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*Supplement of*

## **Global IWV trends and variability in atmospheric reanalyses and GPS observations**

**Ana C. Parracho et al.**

*Correspondence to:* Ana C. Parracho ([ana-claudia.parracho@latmos.ipsl.fr](mailto:ana-claudia.parracho@latmos.ipsl.fr))

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**Table S1: coordinates of GPS stations (latGPS, lonGPS, altGPS), altitudes of ERA-Interim and MERRA-2 (altERA-I to altMERRA-2), and number of months with valid GPS data (NP).**

nameGPS	latGPS (deg)	lonGPS (deg)	altGPS (m)	altERA-I (m)	altMERRA-2 (m)	NP
albh	48.4	236.5	51	255	211	192
algo	46.0	281.9	237	338	323	192
alic	-23.7	133.9	588	547	685	162
ankr	39.9	32.8	939	1054	992	136
areq	-16.5	288.5	2447	3109	3331	155
auck	-36.6	174.8	98	29	39	174
blyt	33.6	245.3	119	341	298	189
bor1	52.3	17.1	89	88	87	191
braz	-15.9	312.1	1119	976	985	153
brmu	32.4	295.3	23	0	0	184
brus	50.8	4.4	104	68	37	180
cagl	39.1	9.0	192	73	134	172
cas1	-66.3	110.5	39	106	232	171
ccjm	27.1	142.2	161	1	1	178
cedu	-31.9	133.8	154	145	67	133
cfag	-31.6	291.8	680	995	990	162
chat	-44.0	183.4	48	1	10	173
chur	58.8	265.9	29	19	12	186
coco	-12.2	96.8	5	0	0	154
coso	36.0	242.2	1485	1322	1213	161
crfp	34.0	242.9	721	794	984	186
cro1	17.8	295.4	13	-1	0	149
darw	-12.8	131.1	75	99	46	128
dav1	-68.6	78.0	27	56	141	147
dgar	-7.3	72.4	10	0	0	113
dhlg	33.4	244.2	-49	447	381	169
drao	49.3	240.4	558	1277	1256	192
dubo	50.3	264.1	275	278	299	165

<b>ebre</b>	40.8	0.5	58	111	248	174
<b>fair</b>	65.0	212.5	308	391	367	169
<b>fale</b>	-13.8	188.0	14	36	63	132
<b>flin</b>	54.7	258.0	343	307	300	167
<b>gode</b>	39.0	283.2	48	46	71	169
<b>gold</b>	35.4	243.1	1018	877	822	138
<b>gope</b>	49.9	14.8	547	349	331	165
<b>gras</b>	43.8	6.9	1269	665	1275	161
<b>graz</b>	47.1	15.5	491	601	424	184
<b>guam</b>	13.6	144.9	147	3	5	144
<b>hers</b>	50.9	0.3	32	35	35	163
<b>hob2</b>	-42.8	147.4	45	249	100	167
<b>holb</b>	50.6	231.9	576	55	86	172
<b>holp</b>	33.9	241.8	29	293	395	188
<b>hrao</b>	-25.9	27.7	1389	1472	1450	150
<b>iisc</b>	13.0	77.6	930	787	842	125
<b>irkt</b>	52.2	104.3	541	627	624	179
<b>joze</b>	52.1	21.0	110	158	126	191
<b>karr</b>	-21.0	117.1	117	122	102	170
<b>kely</b>	67.0	309.1	198	673	341	94
<b>kerf</b>	-49.4	70.3	33	34	119	164
<b>kiru</b>	67.9	21.0	362	429	435	183
<b>kit3</b>	39.1	66.9	659	1178	1180	166
<b>kokb</b>	22.1	200.3	1153	22	62	156
<b>kosg</b>	52.2	5.8	53	9	15	179
<b>kour</b>	5.3	307.2	8	9	1	163
<b>lama</b>	53.9	20.7	158	110	110	176
<b>leep</b>	34.1	241.7	520	678	395	186
<b>lpgs</b>	-34.9	302.1	14	9	15	150
<b>mac1</b>	-54.5	158.9	14	1	3	167

<b>madr</b>	40.4	355.8	777	854	921	156
<b>mas1</b>	27.8	344.4	155	53	109	175
<b>mate</b>	40.6	16.7	490	303	167	176
<b>maw1</b>	-67.6	62.9	30	497	253	169
<b>mcm4</b>	-77.8	166.7	151	187	141	146
<b>mdo1</b>	30.7	256.0	2027	1319	1393	171
<b>medi</b>	44.5	11.6	10	270	71	175
<b>mets</b>	60.2	24.4	76	31	19	168
<b>mkea</b>	19.8	204.5	3730	563	636	149
<b>monp</b>	32.9	243.6	1875	508	481	180
<b>nano</b>	49.3	235.9	24	405	130	183
<b>nlib</b>	41.8	268.4	240	257	259	160
<b>nrc1</b>	45.5	284.4	116	198	124	176
<b>onsa</b>	57.4	11.9	9	70	39	170
<b>penc</b>	47.8	19.3	248	276	252	173
<b>pert</b>	-31.8	115.9	45	212	17	177
<b>pie1</b>	34.3	251.9	2370	2193	2283	164
<b>pin1</b>	33.6	243.5	1289	677	533	191
<b>pol2</b>	42.7	74.7	1755	1865	2564	152
<b>pots</b>	52.4	13.1	104	55	49	186
<b>quin</b>	40.0	239.1	1129	1369	1356	137
<b>reyk</b>	64.1	338.0	27	245	101	169
<b>sant</b>	-33.1	289.3	696	2153	1435	152
<b>shao</b>	31.1	121.2	12	12	4	118
<b>sio3</b>	32.9	242.8	70	539	76	189
<b>sni1</b>	33.2	240.5	277	-20	2	139
<b>stjo</b>	47.6	307.3	143	17	21	190
<b>svtl</b>	60.5	29.8	61	30	50	169
<b>syog</b>	-69.0	39.6	28	429	75	173
<b>tabl</b>	34.4	242.3	2261	788	1020	174

<b>tidb</b>	-35.4	149.0	646	682	1043	158
<b>tow2</b>	-19.3	147.1	30	177	132	182
<b>trak</b>	33.6	242.2	151	558	247	189
<b>tskb</b>	36.1	140.1	28	109	33	174
<b>uclu</b>	48.9	234.5	29	119	179	184
<b>usud</b>	36.1	138.4	1466	990	1189	164
<b>vill</b>	40.4	356.0	595	851	780	181
<b>vndp</b>	34.6	239.4	25	88	70	178
<b>wes2</b>	42.6	288.5	114	113	71	165
<b>whit</b>	60.8	224.8	1420	1108	1039	168
<b>will</b>	52.2	237.8	1110	1046	982	184
<b>wslr</b>	50.1	237.1	926	1344	1279	170
<b>wtzr</b>	49.1	12.9	619	507	572	174
<b>wuhn</b>	30.5	114.4	40	57	29	173
<b>yell</b>	62.5	245.5	207	184	205	192
<b>zimm</b>	46.9	7.5	907	777	753	192

**Table S2a: Statistics of seasonal IWV time series from GPS and ERA-Interim (mean IWV, relative standard deviation of IWV, and comparison of IWV times series). The p-values for the means are computed from a t-test. The p-values for the relative standard deviations are computed from a F-test.**

nom_sta	flag	Mean IWV					Rel. Std. IWV					Comparison	
		GPS (kg m <sup>-2</sup> )	ERA-I (kg m <sup>-2</sup> )	Diff. (kg m <sup>-2</sup> )	Diff. (%)	p-value	GPS (%)	ERA-I (%)	Diff. (%)	p-value	Std.Diff. (%)	Corr. coef.	NP
albh	DJF	11.45	12.18	0.74	6.5	0.006	5.4	6.4	1.0	0.526	2.1	0.967	16
albh	JJA	20.23	20.27	0.04	0.2	0.907	4.2	5.2	1.0	0.420	2.1	0.924	16
algo	DJF	6.17	6.54	0.37	6.0	0.130	10.2	10.9	0.6	0.830	3.1	0.966	16
algo	JJA	24.35	25.04	0.69	2.8	0.098	4.7	4.6	-0.1	0.947	1.7	0.936	16
alic	DJF	27.55	25.75	-1.81	-6.6	0.292	16.1	14.4	-1.7	0.719	4.9	0.962	12
alic	JJA	10.51	10.55	0.05	0.5	0.956	23.2	19.9	-3.3	0.584	5.5	0.979	14
ankr	DJF	8.28	8.43	0.15	1.8	0.685	12.4	10.1	-2.4	0.478	8.0	0.766	13
ankr	JJA	18.28	18.97	0.69	3.8	0.397	9.4	10.5	1.1	0.727	5.7	0.849	11
areq	DJF	18.39	17.80	-0.59	-3.2	0.253	7.6	5.8	-1.8	0.399	4.5	0.816	12
areq	JJA	6.35	6.42	0.07	1.1	0.876	17.2	19.6	2.5	0.642	13.1	0.759	14
auck	DJF	23.11	23.34	0.23	1.0	0.651	5.8	5.5	-0.4	0.835	1.2	0.979	14
auck	JJA	14.59	15.08	0.49	3.4	0.206	6.9	7.1	0.2	0.899	1.5	0.980	15
blyt	DJF	10.50	11.12	0.62	5.9	0.339	15.7	17.6	1.9	0.657	5.5	0.964	16
blyt	JJA	24.93	23.65	-1.27	-5.1	0.127	9.8	9.0	-0.8	0.754	3.5	0.937	16
bor1	DJF	8.65	9.16	0.51	5.9	0.261	15.4	13.1	-2.3	0.549	3.4	0.979	16
bor1	JJA	23.59	24.23	0.65	2.8	0.152	5.2	5.2	-0.0	0.992	1.2	0.973	16
braz	DJF	34.70	33.65	-1.05	-3.0	0.151	4.8	5.3	0.6	0.694	2.5	0.874	12
braz	JJA	16.61	17.25	0.63	3.8	0.297	8.9	8.3	-0.5	0.864	2.8	0.948	12
brmu	DJF	21.15	21.59	0.44	2.1	0.213	4.3	4.2	-0.1	0.915	1.1	0.966	14
brmu	JJA	40.62	40.45	-0.18	-0.4	0.735	3.4	3.7	0.2	0.799	1.3	0.935	16
brus	DJF	10.14	10.94	0.80	7.9	0.034	8.9	9.0	0.1	0.971	2.4	0.971	14
brus	JJA	22.46	23.14	0.69	3.1	0.075	4.5	4.5	-0.0	0.969	0.9	0.980	15
cagl	DJF	12.38	13.04	0.66	5.3	0.128	8.4	8.5	0.1	0.978	1.4	0.989	13
cagl	JJA	22.69	22.77	0.08	0.4	0.845	4.4	4.8	0.4	0.750	2.4	0.871	15
cas1	DJF	6.17	6.37	0.20	3.2	0.329	7.8	9.3	1.5	0.507	5.8	0.795	14
cas1	JJA	3.23	3.44	0.21	6.5	0.147	10.8	11.6	0.8	0.790	9.3	0.685	14

