

Supplementary Materials

Table S1. The rates of vertical deformation (D_v) at Block JJ1 to JJ30.

Block No.	Number of Pixel	Minimum Velocity (mm/a)	Maximum Velocity (mm/a)	Mean Velocity (MV, mm/a)	Standard Deviation
JJ1	16350	-3.894069	4.49473	0.333402	0.64015
JJ2	20420	-3.176241	3.710044	0.603279	0.548625
JJ3	9177	-3.184966	3.58694	0.42099	0.531723
JJ4	11935	-3.000003	3.601094	0.090212	0.579021
JJ5	12066	-4.0415	3.215469	-0.261049	0.511148
JJ6	23933	-4.797726	5.462986	-0.195122	0.699422
JJ7	7253	-3.775571	2.550992	0.06616	0.496741
JJ8	4719	-3.069048	2.584744	0.016909	0.429131
JJ9	21904	-3.073226	3.381492	0.16612	0.541842
JJ10	16514	-3.893602	3.458496	0.255793	0.590487
JJ11	33052	-4.036974	4.301537	-0.182846	0.706877
JJ12	40877	-3.583298	4.088709	-0.046763	0.533174
JJ13	10104	-2.721501	3.170934	0.042745	0.451927
JJ14	9281	-4.296067	3.164828	-0.138046	0.562729
JJ15	8204	-4.296057	3.426404	0.013672	0.58054
