	33.887	2005.5	2010.1	-3.29	1.69	0.16	0.12	-1.75	0.48
P614	-115.250	34.732	2007.1	2010.1	-2.58	1.32	0.19	0.21	-1.20	0.11
P622	-115.366	35.163	2005.8	2010.1	-2.59	0.98	0.18	0.10	-1.29	-0.24
P623	-114.599	34.189	2005.5	2010.1	-2.74	1.42	0.15	0.06	-1.27	0.31
P625	-114.965	34.844	2007.6	2010.1	-2.48	0.95	0.20	0.18	-1.13	-0.22
P626	-115.238	35.291	2005.8	2010.1	-2.46	1.01	0.21	0.17	-1.19	-0.20
PIE1	-108.119	34.302	1996.0	2010.1	-0.65	0.33	0.13	0.14	0.76	0.18
PRCO*	-97.519	34.980	1996.1	2008.1	0.34	0.22	0.17	0.14	1.69	1.65
PUB1	-104.346	38.287	2001.9	2007.6	-0.22	0.03	0.23	0.16	0.41	0.45
PUB2	-104.345	38.287	2001.9	2007.6	-0.13	-0.04	0.22	0.16	0.50	0.38
RBUT	-111.809	40.781	1997.1	2010.1	-0.97	0.21	0.10	0.09	-0.83	-0.48
RUBY	-115.123	40.617	1996.5	2010.1	-3.25	0.41	0.10	0.06	-3.04	-0.79
SC01	-106.967	34.068	2001.7	2010.1	-0.70	-0.22	0.11	0.08	0.76	-0.20
SG05*	-80.623	28.065	2002.1	2010.1	0.08	0.05	0.16	0.10	3.14	3.89
SMEL	-112.845	39.426	1997.2	2010.1	-2.47	0.06	0.10	0.07	-2.05	-0.79
SPIC	-112.127	39.306	2003.1	2010.1	-2.22	0.64	0.22	0.12	-1.78	-0.11
TOP4	-106.869	35.021	2007.2	2010.1	-0.82	0.75	0.36	0.22	0.45	0.80

TOP5	-106.797	35.154	2007.2	2009.9	-0.63	0.62	0.47	0.34	0.61	0.68
WNCI*	-90.477	39.665	2002.6	2006.7	-0.01	-0.10	0.29	0.22	0.57	2.37
WNFL*	-92.782	31.897	1997.4	2010.1	0.26	0.12	0.16	0.14	2.29	2.25
XCTY*	-83.108	29.631	2004.1	2010.1	0.23	-0.36	0.17	0.16	2.94	3.14

---

Velocities and uncertainties are in mm/yr

\* These stations are used to constrain North America reference frame

\*\* These stations are used to constrain Central Colorado Plateau reference frame

---