ccjm	DJF	22.05	22.05	-0.00	-0.0	0.998	11.2	9.8	-1.4	0.634	6.3	0.830	15
ccjm	JJA	45.35	44.68	-0.67	-1.5	0.330	4.9	3.3	-1.6	0.133	3.3	0.751	16
cedu	DJF	21.14	21.00	-0.14	-0.7	0.883	10.5	9.4	-1.1	0.749	3.0	0.961	10
cedu	JJA	12.08	12.33	0.25	2.1	0.540	7.7	7.6	-0.1	0.982	2.2	0.959	11
cfag	DJF	24.51	30.43	5.92	24.2	0.000	5.3	5.1	-0.3	0.865	5.7	0.531	13
cfag	JJA	9.11	12.62	3.51	38.5	0.000	14.1	14.7	0.7	0.872	10.0	0.897	14
chat	DJF	19.51	19.45	-0.06	-0.3	0.908	6.7	6.8	0.1	0.986	1.4	0.979	14
chat	JJA	12.13	12.38	0.25	2.1	0.377	6.2	6.1	-0.1	0.953	1.3	0.979	15
chur	DJF	2.75	3.20	0.45	16.4	0.006	12.7	15.0	2.3	0.548	7.6	0.921	15
chur	JJA	17.88	18.79	0.91	5.1	0.014	5.0	5.7	0.7	0.614	1.6	0.974	16
coco	DJF	43.18	43.04	-0.14	-0.3	0.937	10.7	10.1	-0.5	0.862	1.7	0.988	13
coco	JJA	41.36	40.95	-0.42	-1.0	0.725	7.1	7.4	0.3	0.902	1.7	0.973	13
coso	DJF	5.79	6.98	1.19	20.6	0.000	11.1	10.2	-0.9	0.794	4.8	0.917	13
coso	JJA	11.30	12.95	1.64	14.5	0.000	8.6	6.2	-2.4	0.249	4.3	0.862	14
crfp	DJF	8.93	9.25	0.33	3.7	0.382	10.2	11.9	1.7	0.581	4.4	0.939	15
crfp	JJA	18.32	17.11	-1.21	-6.6	0.030	8.2	8.8	0.6	0.769	3.4	0.915	16
cro1	DJF	31.58	31.68	0.10	0.3	0.865	4.7	5.1	0.4	0.792	1.6	0.953	14
cro1	JJA	42.12	43.20	1.08	2.6	0.222	5.1	4.4	-0.7	0.666	1.2	0.973	11
darw	DJF	53.79	53.51	-0.28	-0.5	0.801	4.0	4.1	0.2	0.907	1.4	0.939	8
darw	JJA	23.80	23.58	-0.21	-0.9	0.869	13.4	14.3	0.9	0.829	2.9	0.979	13
dav1	DJF	5.87	5.88	0.01	0.2	0.972	4.9	6.8	1.9	0.323	4.6	0.734	11
dav1	JJA	2.48	2.40	-0.08	-3.2	0.392	7.7	11.3	3.6	0.226	11.7	0.211	13
dgar	DJF	52.81	51.85	-0.96	-1.8	0.371	3.6	4.7	1.1	0.467	1.3	0.984	9
dgar	JJA	43.92	42.71	-1.21	-2.8	0.256	5.0	5.7	0.7	0.704	1.1	0.983	10
dhlg	DJF	10.61	11.52	0.90	8.5	0.178	15.8	14.1	-1.8	0.693	3.1	0.981	13
dhlg	JJA	24.68	23.79	-0.89	-3.6	0.279	8.9	9.3	0.4	0.862	4.0	0.901	15
drao	DJF	8.31	8.31	-0.00	-0.0	0.985	6.3	6.1	-0.1	0.925	2.6	0.907	16
drao	JJA	17.71	17.84	0.13	0.7	0.751	6.4	6.2	-0.2	0.889	3.0	0.889	16
dubo	DJF	4.76	5.32	0.56	11.8	0.060	14.3	14.5	0.2	0.969	6.1	0.927	13

dubo	JJA	23.17	24.45	1.29	5.6	0.013	5.4	5.4	0.0	0.988	1.8	0.948	14
ebre	DJF	12.01	12.99	0.98	8.2	0.044	10.3	9.3	-1.0	0.711	2.5	0.970	14
ebre	JJA	28.23	27.68	-0.55	-1.9	0.278	4.4	4.9	0.5	0.699	2.4	0.868	14
fair	DJF	3.77	4.51	0.74	19.6	0.004	15.4	14.6	-0.8	0.861	6.9	0.919	14
fair	JJA	17.60	18.22	0.62	3.5	0.178	6.0	7.1	1.1	0.585	1.9	0.975	14
fale	DJF	53.17	53.43	0.26	0.5	0.755	3.7	3.5	-0.2	0.875	1.3	0.937	11
fale	JJA	41.04	41.05	0.01	0.0	0.995	6.6	5.7	-0.9	0.650	2.6	0.919	11
flin	DJF	4.09	4.69	0.60	14.7	0.021	13.7	14.3	0.6	0.891	5.6	0.943	13
flin	JJA	20.17	20.94	0.77	3.8	0.030	4.5	4.5	-0.0	0.997	2.4	0.863	15
gode	DJF	10.16	11.10	0.93	9.2	0.035	10.6	10.2	-0.4	0.865	2.0	0.985	14
gode	JJA	33.79	34.05	0.26	0.8	0.666	5.1	4.5	-0.6	0.677	1.8	0.936	15
gold	DJF	7.20	7.89	0.68	9.4	0.087	12.1	11.5	-0.5	0.892	2.9	0.973	11
gold	JJA	13.86	14.69	0.83	6.0	0.171	10.8	9.4	-1.4	0.636	2.0	0.984	12
gope	DJF	7.81	8.05	0.24	3.1	0.554	13.6	11.9	-1.6	0.671	6.0	0.897	13
gope	JJA	21.30	21.26	-0.04	-0.2	0.907	3.6	4.8	1.1	0.327	3.0	0.772	14
gras	DJF	5.40	6.72	1.32	24.4	0.000	15.6	9.7	-5.9	0.115	5.2	0.962	13
gras	JJA	15.67	16.07	0.39	2.5	0.286	6.5	5.5	-1.0	0.564	1.5	0.979	14
graz	DJF	7.58	8.39	0.81	10.7	0.007	9.9	9.9	-0.0	0.993	3.4	0.952	16
graz	JJA	23.90	25.04	1.14	4.8	0.008	4.9	4.4	-0.4	0.745	1.7	0.937	16
guam	DJF	37.18	36.68	-0.50	-1.3	0.567	5.6	5.8	0.2	0.911	1.1	0.981	12
guam	JJA	50.76	50.19	-0.57	-1.1	0.459	3.7	3.6	-0.1	0.927	1.2	0.949	12
hers	DJF	11.00	11.71	0.71	6.5	0.052	7.8	7.8	-0.0	0.987	1.6	0.981	13
hers	JJA	22.44	23.26	0.82	3.7	0.053	5.0	4.5	-0.5	0.696	1.3	0.965	14
hob2	DJF	18.53	19.09	0.56	3.0	0.146	5.0	4.7	-0.3	0.843	1.5	0.957	12
hob2	JJA	11.78	12.42	0.65	5.5	0.005	5.1	4.5	-0.6	0.637	1.7	0.946	15
holb	DJF	8.80	9.21	0.41	4.7	0.081	7.5	5.8	-1.7	0.355	3.0	0.929	14
holb	JJA	16.03	16.30	0.27	1.7	0.357	5.1	4.2	-0.9	0.509	1.4	0.966	14
holp	DJF	12.69	12.50	-0.20	-1.6	0.728	12.6	11.6	-1.0	0.756	3.0	0.973	15
holp	JJA	21.96	20.77	-1.19	-5.4	0.030	7.0	6.8	-0.1	0.927	1.7	0.971	16

hrao	DJF	26.53	26.14	-0.38	-1.4	0.580	5.2	6.3	1.0	0.600	2.5	0.922	10
hrao	JJA	8.08	8.44	0.36	4.5	0.273	9.7	10.0	0.3	0.906	3.6	0.941	13
iisc	DJF	19.01	20.41	1.39	7.3	0.319	16.5	14.5	-2.0	0.713	3.5	0.977	10
iisc	JJA	41.08	39.73	-1.35	-3.3	0.083	3.9	4.7	0.8	0.557	2.3	0.863	11
irkt	DJF	2.75	3.24	0.48	17.5	0.012	18.2	14.8	-3.4	0.478	12.4	0.762	15
irkt	JJA	22.91	23.80	0.90	3.9	0.034	4.8	4.6	-0.2	0.867	2.5	0.860	15
joze	DJF	8.32	8.95	0.63	7.6	0.091	11.9	11.7	-0.2	0.972	3.4	0.964	16
joze	JJA	23.64	24.99	1.35	5.7	0.014	6.2	5.9	-0.3	0.856	1.2	0.982	16
karr	DJF	36.42	36.35	-0.06	-0.2	0.969	11.1	10.9	-0.1	0.969	1.8	0.987	13
karr	JJA	14.94	15.11	0.17	1.1	0.815	13.1	12.4	-0.6	0.853	1.4	0.995	14
kely	DJF	3.35	3.90	0.55	16.4	0.187	13.7	17.7	4.0	0.638	7.2	0.996	5
kely	JJA	12.72	13.54	0.81	6.4	0.217	9.8	10.6	0.7	0.828	2.5	0.981	9
kerg	DJF	12.52	13.11	0.60	4.8	0.022	5.0	4.7	-0.4	0.808	4.3	0.624	13
kerg	JJA	8.23	8.85	0.62	7.5	0.027	10.0	6.0	-4.0	0.079	6.6	0.760	14
kiru	DJF	4.68	5.44	0.76	16.2	0.000	9.6	9.2	-0.4	0.851	7.7	0.721	15
kiru	JJA	16.07	17.34	1.28	8.0	0.000	4.5	4.3	-0.2	0.838	1.2	0.963	16
kit3	DJF	8.62	8.37	-0.25	-2.9	0.561	14.3	12.5	-1.7	0.630	5.1	0.937	15
kit3	JJA	17.94	22.31	4.37	24.4	0.000	9.9	6.9	-3.1	0.183	6.2	0.780	15
kokb	DJF	12.41	14.17	1.75	14.1	0.007	14.1	8.0	-6.1	0.062	6.0	0.956	13
kokb	JJA	16.00	17.70	1.70	10.6	0.001	8.4	4.8	-3.6	0.061	3.9	0.937	13
kosg	DJF	10.29	10.71	0.42	4.1	0.223	8.6	9.2	0.6	0.810	4.0	0.908	16
kosg	JJA	22.73	23.07	0.34	1.5	0.373	4.5	4.8	0.2	0.865	1.6	0.941	16
kour	DJF	47.52	46.79	-0.73	-1.5	0.565	6.7	6.7	-0.0	0.999	1.2	0.983	13
kour	JJA	49.62	48.47	-1.15	-2.3	0.061	3.1	3.5	0.4	0.687	2.0	0.819	15
lama	DJF	8.08	8.51	0.43	5.3	0.228	11.0	11.3	0.3	0.942	3.1	0.967	14
lama	JJA	22.46	23.28	0.82	3.7	0.151	6.8	6.6	-0.2	0.901	1.9	0.961	15
leep	DJF	9.54	10.24	0.70	7.3	0.112	12.4	11.2	-1.1	0.739	1.7	0.991	15
leep	JJA	16.82	17.57	0.75	4.5	0.119	8.1	7.3	-0.7	0.717	3.3	0.917	16
lpgs	DJF	26.65	26.58	-0.07	-0.3	0.892	5.1	5.2	0.1	0.971	3.6	0.761	13