JJ16	10274	-2.688271	3.175597	0.155306	0.603395
JJ17	4556	-2.494572	2.547204	0.156877	0.506029
JJ18	5332	-3.001885	3.252318	-0.09166	0.703242
JJ19	31958	-4.430243	4.239609	0.346116	0.603452
JJ20	9683	-3.654682	4.048138	0.163341	0.585593
JJ21	15449	-4.503315	3.555163	-0.032049	0.580889
JJ22	33368	-4.42211	3.807693	-0.405392	0.740832
JJ23	25539	-3.671714	3.298793	-0.31908	0.575998
JJ24	11776	-3.497089	3.342709	-0.28047	0.560811
JJ25	5572	-3.251789	2.753029	-0.392946	0.559951
JJ26	50474	-4.318373	2.994146	-0.194229	0.644477
JJ27	52355	-4.105183	5.193277	0.285525	0.704089
JJ28	5759	-2.273194	2.594696	0.142937	0.536243
JJ29	14206	-3.446468	3.683069	-0.300956	0.570608
JJ30	14559	-3.281409	2.944386	-0.287393	0.570474

Table S2. The rates of eastward deformation (D_E) at Block JJ1 to JJ30.

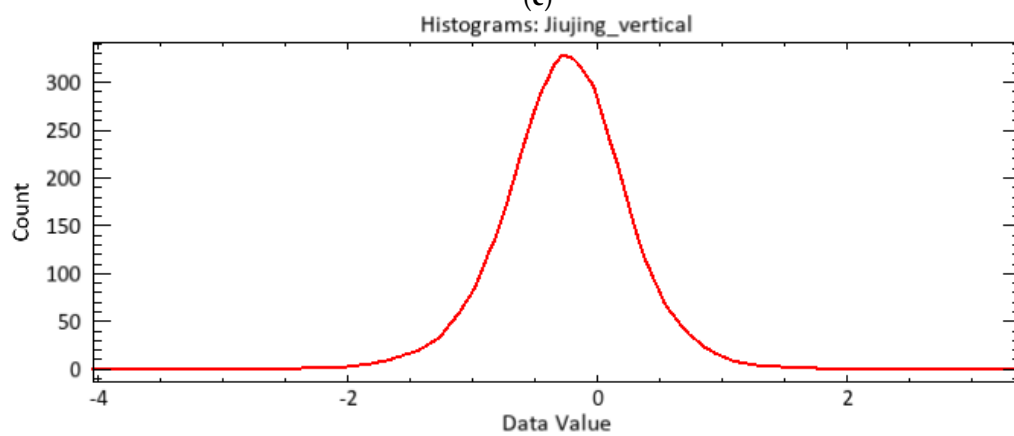
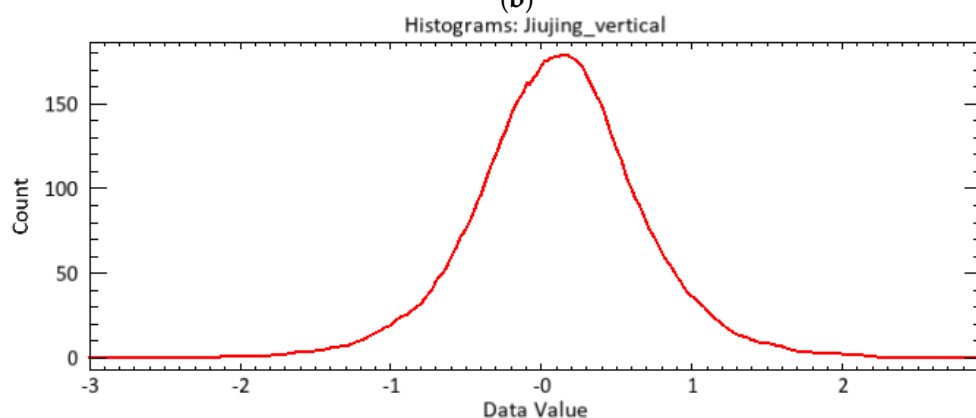
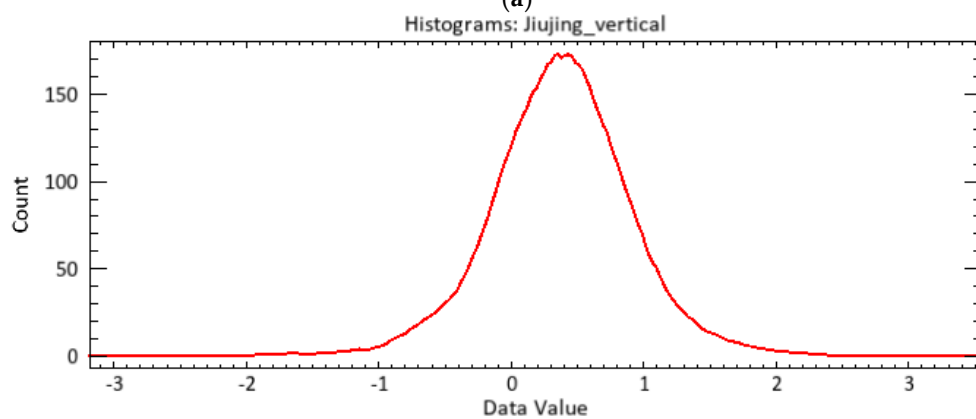
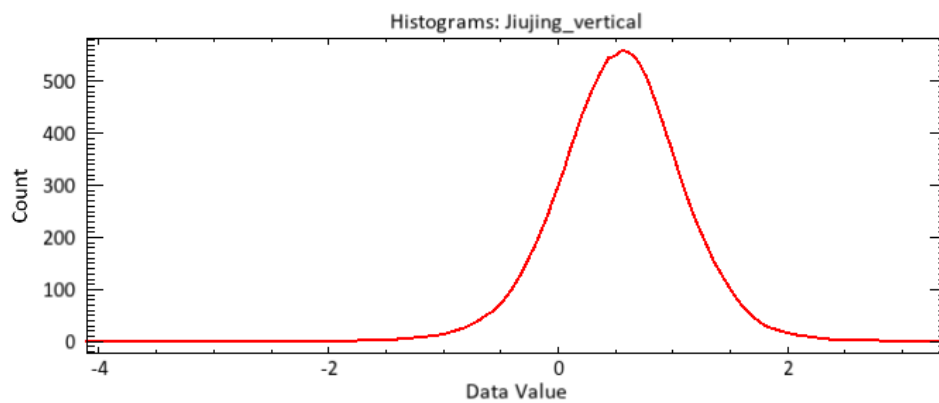
Block No.	Number of Pixel	Minimum Velocity (mm/a)	Maximum Velocity (mm/a)	Mean Velocity (MV, mm/a)	Standard Deviation
JJ1	16350	-5.758832	3.541012	-0.455456	0.811702
JJ2-1	8099	-4.720730	4.838473	-0.245612	0.610903
JJ2-2	12321	-5.280182	4.672123	-0.064759	0.679471
JJ3	9177	-4.487466	4.094117	-0.259786	0.656316
JJ4	11935	-3.999849	4.103514	0.025237	0.68333
JJ5	12066	-4.000404	4.329263	-0.004975	0.604281
JJ6	23933	-6.565968	4.643138	-0.118904	0.857474
JJ7	7253	-3.269053	3.66458	-0.150647	0.620036
JJ8	4719	-3.1087	2.665932	-0.429613	0.512751
JJ9	21904	-5.82451	4.27875	-0.332241	0.696017
JJ10	16514	-6.74914	4.858219	-0.384521	0.740736
JJ11	33052	-5.016384	5.885344	0.265532	0.897271
JJ12	40877	-4.293799	4.842495	0.217528	0.63639
JJ13	10104	-2.477616	3.963286	0.22389	0.55633
JJ14	9281	-3.233111	4.449233	0.28892	0.629812
JJ15	8204	-4.315757	4.231105	0.123415	0.677422
JJ16	10274	-3.565212	3.319211	-0.102372	0.673379