lpgs	JJA	15.38	15.47	0.09	0.6	0.902	13.1	11.6	-1.5	0.680	5.3	0.914	13
mac1	DJF	13.14	13.28	0.14	1.1	0.670	6.6	5.9	-0.7	0.714	1.8	0.962	13
mac1	JJA	9.31	9.51	0.21	2.3	0.214	4.8	4.7	-0.1	0.927	1.0	0.980	15
madr	DJF	9.47	10.08	0.61	6.4	0.200	12.2	11.7	-0.5	0.869	4.4	0.936	13
madr	JJA	17.73	18.25	0.52	2.9	0.158	5.3	5.2	-0.1	0.925	2.9	0.850	14
mas1	DJF	14.26	15.66	1.40	9.8	0.074	14.9	12.8	-2.2	0.571	3.6	0.970	15
mas1	JJA	20.07	21.21	1.13	5.6	0.018	6.1	5.8	-0.2	0.896	2.1	0.941	15
mate	DJF	10.03	10.78	0.75	7.5	0.055	9.4	9.5	0.1	0.973	2.0	0.982	14
mate	JJA	21.59	22.55	0.97	4.5	0.067	6.2	6.4	0.2	0.888	2.5	0.927	15
maw1	DJF	4.49	5.03	0.54	12.0	0.010	12.2	9.5	-2.7	0.379	4.5	0.934	14
maw1	JJA	1.35	1.79	0.43	31.9	0.000	17.0	11.7	-5.3	0.149	16.3	0.490	16
mcm4	DJF	4.55	3.89	-0.66	-14.5	0.000	7.7	7.2	-0.5	0.834	9.7	0.021	12
mcm4	JJA	1.37	1.20	-0.17	-12.4	0.438	56.9	16.7	-40.3	0.000	51.8	0.431	14
mdo1	DJF	5.07	5.50	0.44	8.7	0.046	10.7	10.2	-0.5	0.854	4.7	0.908	14
mdo1	JJA	19.42	19.01	-0.40	-2.1	0.394	6.8	6.5	-0.4	0.820	3.4	0.869	15
medi	DJF	11.16	11.95	0.78	7.0	0.085	10.1	9.9	-0.3	0.928	3.1	0.955	14
medi	JJA	28.29	28.53	0.24	0.8	0.647	4.8	5.3	0.5	0.728	2.3	0.903	15
mets	DJF	6.91	7.40	0.49	7.1	0.158	12.2	11.6	-0.5	0.872	3.0	0.971	13
mets	JJA	20.29	20.94	0.65	3.2	0.049	4.3	3.4	-0.9	0.440	1.8	0.915	13
mkea	DJF	2.41	-5.64	-8.04	-333.6	0.000	41.5	-11.5	-53.0	0.000	67.6	-0.972	11
mkea	JJA	2.78	-6.62	-9.40	-338.1	0.000	23.4	-7.4	-30.8	0.000	39.9	-0.909	13
monp	DJF	4.75	4.50	-0.25	-5.3	0.236	12.0	12.4	0.4	0.908	4.6	0.927	15
monp	JJA	11.75	8.66	-3.09	-26.3	0.000	9.2	7.7	-1.5	0.526	4.3	0.933	15
nano	DJF	11.22	11.58	0.37	3.3	0.194	6.0	6.7	0.8	0.666	2.3	0.949	14
nano	JJA	21.22	20.77	-0.45	-2.1	0.211	4.2	5.2	0.9	0.458	2.2	0.903	16
nlib	DJF	7.98	8.15	0.17	2.1	0.587	9.8	10.1	0.3	0.903	4.1	0.915	13
nlib	JJA	30.74	30.31	-0.42	-1.4	0.531	6.1	5.4	-0.7	0.667	2.5	0.910	14
nrc1	DJF	6.57	6.79	0.21	3.2	0.437	10.5	11.0	0.5	0.853	3.0	0.966	14
nrc1	JJA	25.90	26.35	0.45	1.7	0.312	4.7	4.5	-0.2	0.897	1.2	0.970	15

onsa	DJF	8.65	9.22	0.57	6.6	0.208	13.3	12.8	-0.5	0.896	3.8	0.962	14
onsa	JJA	21.36	22.23	0.87	4.1	0.047	4.9	5.2	0.3	0.821	1.5	0.960	14
penc	DJF	8.99	9.24	0.26	2.9	0.464	9.7	10.4	0.7	0.797	3.1	0.958	14
penc	JJA	24.83	25.55	0.72	2.9	0.141	5.5	4.3	-1.2	0.383	1.4	0.982	14
pert	DJF	20.94	22.05	1.11	5.3	0.106	7.8	9.1	1.3	0.571	3.7	0.928	15
pert	JJA	14.00	14.51	0.51	3.6	0.085	5.6	5.4	-0.3	0.840	2.6	0.891	15
pie1	DJF	4.26	4.63	0.37	8.7	0.058	11.5	9.9	-1.6	0.636	4.7	0.913	13
pie1	JJA	15.55	15.36	-0.19	-1.2	0.748	11.1	9.0	-2.0	0.462	4.4	0.924	15
pin1	DJF	6.33	7.11	0.78	12.3	0.034	14.1	15.3	1.3	0.743	8.1	0.884	16
pin1	JJA	14.46	13.36	-1.10	-7.6	0.033	10.7	9.1	-1.6	0.538	5.2	0.880	16
pol2	DJF	3.65	4.51	0.86	23.6	0.000	15.1	10.9	-4.2	0.284	7.9	0.846	13
pol2	JJA	15.84	18.72	2.88	18.2	0.000	6.3	5.0	-1.2	0.478	5.2	0.640	12
pots	DJF	8.56	9.39	0.83	9.7	0.047	13.0	11.3	-1.7	0.613	3.4	0.965	15
pots	JJA	22.60	23.43	0.84	3.7	0.054	5.4	4.8	-0.7	0.621	1.9	0.939	16
quin	DJF	8.72	8.27	-0.44	-5.0	0.146	7.5	9.4	2.0	0.454	5.2	0.817	12
quin	JJA	13.71	13.42	-0.29	-2.1	0.438	5.9	6.9	0.9	0.657	2.9	0.899	11
reyk	DJF	7.95	8.12	0.16	2.0	0.552	8.7	9.0	0.3	0.901	3.9	0.905	14
reyk	JJA	16.64	17.21	0.57	3.4	0.077	4.9	5.2	0.3	0.826	3.1	0.824	15
sant	DJF	16.12	11.08	-5.05	-31.3	0.000	6.5	9.9	3.5	0.192	4.6	0.760	11
sant	JJA	9.22	7.83	-1.38	-15.0	0.005	12.9	15.1	2.2	0.589	4.9	0.927	14
shao	DJF	12.19	13.90	1.71	14.0	0.003	10.3	9.1	-1.1	0.722	4.0	0.924	12
shao	JJA	50.15	51.35	1.21	2.4	0.204	5.0	3.4	-1.6	0.254	2.9	0.827	11
sio3	DJF	12.25	12.15	-0.10	-0.8	0.868	13.4	14.7	1.3	0.713	3.5	0.973	16
sio3	JJA	22.41	22.11	-0.30	-1.3	0.730	10.1	11.4	1.4	0.634	3.2	0.961	16
sni1	DJF	10.40	11.25	0.85	8.2	0.079	11.4	9.6	-1.8	0.585	2.6	0.975	12
sni1	JJA	15.80	17.66	1.86	11.8	0.003	9.1	7.5	-1.6	0.520	3.4	0.930	12
stjo	DJF	7.84	8.61	0.77	9.8	0.001	7.5	7.5	0.0	0.996	2.9	0.939	16
stjo	JJA	22.60	23.48	0.88	3.9	0.048	5.4	5.2	-0.2	0.877	1.7	0.950	16
svtl	DJF	6.69	7.03	0.34	5.1	0.245	10.9	11.0	0.0	0.973	3.3	0.959	14

svtl	JJA	21.47	22.21	0.74	3.4	0.074	5.0	4.6	-0.3	0.792	2.0	0.915	14
syog	DJF	4.79	5.36	0.57	11.9	0.015	12.5	8.0	-4.5	0.155	9.4	0.666	12
syog	JJA	1.85	2.34	0.49	26.5	0.002	22.7	15.0	-7.7	0.114	20.5	0.536	15
tabl	DJF	4.33	3.68	-0.65	-15.0	0.000	10.2	10.6	0.4	0.877	5.3	0.848	15
tabl	JJA	8.69	6.57	-2.12	-24.4	0.000	10.4	8.2	-2.1	0.403	5.5	0.897	14
tidb	DJF	20.07	20.68	0.62	3.1	0.193	5.6	5.5	-0.1	0.943	2.3	0.917	12
tidb	JJA	9.15	9.91	0.76	8.3	0.006	7.9	6.7	-1.2	0.524	2.7	0.937	15
tow2	DJF	46.10	44.93	-1.17	-2.5	0.399	7.6	8.8	1.2	0.606	2.0	0.974	15
tow2	JJA	22.77	21.91	-0.86	-3.8	0.359	10.8	11.8	1.0	0.742	2.6	0.973	15
trak	DJF	11.41	11.88	0.47	4.1	0.429	14.2	14.1	-0.1	0.981	5.9	0.918	16
trak	JJA	20.34	20.07	-0.27	-1.3	0.643	8.2	7.8	-0.4	0.861	4.0	0.875	16
tskb	DJF	7.77	9.42	1.64	21.1	0.000	11.6	9.1	-2.5	0.414	2.4	0.977	14
tskb	JJA	42.82	43.94	1.12	2.6	0.074	4.3	3.6	-0.8	0.459	1.8	0.905	16
uclu	DJF	11.80	12.41	0.61	5.2	0.043	6.9	6.2	-0.7	0.687	2.9	0.911	15
uclu	JJA	20.49	19.98	-0.51	-2.5	0.149	4.6	4.8	0.2	0.855	1.2	0.965	15
usud	DJF	4.32	4.94	0.62	14.4	0.001	9.7	8.3	-1.4	0.587	6.3	0.798	14
usud	JJA	25.49	25.59	0.10	0.4	0.803	4.4	3.4	-0.9	0.420	2.5	0.822	14
vill	DJF	10.37	10.75	0.38	3.7	0.412	12.9	11.5	-1.4	0.659	3.4	0.966	16
vill	JJA	18.99	19.57	0.58	3.1	0.119	5.6	5.0	-0.6	0.674	2.2	0.923	16
vndp	DJF	13.02	13.67	0.65	5.0	0.262	11.6	11.7	0.1	0.970	1.8	0.990	15
vndp	JJA	17.95	17.78	-0.18	-1.0	0.680	6.1	6.9	0.8	0.636	2.6	0.929	15
wes2	DJF	8.42	8.59	0.17	2.0	0.616	9.5	11.2	1.7	0.580	4.3	0.934	14
wes2	JJA	29.00	28.95	-0.05	-0.2	0.930	5.8	4.2	-1.6	0.270	3.2	0.841	13
whit	DJF	3.32	4.00	0.68	20.5	0.000	11.1	10.5	-0.6	0.832	3.0	0.975	12
whit	JJA	11.12	12.02	0.89	8.0	0.000	4.9	4.5	-0.5	0.707	1.3	0.961	15
will	DJF	5.54	6.20	0.66	11.9	0.000	7.8	7.3	-0.5	0.796	1.8	0.975	15
will	JJA	14.41	14.86	0.45	3.1	0.168	6.5	5.9	-0.7	0.661	1.6	0.972	16
wslr	DJF	7.86	7.35	-0.51	-6.5	0.035	8.7	7.1	-1.6	0.478	5.2	0.801	14
wslr	JJA	17.01	15.50	-1.51	-8.9	0.000	3.6	5.2	1.5	0.229	3.4	0.689	14

wtzt	DJF	7.59	8.12	0.53	7.0	0.091	9.9	10.3	0.5	0.885	2.9	0.967	14
wtzt	JJA	20.90	21.02	0.13	0.6	0.691	4.4	3.8	-0.6	0.620	1.3	0.955	15
wuhn	DJF	12.72	13.60	0.88	6.9	0.047	9.4	7.6	-1.9	0.436	5.4	0.819	14
wuhn	JJA	51.35	52.13	0.78	1.5	0.277	4.0	3.4	-0.6	0.574	2.4	0.796	15
yell	DJF	3.48	4.11	0.63	18.1	0.001	13.2	11.7	-1.5	0.609	6.0	0.901	16
yell	JJA	17.26	18.15	0.89	5.2	0.041	6.8	6.4	-0.4	0.820	1.8	0.964	16
zimm	DJF	7.15	7.64	0.48	6.7	0.045	8.8	8.8	-0.0	0.990	2.8	0.957	16
zimm	JJA	19.64	19.45	-0.18	-0.9	0.510	3.5	4.3	0.8	0.437	2.0	0.885	16