JJ17	4556	-3.708089	3.484036	-0.285708	0.703621
JJ18	5332	-4.562542	3.260481	-0.479942	0.802021
JJ19	31958	-4.671633	4.706153	-0.537842	0.6887
JJ20	9683	-4.814134	4.67908	-0.195497	0.693076
JJ21	15449	-3.100635	4.217124	0.053447	0.635977
JJ22	33368	-4.579877	5.63343	-0.008446	0.861818
JJ23	25539	-5.182288	3.698396	-0.27613	0.647623
JJ24	11776	-3.888826	2.883733	-0.299958	0.564508
JJ25	5572	-3.659731	3.922847	-0.293707	0.57983
JJ26	50474	-5.684078	6.098427	-0.0446	0.752988
JJ27	52355	-7.112432	4.689692	-0.507749	0.84649
JJ28	5759	-3.33238	3.472687	0.090146	0.654632
JJ29	14206	-3.671894	4.147851	0.196213	0.658631
JJ30	14559	-3.921628	4.071153	0.206715	0.646602

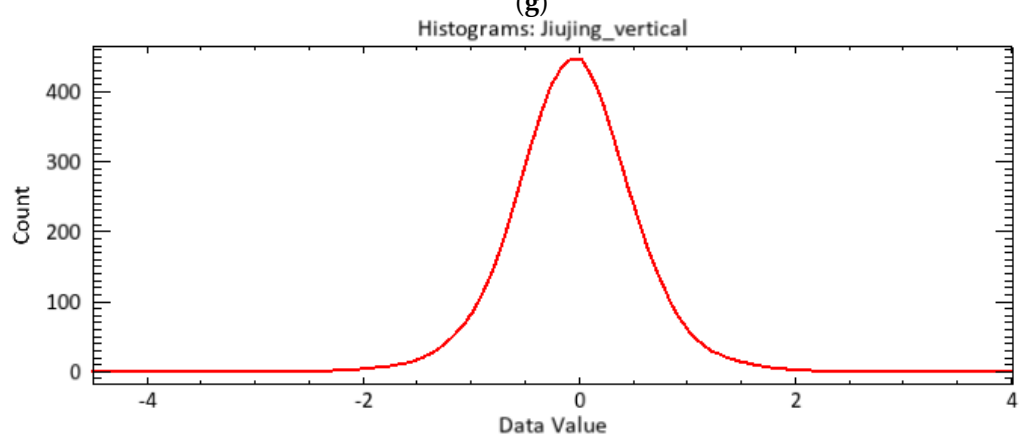
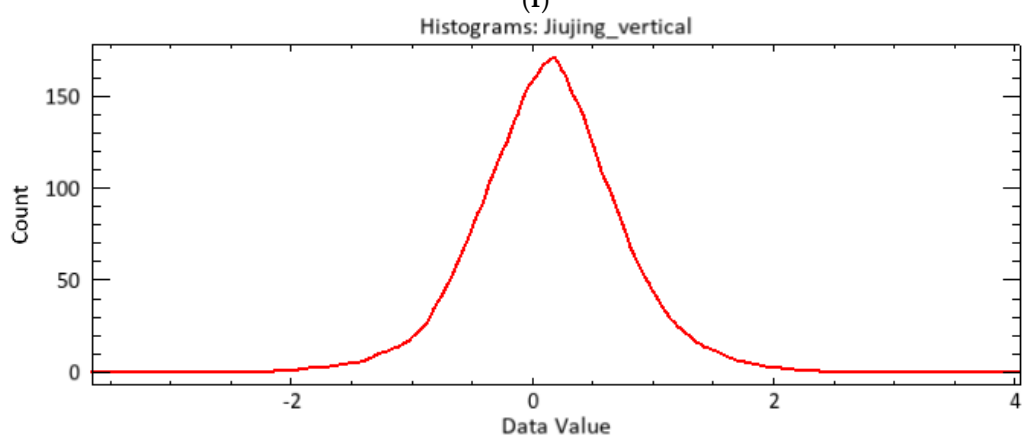
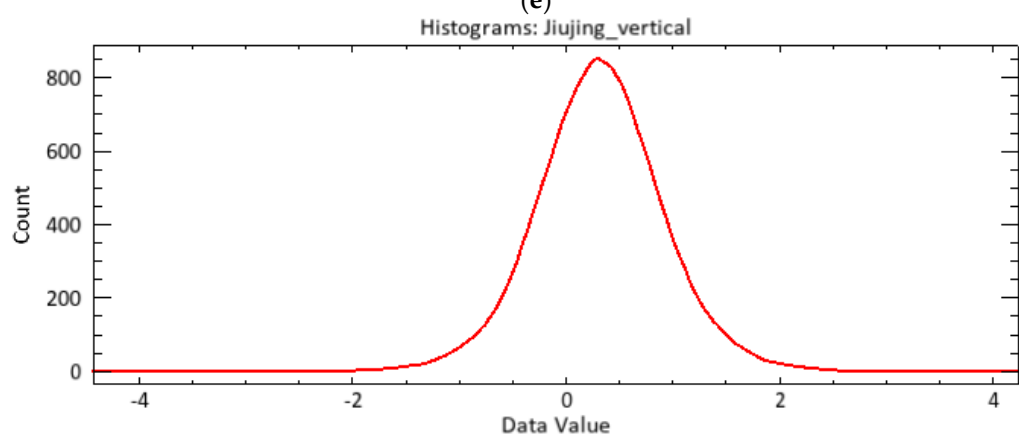
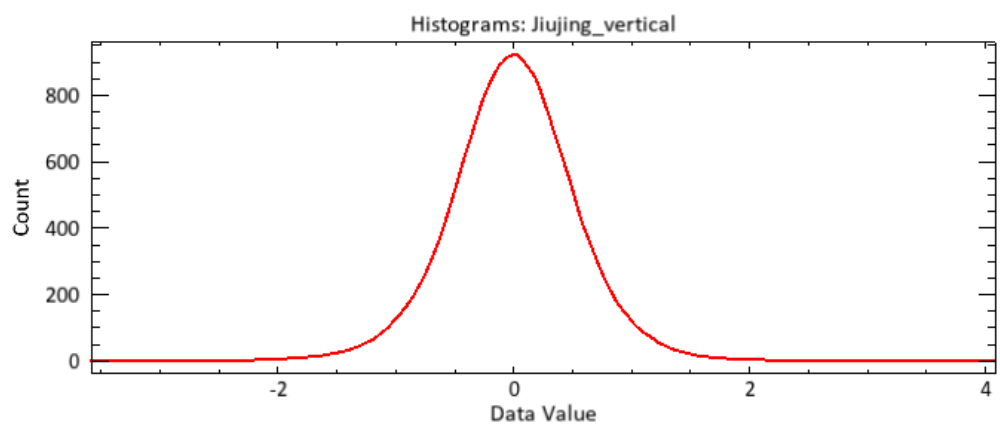
Table S3. The average ground displacements at Blocks JJ3, JJ6, JJ7, JJ12, JJ19 and JJ21.