**Table S2b: Same as Table S2a, but for MERRA-2.**

nom_sta	flag	Mean IWV					Rel. Std. IWV					Comparison	
		GPS (kg m <sup>-2</sup> )	ERA- (kg m <sup>-2</sup> )	Diff. (kg m <sup>-2</sup> )	Diff. (%)	p-value	GPS (%)	ERA- (%)	Diff. (%)	p-value	Std.Diff. (%)	Corr. coef.	NP
albh	DJF	11.45	12.39	0.94	8.2	0.000	5.4	5.7	0.3	0.851	1.9	0.953	16
albh	JJA	20.23	22.14	1.91	9.4	0.000	4.2	4.6	0.4	0.746	1.7	0.945	16
algo	DJF	6.17	6.48	0.31	5.0	0.173	10.2	10.6	0.4	0.906	3.4	0.953	16
algo	JJA	24.35	26.00	1.65	6.8	0.000	4.7	4.4	-0.3	0.803	1.3	0.960	16
alic	DJF	27.55	28.84	1.28	4.6	0.466	16.1	15.2	-1.0	0.840	2.8	0.985	12
alic	JJA	10.51	11.06	0.55	5.2	0.532	23.2	23.1	-0.2	0.978	5.5	0.974	14
ankr	DJF	8.28	8.58	0.30	3.6	0.444	12.4	9.0	-3.5	0.281	7.1	0.819	13
ankr	JJA	18.28	19.04	0.76	4.2	0.345	9.4	9.8	0.4	0.895	5.4	0.853	11
areq	DJF	18.39	19.80	1.40	7.6	0.000	7.6	7.3	-0.3	0.904	2.8	0.933	12
areq	JJA	6.35	7.95	1.61	25.4	0.000	17.2	16.4	-0.8	0.851	7.7	0.930	14
auck	DJF	23.11	23.90	0.79	3.4	0.151	5.8	5.9	0.0	0.975	1.3	0.978	14
auck	JJA	14.59	15.66	1.07	7.3	0.011	6.9	6.6	-0.2	0.899	1.8	0.969	15
blyt	DJF	10.50	11.21	0.71	6.8	0.222	15.7	16.6	0.9	0.837	3.7	0.982	16
blyt	JJA	24.93	26.28	1.35	5.4	0.102	9.8	9.2	-0.5	0.826	3.2	0.947	16
bor1	DJF	8.65	9.20	0.55	6.4	0.226	15.4	12.9	-2.4	0.511	3.6	0.977	16
bor1	JJA	23.59	24.58	1.00	4.2	0.033	5.2	5.3	0.1	0.961	1.2	0.977	16
braz	DJF	34.70	35.72	1.02	2.9	0.131	4.8	3.8	-1.0	0.467	1.5	0.959	12
braz	JJA	16.61	16.83	0.21	1.3	0.750	8.9	9.3	0.5	0.850	3.3	0.937	12
brmu	DJF	21.15	21.71	0.55	2.6	0.115	4.3	4.0	-0.4	0.751	1.5	0.939	14
brmu	JJA	40.62	41.71	1.09	2.7	0.046	3.4	3.6	0.2	0.852	1.3	0.933	16
brus	DJF	10.14	11.04	0.90	8.9	0.019	8.9	8.5	-0.4	0.888	2.4	0.966	14
brus	JJA	22.46	23.56	1.11	4.9	0.008	4.5	4.5	-0.0	0.977	1.0	0.979	15
cagl	DJF	12.38	13.46	1.08	8.7	0.015	8.4	7.6	-0.8	0.731	1.0	0.993	13
cagl	JJA	22.69	23.87	1.18	5.2	0.005	4.4	4.5	0.1	0.924	1.3	0.964	15
cas1	DJF	6.17	5.99	-0.18	-2.9	0.288	7.8	7.8	0.1	0.956	6.2	0.676	14
cas1	JJA	3.23	3.18	-0.05	-1.5	0.606	10.8	11.6	0.8	0.761	9.3	0.651	14
ccjm	DJF	22.05	21.92	-0.14	-0.6	0.971	11.2	10.0	-1.2	0.689	6.7	0.807	15

ccjm	JJA	45.35	45.95	0.60	1.3	0.441	4.9	3.9	-1.1	0.346	2.5	0.869	16
cedu	DJF	21.14	21.46	0.32	1.5	0.756	10.5	9.7	-0.8	0.825	1.2	0.995	10
cedu	JJA	12.08	12.97	0.89	7.4	0.043	7.7	7.2	-0.5	0.834	2.6	0.945	11
cfag	DJF	24.51	27.08	2.57	10.5	0.000	5.3	4.9	-0.4	0.772	3.1	0.838	13
cfag	JJA	9.11	9.92	0.81	8.9	0.043	14.1	11.4	-2.7	0.465	4.1	0.960	14
chat	DJF	19.51	19.85	0.34	1.7	0.629	6.7	6.8	0.1	0.974	1.6	0.973	14
chat	JJA	12.13	12.74	0.61	5.0	0.040	6.2	5.8	-0.4	0.811	1.6	0.969	15
chur	DJF	2.75	3.14	0.39	14.2	0.009	12.7	14.0	1.3	0.689	6.2	0.932	15
chur	JJA	17.88	19.21	1.33	7.4	0.001	5.0	5.4	0.3	0.803	1.6	0.964	16
coco	DJF	43.18	44.02	0.84	1.9	0.656	10.7	11.7	1.0	0.758	2.1	0.988	13
coco	JJA	41.36	41.12	-0.24	-0.6	0.846	7.1	7.8	0.7	0.756	1.7	0.976	13
coso	DJF	5.79	6.54	0.75	13.0	0.022	11.1	11.0	-0.0	0.980	3.3	0.966	13
coso	JJA	11.30	12.09	0.79	7.0	0.107	8.6	9.6	1.0	0.690	2.9	0.969	14
crfp	DJF	8.93	9.00	0.07	0.8	0.834	10.2	12.2	2.0	0.510	4.6	0.933	15
crfp	JJA	18.32	19.00	0.68	3.7	0.216	8.2	9.7	1.5	0.516	3.1	0.964	16
cro1	DJF	31.58	31.30	-0.28	-0.9	0.446	4.7	5.3	0.6	0.667	1.2	0.978	14
cro1	JJA	42.12	43.43	1.31	3.1	0.102	5.1	4.0	-1.0	0.491	1.1	0.992	11
darw	DJF	53.79	56.22	2.43	4.5	0.063	4.0	4.0	0.0	0.993	1.2	0.960	8
darw	JJA	23.80	23.43	-0.36	-1.5	0.834	13.4	14.9	1.5	0.713	3.2	0.978	13
dav1	DJF	5.87	5.94	0.07	1.2	0.563	4.9	6.9	2.0	0.295	4.4	0.773	11
dav1	JJA	2.48	2.43	-0.05	-2.0	0.515	7.7	9.9	2.2	0.377	10.5	0.302	13
dgar	DJF	52.81	53.73	0.92	1.7	0.528	3.6	3.6	0.0	0.995	2.2	0.820	9
dgar	JJA	43.92	44.53	0.61	1.4	0.565	5.0	5.5	0.5	0.783	0.9	0.991	10
dhlg	DJF	10.61	11.89	1.27	12.0	0.032	15.8	14.7	-1.1	0.795	2.5	0.988	13
dhlg	JJA	24.68	27.31	2.63	10.7	0.001	8.9	9.6	0.7	0.772	3.4	0.957	15
drao	DJF	8.31	8.41	0.09	1.1	0.515	6.3	5.8	-0.4	0.791	3.1	0.868	16
drao	JJA	17.71	19.64	1.93	10.9	0.000	6.4	6.1	-0.3	0.846	2.6	0.922	16
dubo	DJF	4.76	5.16	0.40	8.4	0.162	14.3	14.3	0.1	0.981	5.7	0.931	13
dubo	JJA	23.17	24.00	0.83	3.6	0.082	5.4	5.0	-0.4	0.786	0.9	0.984	14

ebre	DJF	12.01	13.07	1.06	8.8	0.022	10.3	9.6	-0.7	0.819	1.8	0.984	14
ebre	JJA	28.23	28.84	0.61	2.2	0.185	4.4	4.6	0.2	0.880	1.5	0.953	14
fair	DJF	3.77	4.76	0.99	26.3	0.000	15.4	14.5	-0.9	0.857	8.2	0.898	14
fair	JJA	17.60	19.33	1.73	9.8	0.001	6.0	6.9	0.9	0.653	2.8	0.940	14
fale	DJF	53.17	55.99	2.82	5.3	0.006	3.7	3.6	-0.1	0.911	1.7	0.895	11
fale	JJA	41.04	42.03	0.99	2.4	0.160	6.6	6.2	-0.3	0.868	2.1	0.947	11
flin	DJF	4.09	4.66	0.56	13.7	0.046	13.7	13.9	0.3	0.961	5.6	0.939	13
flin	JJA	20.17	21.45	1.28	6.3	0.001	4.5	4.2	-0.3	0.803	2.2	0.882	15
gode	DJF	10.16	10.97	0.81	8.0	0.055	10.6	9.8	-0.9	0.740	2.0	0.984	14
gode	JJA	33.79	34.57	0.78	2.3	0.265	5.1	6.2	1.1	0.469	3.0	0.882	15
gold	DJF	7.20	7.78	0.58	8.1	0.182	12.1	11.8	-0.3	0.953	2.5	0.981	11
gold	JJA	13.86	14.81	0.96	6.9	0.083	10.8	9.8	-1.0	0.743	3.5	0.947	12
gope	DJF	7.81	7.92	0.11	1.4	0.804	13.6	11.9	-1.7	0.655	6.4	0.880	13
gope	JJA	21.30	21.45	0.15	0.7	0.634	3.6	5.0	1.4	0.235	3.7	0.697	14
gras	DJF	5.40	6.39	0.99	18.3	0.002	15.6	11.6	-4.0	0.312	3.9	0.973	13
gras	JJA	15.67	17.28	1.61	10.3	0.000	6.5	6.7	0.2	0.900	1.6	0.983	14
graz	DJF	7.58	8.36	0.78	10.3	0.006	9.9	10.0	0.2	0.945	3.2	0.962	16
graz	JJA	23.90	24.49	0.59	2.5	0.278	4.9	4.3	-0.5	0.673	1.7	0.939	16
guam	DJF	37.18	35.93	-1.25	-3.4	0.303	5.6	6.0	0.3	0.860	1.1	0.982	12
guam	JJA	50.76	51.69	0.93	1.8	0.220	3.7	4.1	0.3	0.776	1.5	0.932	12
hers	DJF	11.00	11.98	0.99	9.0	0.009	7.8	7.5	-0.3	0.895	1.9	0.972	13
hers	JJA	22.44	23.94	1.50	6.7	0.001	5.0	4.4	-0.6	0.678	1.3	0.963	14
hob2	DJF	18.53	19.16	0.63	3.4	0.092	5.0	4.5	-0.5	0.749	1.2	0.973	12
hob2	JJA	11.78	13.07	1.30	11.0	0.000	5.1	4.3	-0.8	0.498	1.9	0.930	15
holb	DJF	8.80	9.36	0.56	6.4	0.055	7.5	5.8	-1.7	0.368	2.8	0.932	14
holb	JJA	16.03	16.65	0.61	3.8	0.117	5.1	4.6	-0.4	0.738	0.9	0.984	14
holp	DJF	12.69	12.61	-0.08	-0.6	0.870	12.6	12.1	-0.5	0.884	3.1	0.970	15
holp	JJA	21.96	22.59	0.63	2.9	0.230	7.0	8.1	1.2	0.558	2.1	0.978	16
hrao	DJF	26.53	26.64	0.12	0.5	0.880	5.2	7.7	2.5	0.260	3.1	0.959	10