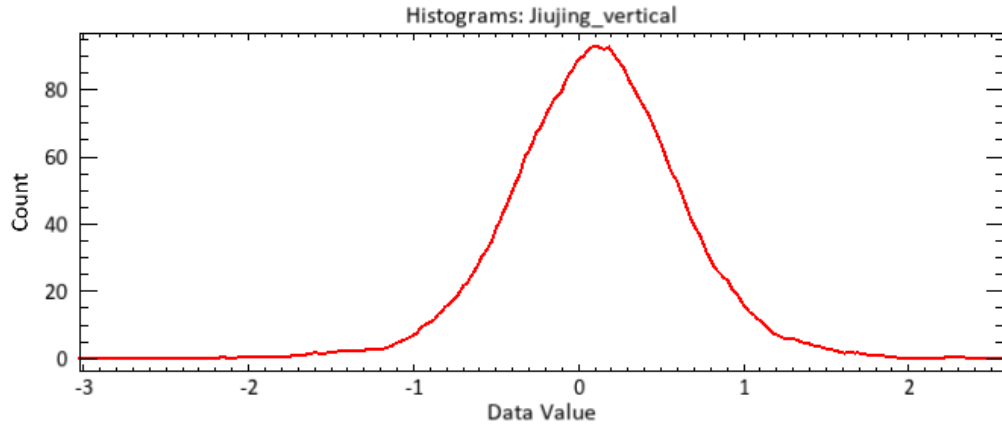
	Block JJ6		Block JJ7		Block JJ3		Block JJ2		Block JJ21		Block JJ19	
	displacement (mm)	standard deviation	displacement (mm)	standard deviation	displacement (mm)	standard deviation	displacement (mm)	standard deviation	displacement (mm)	standard deviation	displacement (mm)	standard deviation
08/10/2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20/10/2017	0.6658	0.8399	0.4895	0.8957	-1.0457	1.1676	0.1584	0.9809	0.6437	0.5816	0.7358	0.5720
01/11/2017	-0.9183	0.6651	0.3002	0.9270	-1.1061	1.0192	-0.9351	0.7980	-0.6426	0.6703	0.4379	0.5908
13/11/2017	1.1310	0.7620	0.7862	0.9184	0.5790	1.1817	0.3538	0.8584	0.1577	0.5840	0.1847	0.6128
25/11/2017	-0.8072	0.9477	-0.3536	0.9566	-0.9039	1.2693	-0.8867	1.1584	-0.4941	0.7541	-0.2308	0.6381
07/12/2017	1.3145	0.9143	0.7239	0.8967	0.5669	1.2088	0.3499	1.2098	0.4625	0.8826	0.3236	0.8301
19/12/2017	-0.8465	1.0000	0.3333	0.9890	-0.9210	1.0989	-1.1093	1.1817	0.4199	0.9881	-0.3560	1.0508
31/12/2017	0.2921	0.9409	-0.2246	1.1365	0.3031	1.2235	-0.3058	1.1739	0.0048	0.8797	-0.4040	0.6284
12/01/2018	0.7166	1.0470	0.3900	0.8414	0.4240	1.0723	0.2790	0.9741	-0.0177	0.9319	0.2252	0.6332
24/01/2018	-0.7405	1.0251	-0.5320	1.1782	-0.9726	1.6310	-0.9170	1.1985	-0.5132	0.9183	-1.0303	1.4784
05/02/2018	1.1682	0.9139	0.9759	0.9863	0.8328	1.5404	0.3982	1.3540	-0.0657	0.9615	0.0534	1.3608
17/02/2018	1.4450	1.0431	1.2950	1.3189	0.9418	1.8590	0.6029	1.4439	0.8706	1.2980	0.2967	1.1705
01/03/2018	0.4959	1.1093	-0.1609	1.1217	0.2201	1.5116	0.3011	1.3967	0.1951	1.1089	0.1041	0.9674
13/03/2018	1.0928	1.0181	0.6745	0.9941	0.6967	1.4568	0.5632	1.2838	0.5806	0.8912	0.3576	0.8109
25/03/2018	0.0269	1.0849	-0.1627	0.9518	0.6527	1.2663	0.5638	1.1437	0.4556	0.7912	0.2272	0.7369
06/04/2018	-0.7907	0.9902	-0.2628	1.0741	-1.0307	1.3734	-0.5188	1.2921	-0.6430	0.9588	-0.9352	1.0669
18/04/2018	-0.4430	0.8802	-0.4401	1.0132	-0.6431	1.1802	-0.1675	1.0630	0.0667	0.7852	-0.2651	0.5193