hrao	JJA	8.08	8.35	0.27	3.3	0.350	9.7	8.1	-1.5	0.566	3.3	0.940	13
iisc	DJF	19.01	19.42	0.40	2.1	0.942	16.5	17.2	0.7	0.899	2.1	0.995	10
iisc	JJA	41.08	43.44	2.36	5.7	0.007	3.9	4.3	0.4	0.777	1.9	0.901	11
irkt	DJF	2.75	3.36	0.61	22.2	0.002	18.2	15.8	-2.4	0.584	13.1	0.751	15
irkt	JJA	22.91	23.73	0.82	3.6	0.049	4.8	4.0	-0.8	0.499	2.8	0.812	15
joze	DJF	8.32	8.84	0.52	6.3	0.152	11.9	11.4	-0.5	0.902	3.0	0.968	16
joze	JJA	23.64	25.00	1.36	5.8	0.009	6.2	6.5	0.3	0.850	2.2	0.947	16
karr	DJF	36.42	38.45	2.03	5.6	0.243	11.1	11.8	0.8	0.823	2.6	0.982	13
karr	JJA	14.94	15.59	0.65	4.4	0.384	13.1	12.1	-0.9	0.788	1.7	0.992	14
kely	DJF	3.35	3.96	0.61	18.2	0.230	13.7	16.9	3.2	0.698	7.5	0.969	5
kely	JJA	12.72	14.81	2.09	16.4	0.001	9.8	9.7	-0.2	0.973	2.2	0.988	9
kergr	DJF	12.52	13.39	0.87	6.9	0.001	5.0	4.6	-0.4	0.785	4.0	0.675	13
kergr	JJA	8.23	9.14	0.91	11.1	0.002	10.0	6.6	-3.4	0.142	6.3	0.780	14
kiru	DJF	4.68	5.49	0.81	17.3	0.000	9.6	8.2	-1.4	0.571	7.3	0.718	15
kiru	JJA	16.07	18.01	1.94	12.1	0.000	4.5	4.3	-0.2	0.833	1.3	0.964	16
kit3	DJF	8.62	8.61	-0.01	-0.1	0.996	14.3	13.8	-0.4	0.895	3.6	0.968	15
kit3	JJA	17.94	16.72	-1.21	-6.7	0.017	9.9	9.7	-0.2	0.944	3.7	0.928	15
kokb	DJF	12.41	13.42	1.01	8.1	0.252	14.1	8.9	-5.2	0.129	5.6	0.955	13
kokb	JJA	16.00	16.66	0.67	4.2	0.294	8.4	5.3	-3.2	0.121	4.1	0.910	13
kosg	DJF	10.29	10.92	0.63	6.1	0.083	8.6	8.9	0.2	0.938	3.4	0.932	16
kosg	JJA	22.73	23.59	0.86	3.8	0.029	4.5	4.5	-0.1	0.933	1.5	0.950	16
kour	DJF	47.52	47.22	-0.30	-0.6	0.882	6.7	7.9	1.2	0.578	1.6	0.990	13
kour	JJA	49.62	51.05	1.44	2.9	0.013	3.1	2.4	-0.7	0.347	1.8	0.815	15
lama	DJF	8.08	8.52	0.44	5.4	0.219	11.0	10.8	-0.2	0.931	3.0	0.965	14
lama	JJA	22.46	23.63	1.17	5.2	0.052	6.8	6.6	-0.2	0.937	1.4	0.981	15
leep	DJF	9.54	10.27	0.73	7.7	0.131	12.4	12.1	-0.3	0.945	1.8	0.992	15
leep	JJA	16.82	18.39	1.57	9.3	0.006	8.1	8.2	0.1	0.979	2.6	0.958	16
lpgs	DJF	26.65	26.95	0.30	1.1	0.637	5.1	6.0	0.9	0.606	4.1	0.735	13
lpgs	JJA	15.38	15.85	0.47	3.1	0.682	13.1	12.3	-0.8	0.843	5.8	0.899	13

mac1	DJF	13.14	13.56	0.41	3.1	0.298	6.6	6.3	-0.3	0.870	2.2	0.944	13
mac1	JJA	9.31	9.93	0.63	6.8	0.001	4.8	4.6	-0.2	0.901	1.5	0.952	15
madr	DJF	9.47	9.96	0.49	5.2	0.256	12.2	11.4	-0.8	0.817	4.0	0.947	13
madr	JJA	17.73	18.04	0.31	1.7	0.433	5.3	6.3	1.0	0.554	2.8	0.905	14
mas1	DJF	14.26	16.31	2.05	14.4	0.009	14.9	11.8	-3.1	0.398	2.8	0.986	15
mas1	JJA	20.07	22.37	2.29	11.4	0.000	6.1	6.3	0.2	0.887	2.6	0.931	15
mate	DJF	10.03	11.15	1.12	11.2	0.004	9.4	8.3	-1.1	0.647	1.7	0.983	14
mate	JJA	21.59	22.47	0.88	4.1	0.179	6.2	6.1	-0.0	0.986	0.8	0.992	15
maw1	DJF	4.49	5.24	0.75	16.7	0.001	12.2	10.1	-2.1	0.490	5.1	0.907	14
maw1	JJA	1.35	1.89	0.54	40.0	0.000	17.0	11.6	-5.4	0.144	16.3	0.528	16
mcm4	DJF	4.55	3.57	-0.99	-21.8	0.000	7.7	10.4	2.7	0.325	11.4	-0.067	12
mcm4	JJA	1.37	1.13	-0.24	-17.5	0.253	56.9	17.7	-39.2	0.000	53.3	0.380	14
mdo1	DJF	5.07	5.41	0.35	6.9	0.297	10.7	12.4	1.7	0.624	5.1	0.927	14
mdo1	JJA	19.42	19.18	-0.23	-1.2	0.579	6.8	5.7	-1.2	0.489	3.4	0.871	15
medi	DJF	11.16	12.34	1.18	10.6	0.012	10.1	10.0	-0.2	0.952	3.4	0.951	14
medi	JJA	28.29	29.86	1.57	5.5	0.003	4.8	4.9	0.0	0.970	1.1	0.977	15
mets	DJF	6.91	7.39	0.48	6.9	0.179	12.2	11.8	-0.4	0.894	2.3	0.983	13
mets	JJA	20.29	21.52	1.23	6.1	0.001	4.3	3.7	-0.6	0.639	1.6	0.930	13
mkea	DJF	2.41	-7.69	-10.1	0 -419	.10.0000	03 41	.5 -10	.8 -52	.30.00019	8 75	.1 -0.95	9 11
mkea	JJA	2.78	-9.00	-11.7	8 -423	.70.0000	00 23	.4 -8	.1 -31	.50.00097	6 48	.2 -0.87	9 13
monp	DJF	4.75	3.80	-0.95	-20.0	0.049	12.0	12.9	0.9	0.778	3.8	0.955	15
monp	JJA	11.75	8.19	-3.56	-30.3	0.000	9.2	8.7	-0.5	0.854	3.5	0.974	15
nano	DJF	11.22	12.08	0.87	7.8	0.003	6.0	6.5	0.5	0.787	2.0	0.959	14
nano	JJA	21.22	23.34	2.12	10.0	0.000	4.2	4.8	0.5	0.649	1.6	0.969	16
nlib	DJF	7.98	8.11	0.13	1.6	0.669	9.8	9.5	-0.3	0.950	4.1	0.909	13
nlib	JJA	30.74	30.94	0.20	0.7	0.644	6.1	6.2	0.1	0.969	3.6	0.830	14
nrc1	DJF	6.57	6.91	0.34	5.2	0.221	10.5	10.9	0.4	0.913	2.7	0.971	14
nrc1	JJA	25.90	27.73	1.84	7.1	0.000	4.7	4.4	-0.3	0.797	0.8	0.984	15
onsa	DJF	8.65	9.52	0.87	10.1	0.057	13.3	12.4	-0.9	0.810	3.6	0.965	14

onsa	JJA	21.36	23.03	1.67	7.8	0.000	4.9	4.9	-0.0	0.986	1.3	0.968	14
penc	DJF	8.99	9.22	0.23	2.6	0.510	9.7	10.6	1.0	0.731	3.0	0.966	14
penc	JJA	24.83	25.40	0.57	2.3	0.278	5.5	5.2	-0.3	0.848	1.5	0.961	14
pert	DJF	20.94	21.11	0.17	0.8	0.928	7.8	8.6	0.8	0.707	3.0	0.941	15
pert	JJA	14.00	15.29	1.29	9.2	0.000	5.6	4.2	-1.5	0.283	2.9	0.854	15
pie1	DJF	4.26	4.47	0.22	5.2	0.330	11.5	10.1	-1.4	0.641	3.5	0.955	13
pie1	JJA	15.55	16.61	1.06	6.8	0.166	11.1	9.3	-1.7	0.527	2.9	0.967	15
pin1	DJF	6.33	6.48	0.14	2.2	0.780	14.1	15.7	1.7	0.660	6.5	0.917	16
pin1	JJA	14.46	13.88	-0.58	-4.0	0.454	10.7	10.2	-0.6	0.842	3.2	0.956	16
pol2	DJF	3.65	4.38	0.73	20.0	0.000	15.1	11.4	-3.7	0.344	4.1	0.962	13
pol2	JJA	15.84	16.19	0.35	2.2	0.361	6.3	6.9	0.6	0.761	3.0	0.901	12
pots	DJF	8.56	9.33	0.77	9.0	0.070	13.0	11.5	-1.5	0.659	3.0	0.972	15
pots	JJA	22.60	23.75	1.15	5.1	0.014	5.4	5.1	-0.3	0.788	1.6	0.955	16
quin	DJF	8.72	8.42	-0.30	-3.4	0.525	7.5	9.7	2.3	0.391	4.9	0.852	12
quin	JJA	13.71	12.91	-0.80	-5.8	0.026	5.9	7.0	1.1	0.611	3.1	0.879	11
reyk	DJF	7.95	8.94	0.98	12.3	0.001	8.7	8.5	-0.2	0.943	3.8	0.921	14
reyk	JJA	16.64	17.94	1.29	7.8	0.000	4.9	4.7	-0.2	0.893	3.0	0.817	15
sant	DJF	16.12	12.14	-3.98	-24.7	0.000	6.5	9.6	3.2	0.216	3.7	0.859	11
sant	JJA	9.22	8.52	-0.70	-7.6	0.047	12.9	14.2	1.3	0.754	5.7	0.901	14
shao	DJF	12.19	13.13	0.94	7.7	0.048	10.3	9.2	-1.0	0.740	2.4	0.973	12
shao	JJA	50.15	53.26	3.12	6.2	0.028	5.0	4.8	-0.2	0.911	2.5	0.878	11
sio3	DJF	12.25	13.13	0.88	7.2	0.161	13.4	13.9	0.5	0.871	3.3	0.978	16
sio3	JJA	22.41	23.35	0.94	4.2	0.314	10.1	10.1	-0.0	1.000	1.5	0.990	16
sni1	DJF	10.40	11.47	1.07	10.3	0.063	11.4	10.3	-1.2	0.744	2.4	0.977	12
sni1	JJA	15.80	18.13	2.33	14.7	0.002	9.1	8.1	-1.1	0.687	1.6	0.983	12
stjo	DJF	7.84	8.31	0.47	6.0	0.046	7.5	7.3	-0.2	0.920	2.6	0.948	16
stjo	JJA	22.60	24.04	1.43	6.3	0.002	5.4	5.2	-0.2	0.919	1.5	0.961	16
svtl	DJF	6.69	6.92	0.23	3.4	0.421	10.9	10.8	-0.1	0.986	3.0	0.963	14
svtl	JJA	21.47	22.81	1.34	6.2	0.002	5.0	4.5	-0.5	0.680	1.3	0.966	14

syog	DJF	4.79	5.43	0.64	13.4	0.005	12.5	7.7	-4.8	0.123	9.0	0.706	12
syog	JJA	1.85	2.42	0.58	31.4	0.000	22.7	14.5	-8.2	0.088	20.5	0.530	15
tabl	DJF	4.33	3.65	-0.69	-15.9	0.073	10.2	11.0	0.8	0.809	5.3	0.851	15
tabl	JJA	8.69	7.15	-1.54	-17.7	0.018	10.4	9.7	-0.7	0.788	3.7	0.956	14
tidb	DJF	20.07	20.59	0.52	2.6	0.213	5.6	6.0	0.4	0.822	1.8	0.954	12
tidb	JJA	9.15	9.94	0.79	8.6	0.001	7.9	6.6	-1.2	0.515	2.7	0.941	15
tow2	DJF	46.10	47.58	1.48	3.2	0.275	7.6	7.8	0.2	0.929	1.6	0.980	15
tow2	JJA	22.77	23.43	0.67	2.9	0.538	10.8	10.8	0.0	0.985	2.2	0.982	15
trak	DJF	11.41	12.60	1.18	10.3	0.049	14.2	14.1	-0.1	0.990	6.2	0.917	16
trak	JJA	20.34	22.95	2.61	12.8	0.000	8.2	8.1	-0.0	0.992	4.0	0.900	16
tskb	DJF	7.77	9.59	1.82	23.4	0.000	11.6	8.4	-3.1	0.266	2.6	0.979	14
tskb	JJA	42.82	46.09	3.27	7.6	0.000	4.3	3.8	-0.5	0.605	1.4	0.945	16
uclu	DJF	11.80	12.44	0.65	5.5	0.030	6.9	6.5	-0.4	0.825	2.7	0.923	15
uclu	JJA	20.49	21.61	1.12	5.5	0.004	4.6	5.2	0.6	0.646	1.7	0.958	15
usud	DJF	4.32	4.69	0.38	8.8	0.070	9.7	8.7	-1.0	0.702	6.5	0.777	14
usud	JJA	25.49	26.79	1.30	5.1	0.012	4.4	3.4	-1.0	0.372	1.8	0.917	14
vill	DJF	10.37	10.86	0.49	4.7	0.250	12.9	11.5	-1.4	0.648	2.8	0.977	16
vill	JJA	18.99	19.55	0.56	2.9	0.129	5.6	5.9	0.3	0.854	2.1	0.941	16
vndp	DJF	13.02	14.25	1.23	9.4	0.037	11.6	11.4	-0.2	0.975	1.8	0.992	15
vndp	JJA	17.95	19.28	1.33	7.4	0.003	6.1	6.8	0.8	0.645	2.6	0.943	15
wes2	DJF	8.42	8.70	0.28	3.3	0.331	9.5	10.2	0.7	0.804	3.8	0.933	14
wes2	JJA	29.00	30.08	1.08	3.7	0.114	5.8	5.6	-0.2	0.892	2.9	0.871	13
whit	DJF	3.32	3.89	0.57	17.2	0.006	11.1	10.3	-0.9	0.782	3.3	0.965	12
whit	JJA	11.12	12.44	1.31	11.8	0.000	4.9	4.8	-0.1	0.924	1.4	0.963	15
will	DJF	5.54	6.29	0.75	13.5	0.000	7.8	7.3	-0.4	0.832	2.5	0.956	15
will	JJA	14.41	15.89	1.48	10.3	0.000	6.5	6.4	-0.1	0.946	1.7	0.970	16
wslr	DJF	7.86	7.79	-0.07	-0.9	0.746	8.7	7.1	-1.6	0.501	5.3	0.781	14
wslr	JJA	17.01	17.02	0.00	0.0	0.991	3.6	4.9	1.3	0.290	3.6	0.684	14
wtzr	DJF	7.59	8.00	0.41	5.4	0.180	9.9	10.0	0.1	0.954	2.5	0.972	14

wtzt	JJA	20.90	21.70	0.80	3.8	0.047	4.4	4.6	0.2	0.895	1.6	0.937	15
wuhn	DJF	12.72	13.82	1.10	8.6	0.019	9.4	7.7	-1.8	0.458	4.1	0.900	14
wuhn	JJA	51.35	53.69	2.34	4.6	0.010	4.0	4.1	0.1	0.955	1.7	0.919	15
yell	DJF	3.48	3.97	0.49	14.1	0.005	13.2	11.3	-1.9	0.564	5.5	0.912	16
yell	JJA	17.26	19.38	2.13	12.3	0.000	6.8	6.0	-0.8	0.619	1.6	0.974	16
zimm	DJF	7.15	7.46	0.31	4.3	0.207	8.8	8.4	-0.4	0.857	2.4	0.964	16
zimm	JJA	19.64	20.03	0.40	2.0	0.207	3.5	4.5	1.0	0.353	1.9	0.922	16

**Table S3a: Monthly and seasonal IWV trends from GPS and ERA-Interim. The p-values are computed from a modified Mann-Kendall trend test accounting for serial correlation in the data (Hamed and Rao, 1998).**

nameGPS	flag	Trends (kg m <sup>-2</sup> decade <sup>-1</sup> )			Relative trends (% decade <sup>-1</sup> )			p-values		NP
		GPS	ERA1	Diff.	GPS	ERA1	Diff.	GPS	ERA1	
albh	monthly	-0.04	+0.05	+0.09	-0.3	+0.3	+0.6	0.856	0.834	192
albh	DJF	+0.14	+0.18	+0.03	+1.2	+1.4	+0.2	0.893	0.620	16
albh	JJA	-0.28	-0.41	-0.13	-1.4	-2.0	-0.7	0.753	0.685	16
algo	monthly	+0.25	+0.22	-0.03	+1.8	+1.5	-0.3	0.333	0.405	192
algo	DJF	-0.07	-0.35	-0.28	-1.2	-5.4	-4.2	0.685	0.620	16
algo	JJA	+0.77	+0.51	-0.26	+3.2	+2.0	-1.1	0.224	0.471	16
alic	monthly	-1.17	-0.72	+0.44	-6.4	-4.2	+2.3	0.126	0.272	162
alic	DJF	-0.97	-1.86	-0.88	-3.5	-7.2	-3.7	0.837	0.193	12
alic	JJA	-0.69	+0.11	+0.80	-6.6	+1.0	+7.6	0.913	0.913	14
ankr	monthly	+1.38	+0.45	-0.93	+10.8	+3.4	-7.4	0.000	0.155	136
ankr	DJF	+0.92	-0.57	-1.49	+11.1	-6.7	-17.9	0.033	0.428	13
ankr	JJA	+1.23	-0.51	-1.74	+6.7	-2.7	-9.4	0.640	0.876	11
areq	monthly	-0.65	+0.05	+0.70	-5.6	+0.4	+6.0	0.042	0.893	155
areq	DJF	+0.16	+0.02	-0.14	+0.9	+0.1	-0.8	0.945	0.945	12
areq	JJA	-1.40	-0.61	+0.79	-22.1	-9.5	+12.5	0.049	0.324	14
auck	monthly	+0.01	-0.10	-0.11	+0.0	-0.6	-0.6	0.991	0.734	174
auck	DJF	+0.38	+0.34	-0.04	+1.6	+1.5	-0.2	0.827	0.743	14
auck	JJA	+0.44	+0.47	+0.03	+3.0	+3.1	+0.1	0.692	0.322	15
blyt	monthly	-0.24	-0.36	-0.13	-1.5	-2.3	-0.8	0.543	0.393	189
blyt	DJF	-0.88	-1.34	-0.45	-8.4	-12.0	-3.6	0.260	0.192	16
blyt	JJA	+1.12	+1.88	+0.76	+4.5	+8.0	+3.5	0.224	0.079	16
bor1	monthly	+0.62	+0.23	-0.39	+4.1	+1.5	-2.6	0.032	0.399	191
bor1	DJF	+0.22	-0.04	-0.26	+2.6	-0.4	-3.0	0.893	0.964	16
bor1	JJA	+1.19	+0.75	-0.44	+5.0	+3.1	-1.9	0.163	0.344	16
braz	monthly	+0.23	+0.88	+0.65	+0.8	+3.3	+2.5	0.717	0.141	153
braz	DJF	+0.79	+1.59	+0.81	+2.3	+4.7	+2.5	0.373	0.064	12
braz	JJA	-1.78	-1.32	+0.46	-10.7	-7.7	+3.0	0.304	0.537	12
brmu	monthly	-0.35	-0.64	-0.29	-1.2	-2.2	-1.0	0.332	0.059	184
brmu	DJF	-0.37	-0.29	+0.09	-1.8	-1.3	+0.4	0.511	0.381	14