30/04/2018	0.4543	0.8253	0.4506	1.2822	0.3939	1.2962	-0.1154	1.0611	-0.2581	1.0068	-0.1174	0.7823
12/05/2018	-0.7342	0.9291	-0.5452	1.0939	-0.6177	1.0906	-0.7404	1.1667	-0.3275	0.5583	-0.4642	0.7104
24/05/2018	0.1813	1.0104	0.0972	1.0681	0.1268	1.1878	-0.5515	1.1272	-0.4904	0.9321	-0.2956	0.8908
05/06/2018	0.1620	0.9345	-0.1679	1.0374	0.6379	1.0309	-1.0096	1.1352	-0.5405	0.7285	-0.6945	0.8002
17/06/2018	0.1253	0.8439	0.1810	1.1407	-0.0913	1.1473	0.3188	1.0207	0.1107	0.6341	0.2494	1.0029
11/07/2018	-0.0114	0.8587	-0.5365	0.9623	-0.5244	1.2837	-0.7442	1.4045	0.4493	1.3056	-0.8149	0.8302
23/07/2018	-0.1976	0.9162	-0.0503	1.0246	1.0063	1.4073	-1.1989	1.4009	-0.3131	1.4295	0.4742	0.8202
04/08/2018	-0.1340	2.3946	0.6346	1.8731	1.1127	2.2637	0.7546	1.7951	0.3124	2.5501	1.5707	1.9770

16/08/2018	0.0403	1.8507	0.2878	1.6452	0.0464	2.8474	-0.2831	2.3165	0.6227	1.7913	-0.0506	1.2255
28/08/2018	0.6258	1.5326	1.1500	1.4083	1.2695	1.9455	0.0829	1.6013	0.2608	1.9190	0.4832	2.1310
09/09/2018	-0.3562	1.0027	0.2697	1.1316	-0.0001	1.4588	-0.6592	1.4567	-0.6147	1.0522	0.3228	0.8958
21/09/2018	-0.5959	1.0309	-0.4932	0.9747	-0.2799	1.4369	-1.3580	1.4672	-0.3676	1.2447	-0.4111	1.0714
03/10/2018	0.0797	0.9402	0.7040	0.9528	1.2144	1.2636	0.0385	1.2243	0.5206	1.1520	1.1326	0.8442
15/10/2018	-0.4781	0.9994	-0.4950	1.0739	-0.3382	1.2620	-1.3844	1.3432	-0.5069	0.6246	-0.2352	1.1225
27/10/2018	-0.0821	0.9169	0.0858	1.0513	0.3193	1.2615	-0.1948	1.3171	0.1765	0.8565	0.8404	1.1986
08/11/2018	0.5047	0.8406	0.6215	1.1182	0.3590	1.1762	-0.5948	1.2336	0.1623	1.0456	0.8207	0.9019
20/11/2018	-0.0589	1.4458	0.1295	1.4826	-0.3938	1.2852	-1.2472	1.4097	-0.0874	1.1458	-0.0773	1.2138
02/12/2018	-0.5065	1.8242	-0.4869	1.8944	-0.3343	2.3951	-0.8296	1.9415	-0.1501	1.2267	0.0511	2.1319
14/12/2018	0.2679	1.2734	0.6826	1.4667	0.9641	1.6283	-0.2817	1.6600	0.3710	1.3805	0.6546	0.9102
26/12/2018	0.3626	1.1085	0.5060	1.2786	0.4958	1.3007	-0.4124	1.7501	-0.1283	0.9348	0.5325	1.0980
07/01/2019	-0.3097	0.9230	-0.2348	1.3109	-0.4241	1.4842	-1.0774	1.4431	-0.0866	0.9961	0.0211	1.4704