brmu	JJA	-0.15	-0.29	-0.14	-0.4	-0.7	-0.3	0.822	0.558	16
brus	monthly	-0.05	+0.05	+0.10	-0.3	+0.3	+0.6	0.851	0.862	180
brus	DJF	-1.12	-0.76	+0.36	-11.1	-6.9	+4.2	0.189	0.101	14
brus	JJA	+0.97	+0.89	-0.09	+4.3	+3.8	-0.5	0.166	0.276	15
cagl	monthly	+0.37	+0.83	+0.46	+2.0	+4.5	+2.5	0.205	0.002	172
cagl	DJF	+1.03	+1.12	+0.09	+8.3	+8.6	+0.3	0.246	0.200	13
cagl	JJA	-0.75	+0.15	+0.90	-3.3	+0.7	+4.0	0.400	0.921	15
cas1	monthly	+0.20	+0.07	-0.13	+4.7	+1.6	-3.1	0.072	0.566	171
cas1	DJF	+0.49	+0.70	+0.21	+7.9	+11.0	+3.1	0.228	0.079	14
cas1	JJA	-0.00	-0.39	-0.39	-0.0	-11.4	-11.3	0.956	0.228	14
ccjm	monthly	-1.40	+0.94	+2.34	-4.0	+2.7	+6.8	0.006	0.029	178
ccjm	DJF	-0.89	+2.13	+3.01	-4.0	+9.6	+13.7	0.767	0.198	15
ccjm	JJA	-1.13	+0.80	+1.93	-2.5	+1.8	+4.3	0.192	0.344	16
cedu	monthly	+0.14	-0.03	-0.17	+0.9	-0.2	-1.0	0.716	0.972	133
cedu	DJF	-1.52	-1.92	-0.41	-7.2	-9.2	-2.0	0.592	0.474	10
cedu	JJA	+0.59	+0.38	-0.21	+4.9	+3.1	-1.8	0.640	0.755	11
cfag	monthly	-0.62	-1.64	-1.02	-3.8	-7.5	-3.8	0.082	0.000	162
cfag	DJF	+0.29	-0.32	-0.62	+1.2	-1.1	-2.3	0.669	0.855	13
cfag	JJA	-1.12	-2.58	-1.46	-12.3	-20.5	-8.2	0.274	0.101	14
chat	monthly	-0.49	-0.33	+0.16	-3.2	-2.1	+1.1	0.086	0.215	173
chat	DJF	-0.14	+0.18	+0.32	-0.7	+0.9	+1.6	0.743	0.661	14
chat	JJA	-0.26	-0.18	+0.07	-2.1	-1.5	+0.6	0.767	0.692	15
chur	monthly	+0.18	+0.20	+0.02	+1.9	+2.0	+0.1	0.385	0.364	186
chur	DJF	-0.18	-0.24	-0.07	-6.4	-7.5	-1.1	0.621	0.804	15
chur	JJA	-0.52	-0.75	-0.23	-2.9	-4.0	-1.1	0.163	0.137	16
coco	monthly	-1.20	-0.22	+0.98	-2.8	-0.5	+2.3	0.235	0.827	154
coco	DJF	-7.12	-5.59	+1.53	-16.5	-13.0	+3.5	0.033	0.077	13
coco	JJA	-3.58	-2.05	+1.53	-8.7	-5.0	+3.6	0.100	0.428	13
coso	monthly	+0.08	-0.31	-0.39	+1.0	-3.4	-4.3	0.783	0.234	161
coso	DJF	-0.45	-0.89	-0.44	-7.8	-12.7	-5.0	0.300	0.127	13
coso	JJA	+0.71	+0.22	-0.49	+6.3	+1.7	-4.6	0.228	0.743	14
crfp	monthly	-0.14	-0.49	-0.35	-1.1	-4.0	-2.9	0.632	0.093	186
crfp	DJF	-0.47	-0.98	-0.51	-5.3	-10.6	-5.3	0.235	0.255	15

crfp	JJA	+1.37	+0.78	-0.59	+7.5	+4.6	-2.9	0.065	0.444	16
cro1	monthly	+1.69	+0.74	-0.95	+4.5	+1.9	-2.5	0.001	0.132	149
cro1	DJF	+0.32	-0.10	-0.42	+1.0	-0.3	-1.3	0.743	0.956	14
cro1	JJA	+3.64	+2.35	-1.28	+8.6	+5.5	-3.2	0.062	0.119	11
darw	monthly	+0.69	+0.51	-0.18	+1.8	+1.4	-0.5	0.530	0.584	128
darw	DJF	+2.65	+2.16	-0.49	+4.9	+4.0	-0.9	0.386	0.386	8
darw	JJA	-0.58	-0.52	+0.06	-2.4	-2.2	+0.2	0.760	0.855	13
dav1	monthly	+0.06	-0.05	-0.11	+1.6	-1.4	-3.0	0.514	0.627	147
dav1	DJF	-0.42	-0.65	-0.23	-7.2	-11.0	-3.9	0.161	0.213	11
dav1	JJA	+0.03	-0.16	-0.19	+1.2	-6.7	-7.9	0.951	0.360	13
dgar	monthly	+1.62	+1.94	+0.32	+3.4	+4.1	+0.8	0.052	0.020	113
dgar	DJF	+3.24	+3.82	+0.58	+6.1	+7.4	+1.2	0.076	0.076	9
dgar	JJA	+0.55	+1.02	+0.47	+1.2	+2.4	+1.1	0.858	0.474	10
dhlg	monthly	-0.09	-0.17	-0.09	-0.5	-1.1	-0.6	0.878	0.713	169
dhlg	DJF	-0.23	-0.41	-0.18	-2.1	-3.6	-1.4	0.583	0.502	13
dhlg	JJA	+1.01	+1.53	+0.52	+4.1	+6.4	+2.4	0.621	0.276	15
drao	monthly	-0.15	+0.17	+0.32	-1.2	+1.4	+2.6	0.461	0.411	192
drao	DJF	-0.05	+0.29	+0.34	-0.6	+3.5	+4.1	0.893	0.192	16
drao	JJA	-0.50	-0.22	+0.28	-2.8	-1.3	+1.6	0.620	0.822	16
dubo	monthly	+0.46	-0.05	-0.51	+3.6	-0.4	-4.0	0.110	0.867	165
dubo	DJF	+0.01	-0.52	-0.53	+0.2	-9.7	-9.9	0.951	0.328	13
dubo	JJA	+0.64	-0.17	-0.82	+2.8	-0.7	-3.5	0.661	0.956	14
ebre	monthly	+0.43	+0.73	+0.30	+2.2	+3.7	+1.5	0.188	0.023	174
ebre	DJF	+0.23	+0.35	+0.12	+1.9	+2.7	+0.8	0.743	0.913	14
ebre	JJA	+1.16	+2.79	+1.63	+4.1	+10.1	+6.0	0.228	0.021	14
fair	monthly	+0.43	+0.37	-0.06	+4.9	+3.9	-0.9	0.060	0.118	169
fair	DJF	-0.19	-0.12	+0.07	-5.0	-2.6	+2.4	0.913	0.784	14
fair	JJA	+0.15	+0.23	+0.08	+0.9	+1.3	+0.4	0.913	0.913	14
fale	monthly	+1.50	+1.91	+0.41	+3.1	+4.0	+0.9	0.051	0.006	132
fale	DJF	+4.18	+4.76	+0.57	+7.9	+8.9	+1.0	0.029	0.029	11
fale	JJA	-0.44	-0.06	+0.39	-1.1	-0.1	+0.9	0.938	0.938	11
flin	monthly	+0.53	-0.03	-0.56	+4.8	-0.3	-5.1	0.013	0.883	167
flin	DJF	-0.20	-0.61	-0.41	-4.8	-13.0	-8.1	0.669	0.246	13

flin	JJA	+0.54	-0.54	-1.08	+2.7	-2.5	-5.2	0.166	0.322	15
gode	monthly	+0.61	+0.44	-0.17	+3.0	+2.1	-0.9	0.174	0.303	169
gode	DJF	-0.92	-1.18	-0.26	-9.1	-10.6	-1.6	0.274	0.125	14
gode	JJA	+1.73	+1.41	-0.32	+5.1	+4.1	-1.0	0.113	0.038	15
gold	monthly	-0.30	-0.45	-0.15	-3.1	-4.3	-1.2	0.479	0.292	138
gold	DJF	-0.28	-0.36	-0.09	-3.8	-4.6	-0.8	0.696	0.755	11
gold	JJA	+0.28	+0.56	+0.28	+2.0	+3.8	+1.8	0.732	0.373	12
gope	monthly	-0.20	+0.43	+0.63	-1.5	+3.1	+4.6	0.425	0.090	165
gope	DJF	-0.57	+0.27	+0.84	-7.3	+3.4	+10.7	0.502	0.855	13
gope	JJA	+0.16	+1.17	+1.02	+0.7	+5.5	+4.8	0.827	0.049	14
gras	monthly	+0.26	+0.33	+0.07	+2.6	+3.0	+0.4	0.157	0.064	161
gras	DJF	+0.05	+0.21	+0.16	+1.0	+3.2	+2.2	0.951	0.760	13
gras	JJA	-0.35	-0.34	+0.01	-2.2	-2.1	+0.1	0.743	0.584	14
graz	monthly	+0.56	+0.49	-0.07	+3.8	+3.1	-0.7	0.019	0.046	184
graz	DJF	+0.50	+0.00	-0.49	+6.6	+0.0	-6.5	0.499	0.964	16
graz	JJA	+1.30	+1.57	+0.27	+5.5	+6.3	+0.8	0.034	0.013	16
guam	monthly	+0.50	+0.87	+0.37	+1.1	+2.0	+0.9	0.356	0.162	144
guam	DJF	-1.28	-0.48	+0.81	-3.5	-1.3	+2.2	0.631	0.732	12
guam	JJA	+0.55	+0.95	+0.40	+1.1	+1.9	+0.8	0.837	0.837	12
hers	monthly	+0.32	+0.20	-0.12	+1.9	+1.2	-0.8	0.335	0.542	163
hers	DJF	-0.82	-1.32	-0.50	-7.4	-11.3	-3.8	0.300	0.100	13
hers	JJA	+0.66	+0.39	-0.27	+2.9	+1.7	-1.2	0.827	0.584	14
hob2	monthly	+0.19	+0.39	+0.20	+1.3	+2.5	+1.2	0.447	0.090	167
hob2	DJF	-0.22	+0.22	+0.44	-1.2	+1.1	+2.3	0.837	0.732	12
hob2	JJA	-0.24	+0.04	+0.28	-2.0	+0.3	+2.4	0.457	0.921	15
holb	monthly	+0.30	+0.16	-0.14	+2.5	+1.3	-1.2	0.106	0.366	172
holb	DJF	-0.10	+0.06	+0.16	-1.1	+0.7	+1.8	0.701	0.827	14
holb	JJA	-0.14	+0.06	+0.20	-0.9	+0.4	+1.3	0.913	0.827	14
holp	monthly	-0.70	-0.39	+0.31	-4.2	-2.4	+1.7	0.076	0.289	188
holp	DJF	-1.92	-1.64	+0.28	-15.1	-13.1	+2.0	0.113	0.198	15
holp	JJA	+1.28	+0.87	-0.41	+5.8	+4.2	-1.6	0.192	0.300	16
hrao	monthly	+0.49	+0.57	+0.08	+2.9	+3.3	+0.5	0.221	0.169	150
hrao	DJF	+2.67	+3.19	+0.52	+10.1	+12.2	+2.1	0.107	0.074	10