19/01/2019	0.4194	1.2767	0.4953	1.5871	0.5551	1.9679	-0.3152	1.9583	1.0914	1.7236	0.9116	1.9045
31/01/2019	-0.6589	1.2666	-0.2414	1.4341	-0.3304	2.1006	-1.4002	1.9022	-0.2719	1.3353	-0.1693	1.8639
12/02/2019	-0.1002	0.6159	0.2759	0.7912	0.2089	1.0238	-0.4969	0.9370	0.0397	0.8624	0.5441	0.6789
24/02/2019	0.0840	1.0257	0.1996	1.1638	0.2544	1.4290	-0.6415	1.7271	0.8841	0.9039	0.6676	1.2020
08/03/2019	0.1613	0.9406	0.4274	1.0633	0.0774	1.4466	-0.7561	1.2950	-0.0234	0.7955	0.3238	1.1834
20/03/2019	-0.0340	1.0939	-0.1962	1.3930	-0.3303	1.4462	-1.2139	1.3515	-0.0266	0.7513	0.1447	1.0097
01/04/2019	0.2168	0.9881	0.2835	1.3389	0.2037	1.5212	-0.7170	1.3658	0.2518	1.0417	0.2589	1.2477
13/04/2019	-0.9812	2.0648	0.1245	1.7728	-0.4032	2.6289	-1.1678	1.9566	-0.6055	2.0653	0.2659	1.7969
25/04/2019	0.5921	1.4543	0.5305	1.3681	0.8067	1.7559	-0.0333	1.5580	-0.3391	1.3652	0.4687	1.2883
07/05/2019	-0.7007	2.4067	0.5236	2.1576	1.1254	3.0196	-0.3141	2.5869	0.8106	2.2539	1.3570	2.0799
19/05/2019	0.5093	1.8334	0.6905	1.6994	0.9661	2.4568	0.6130	2.0329	0.3435	2.1551	0.8974	2.0097
31/05/2019	0.0091	1.0445	0.3569	1.1164	0.6325	1.8516	-0.8590	1.3376	-0.5865	1.1512	0.5874	0.8900
12/06/2019	0.1489	1.0758	0.9513	1.2293	0.6561	1.3244	0.5094	1.4153	0.6525	1.2170	1.5379	0.9151
24/06/2019	-0.4527	2.1685	0.1894	2.1535	0.4611	2.8876	0.3892	2.1748	1.5480	2.1544	0.8967	2.2055
06/07/2019	-0.6493	1.7952	0.4182	1.8787	1.0835	1.8299	-0.0059	1.5725	-0.2326	1.6515	0.5570	1.6118
18/07/2019	-1.1011	2.7143	0.1441	2.1265	0.3162	3.6043	-1.1018	2.2169	1.3085	2.3503	1.3679	1.5974
30/07/2019	-0.4255	1.4849	0.2955	1.3732	-0.0864	1.5513	-1.3236	1.2763	-0.4616	1.1315	0.6210	1.0969

11/08/2019	0.7508	1.4436	0.7945	1.5253	1.2095	1.9415	0.4665	1.5275	1.0663	1.5002	0.9782	1.6189
23/08/2019	0.4077	1.6065	1.1624	1.5320	1.0845	1.7273	0.3907	1.4813	0.8726	0.7970	1.3087	1.1876
04/09/2019	-0.4567	1.1353	-0.1215	1.1147	-0.4343	1.5393	-1.1833	1.1676	-0.5871	1.2348	0.9540	0.7217
16/09/2019	-0.0080	1.3335	0.7573	1.4720	0.5803	2.0582	-0.1094	1.8300	-0.6707	1.5781	1.4502	1.4397
28/09/2019	0.0818	1.2854	1.0409	1.0699	0.9686	1.4501	0.2263	1.3447	0.6969	1.1949	1.6299	0.8480
10/10/2019	0.0659	1.2113	0.6481	1.0376	0.8251	1.4226	0.0994	1.3713	0.3985	1.0450	1.4184	0.8478
22/10/2019	-0.3348	1.1653	0.2345	0.9676	-0.1343	1.3175	-0.0239	1.3478	-0.4287	0.9297	0.9086	0.6585
03/11/2019	-0.0292	1.0852	0.7095	1.0545	0.4072	1.5450	-0.5826	1.2633	-0.1122	1.4011	1.2516	0.7535
15/11/2019	-0.8560	1.1276	0.1091	1.1464	-0.4446	1.4943	-1.1330	1.3172	-0.6349	1.1137	0.6901	0.9286
27/11/2019	0.2244	1.0439	0.1389	1.1045	1.6685	1.3965	-0.4019	1.3331	0.3929	0.7582	1.7147	1.0849
09/12/2019	-0.7006	1.1292	0.0072	1.1016	1.0482	1.3910	-1.0799	1.0866	-0.8877	1.2956	-0.0342	1.1206
21/12/2019	0.4035	1.1128	0.8608	1.0967	0.5741	1.5147	-0.6391	1.3578	0.8062	0.9674	1.5932	0.7431
02/01/2020	-0.4249	1.4265	0.6610	1.3745	0.4682	1.7782	-0.6726	1.5626	-0.1104	1.1803	1.2664	0.9079
14/01/2020	-0.3477	1.2362	-0.2897	1.2476	1.1066	1.3552	-1.1853	1.4053	-1.0032	1.0134	0.7049	1.0945
26/01/2020	-0.8370	1.1658	0.3162	1.1877	0.3980	1.5115	-0.3588	1.5438	-0.4767	1.2172	0.2646	1.4250
07/02/2020	-0.4966	1.3057	0.3989	1.1293	1.2318	1.7281	-1.1370	1.4901	-0.5427	1.4459	0.4346	0.9382







(i)

Figure S1. The normal distribution curve of vertical velocity at Block JJ2, JJ3, JJ4, JJ5, JJ12, JJ19, JJ20, JJ21, and JJ28. (a) the normal distribution curve of vertical velocity at Block JJ2. (b) the normal distribution curve of vertical velocity at Block JJ3. (c): the normal distribution curve of vertical velocity at Block JJ4. (d) the normal distribution curve of vertical velocity at Block JJ5. (e) the normal distribution curve of vertical velocity at Block JJ12. (f) the normal distribution curve of vertical velocity at Block JJ19. (g) the normal distribution curve of vertical velocity at Block JJ20. (h) the normal distribution curve of vertical velocity at Block JJ21. (i) the normal distribution curve of vertical velocity at Block JJ28.