hrao	JJA	-0.08	-0.39	-0.30	-1.0	-4.6	-3.5	0.951	0.428	13
iisc	monthly	+0.89	+1.32	+0.44	+2.8	+4.2	+1.4	0.197	0.027	125
iisc	DJF	-5.31	-4.65	+0.66	-27.9	-22.8	+5.1	0.152	0.074	10
iisc	JJA	+1.66	+2.75	+1.09	+4.0	+6.9	+2.9	0.436	0.276	11
irkt	monthly	+0.60	-0.05	-0.65	+6.0	-0.5	-6.4	0.002	0.798	179
irkt	DJF	+0.33	-0.30	-0.63	+12.1	-9.2	-21.3	0.322	0.322	15
irkt	JJA	+1.45	+0.36	-1.09	+6.3	+1.5	-4.8	0.235	0.621	15
joze	monthly	+0.57	+0.51	-0.06	+3.8	+3.3	-0.6	0.043	0.096	191
joze	DJF	+0.46	+0.38	-0.09	+5.5	+4.2	-1.3	0.444	0.499	16
joze	JJA	+0.69	+0.38	-0.31	+2.9	+1.5	-1.4	0.499	0.620	16
karr	monthly	-1.72	-1.60	+0.12	-7.0	-6.5	+0.5	0.018	0.025	170
karr	DJF	-3.43	-3.01	+0.41	-9.4	-8.3	+1.1	0.502	0.246	13
karr	JJA	-1.74	-1.56	+0.18	-11.6	-10.3	+1.3	0.155	0.189	14
kely	monthly	+0.84	+0.91	+0.06	+11.1	+11.2	+0.1	0.006	0.035	94
kely	DJF	+0.68	+0.84	+0.16	+20.2	+21.6	+1.4	0.806	0.806	5
kely	JJA	+2.28	+2.66	+0.38	+17.9	+19.6	+1.7	0.251	0.175	9
kerg	monthly	+0.58	-0.04	-0.63	+5.7	-0.4	-6.1	0.002	0.783	164
kerg	DJF	+0.42	-0.31	-0.73	+3.3	-2.4	-5.7	0.502	0.502	13
kerg	JJA	+0.90	+0.45	-0.45	+10.9	+5.1	-5.8	0.080	0.381	14
kiru	monthly	+0.02	+0.20	+0.18	+0.3	+2.0	+1.8	0.932	0.314	183
kiru	DJF	-0.42	+0.08	+0.50	-8.9	+1.5	+10.4	0.276	0.804	15
kiru	JJA	-0.06	+0.15	+0.21	-0.4	+0.8	+1.2	0.893	0.753	16
kit3	monthly	+1.42	+0.66	-0.76	+10.5	+4.4	-6.1	0.000	0.024	166
kit3	DJF	+1.55	+0.78	-0.78	+18.0	+9.3	-8.7	0.048	0.198	15
kit3	JJA	+1.14	+0.09	-1.06	+6.4	+0.4	-6.0	0.113	0.961	15
kokb	monthly	-0.64	+0.02	+0.66	-4.2	+0.1	+4.3	0.171	0.960	156
kokb	DJF	+0.42	+0.49	+0.07	+3.4	+3.4	+0.1	0.855	0.760	13
kokb	JJA	-0.83	-0.13	+0.70	-5.2	-0.8	+4.5	0.360	0.760	13
kosg	monthly	+0.07	+0.03	-0.04	+0.4	+0.2	-0.3	0.792	0.898	179
kosg	DJF	-0.44	-0.13	+0.32	-4.3	-1.2	+3.1	0.417	0.685	16
kosg	JJA	+1.03	+1.21	+0.17	+4.5	+5.2	+0.7	0.079	0.065	16
kour	monthly	+1.20	+0.64	-0.56	+2.5	+1.4	-1.1	0.008	0.123	163
kour	DJF	+1.69	+1.55	-0.14	+3.6	+3.3	-0.3	0.300	0.428	13

kour	JJA	+0.70	-0.88	-1.57	+1.4	-1.8	-3.2	0.488	0.373	15
lama	monthly	+0.55	+0.19	-0.36	+3.8	+1.3	-2.6	0.104	0.568	176
lama	DJF	+0.20	-0.10	-0.30	+2.5	-1.1	-3.6	0.661	0.956	14
lama	JJA	+1.20	+0.91	-0.29	+5.3	+3.9	-1.4	0.138	0.373	15
leep	monthly	-0.36	-0.46	-0.10	-2.9	-3.5	-0.6	0.315	0.183	186
leep	DJF	-1.31	-1.33	-0.02	-13.8	-13.0	+0.8	0.075	0.113	15
leep	JJA	+0.98	+0.68	-0.29	+5.8	+3.9	-1.9	0.241	0.344	16
lpgs	monthly	-1.19	-0.26	+0.92	-5.8	-1.3	+4.5	0.027	0.572	150
lpgs	DJF	+1.33	+1.72	+0.39	+5.0	+6.5	+1.5	0.179	0.024	13
lpgs	JJA	-1.69	-1.03	+0.66	-11.0	-6.7	+4.3	0.161	0.760	13
mac1	monthly	+0.44	+0.34	-0.10	+4.0	+3.1	-0.9	0.011	0.074	167
mac1	DJF	+0.59	+0.54	-0.04	+4.5	+4.1	-0.4	0.583	0.502	13
mac1	JJA	-0.29	-0.21	+0.08	-3.1	-2.2	+0.9	0.373	0.428	15
madr	monthly	+0.37	+0.01	-0.36	+2.7	+0.1	-2.6	0.255	0.985	156
madr	DJF	-0.04	-0.65	-0.61	-0.4	-6.4	-6.0	0.951	0.502	13
madr	JJA	+1.07	+0.16	-0.91	+6.1	+0.9	-5.2	0.155	0.511	14
mas1	monthly	+1.36	+1.20	-0.16	+7.5	+6.3	-1.3	0.000	0.000	175
mas1	DJF	+2.43	+1.84	-0.59	+17.1	+11.7	-5.3	0.166	0.235	15
mas1	JJA	+1.22	+0.87	-0.36	+6.1	+4.1	-2.0	0.075	0.198	15
mate	monthly	+0.67	+1.22	+0.55	+4.3	+7.4	+3.1	0.013	0.000	176
mate	DJF	+0.99	+1.18	+0.19	+9.9	+10.9	+1.1	0.101	0.063	14
mate	JJA	+0.06	+1.11	+1.05	+0.3	+4.9	+4.7	0.921	0.235	15
maw1	monthly	+0.36	+0.17	-0.19	+14.7	+5.9	-8.8	0.000	0.033	169
maw1	DJF	+0.29	+0.40	+0.11	+6.5	+8.0	+1.5	0.511	0.381	14
maw1	JJA	+0.31	-0.04	-0.35	+23.0	-2.1	-25.1	0.012	0.857	16
mcm4	monthly	+0.59	-0.04	-0.62	+22.9	-1.7	-24.6	0.000	0.545	146
mcm4	DJF	+0.49	+0.03	-0.47	+10.8	+0.7	-10.1	0.115	0.945	12
mcm4	JJA	+0.33	-0.14	-0.47	+24.1	-11.9	-36.0	0.443	0.324	14
mdo1	monthly	+0.10	+0.05	-0.06	+0.9	+0.4	-0.5	0.628	0.834	171
mdo1	DJF	-0.04	+0.03	+0.07	-0.8	+0.6	+1.4	0.956	0.956	14
mdo1	JJA	+0.43	+0.80	+0.37	+2.2	+4.2	+2.0	0.767	0.692	15
medi	monthly	+0.73	+0.57	-0.16	+3.8	+2.9	-0.9	0.028	0.069	175
medi	DJF	+1.11	+0.96	-0.15	+9.9	+8.0	-1.9	0.324	0.584	14

medi	JJA	+0.91	+0.95	+0.04	+3.2	+3.3	+0.1	0.373	0.166	15
mets	monthly	+0.21	+0.27	+0.06	+1.7	+2.1	+0.4	0.506	0.364	168
mets	DJF	-0.01	+0.25	+0.27	-0.2	+3.4	+3.6	0.951	0.855	13
mets	JJA	-0.42	-0.36	+0.06	-2.1	-1.8	+0.3	0.669	0.669	13
mkea	monthly	+0.08	-0.20	-0.27	+2.8	+3.1	+0.3	0.748	0.178	149
mkea	DJF	+0.86	-0.51	-1.37	+35.6	+9.0	-26.6	0.350	0.436	11
mkea	JJA	-0.50	+0.33	+0.83	-18.0	-5.0	+13.0	0.669	0.583	13
monp	monthly	+0.05	-0.12	-0.17	+0.8	-1.9	-2.7	0.784	0.432	180
monp	DJF	-0.27	-0.38	-0.11	-5.8	-8.5	-2.8	0.488	0.428	15
monp	JJA	+0.84	+0.47	-0.37	+7.2	+5.5	-1.7	0.322	0.276	15
nano	monthly	+0.18	+0.11	-0.07	+1.1	+0.7	-0.4	0.392	0.672	183
nano	DJF	+0.28	+0.17	-0.11	+2.5	+1.5	-1.0	0.511	0.511	14
nano	JJA	-0.15	-0.11	+0.04	-0.7	-0.5	+0.2	0.822	0.893	16
nlib	monthly	-0.13	-0.06	+0.07	-0.8	-0.3	+0.4	0.765	0.864	160
nlib	DJF	-0.66	-0.77	-0.11	-8.3	-9.4	-1.1	0.161	0.024	13
nlib	JJA	-0.67	-0.09	+0.58	-2.2	-0.3	+1.9	0.827	0.956	14
nrc1	monthly	+0.41	+0.49	+0.07	+2.8	+3.1	+0.4	0.170	0.105	176
nrc1	DJF	+0.13	-0.08	-0.21	+2.0	-1.2	-3.1	0.956	0.956	14
nrc1	JJA	+0.87	+1.09	+0.22	+3.4	+4.1	+0.8	0.113	0.060	15
onsa	monthly	+0.31	+0.30	-0.01	+2.2	+2.1	-0.2	0.314	0.336	170
onsa	DJF	-0.03	-0.34	-0.31	-0.4	-3.7	-3.3	0.827	0.743	14
onsa	JJA	+1.44	+1.54	+0.11	+6.7	+7.0	+0.2	0.101	0.021	14
penc	monthly	+1.07	+0.50	-0.57	+6.6	+3.0	-3.6	0.001	0.101	173
penc	DJF	+0.69	+0.14	-0.56	+7.7	+1.5	-6.3	0.443	0.956	14
penc	JJA	+1.60	+0.81	-0.80	+6.5	+3.1	-3.3	0.063	0.155	14
pert	monthly	-0.47	-0.66	-0.20	-2.7	-3.7	-1.0	0.100	0.016	177
pert	DJF	-0.73	-1.34	-0.61	-3.5	-6.1	-2.6	0.692	0.428	15
pert	JJA	-0.37	-0.71	-0.34	-2.6	-4.9	-2.3	0.488	0.138	15
pie1	monthly	+0.07	-0.16	-0.22	+0.8	-1.8	-2.5	0.753	0.488	164
pie1	DJF	+0.26	-0.09	-0.36	+6.2	-2.0	-8.2	0.502	0.541	13
pie1	JJA	-0.30	-0.34	-0.04	-2.0	-2.3	-0.3	0.767	0.921	15
pin1	monthly	+0.43	-0.34	-0.77	+4.7	-3.6	-8.3	0.118	0.168	191
pin1	DJF	-0.11	-1.13	-1.01	-1.8	-15.8	-14.1	0.964	0.137	16

pin1	JJA	+1.56	+0.89	-0.67	+10.8	+6.7	-4.1	0.065	0.224	16
pol2	monthly	+0.08	-0.33	-0.41	+0.9	-3.1	-4.0	0.650	0.094	152
pol2	DJF	+0.36	-0.20	-0.56	+9.9	-4.5	-14.3	0.428	0.502	13
pol2	JJA	-1.74	-1.26	+0.48	-11.0	-6.7	+4.3	0.047	0.016	12
pots	monthly	+0.57	+0.26	-0.31	+3.8	+1.6	-2.2	0.027	0.262	186
pots	DJF	+0.33	-0.13	-0.46	+3.8	-1.4	-5.2	0.767	0.961	15
pots	JJA	+1.33	+0.63	-0.69	+5.9	+2.7	-3.2	0.022	0.079	16
quin	monthly	-0.66	-0.25	+0.41	-6.0	-2.4	+3.7	0.018	0.407	137
quin	DJF	-0.32	-0.46	-0.14	-3.7	-5.6	-1.9	0.244	0.537	12
quin	JJA	-0.60	-0.25	+0.35	-4.4	-1.8	+2.5	0.640	0.938	11
reyk	monthly	+0.38	+0.36	-0.02	+3.3	+3.1	-0.2	0.128	0.168	169
reyk	DJF	+0.23	+0.36	+0.14	+2.8	+4.5	+1.6	0.546	0.584	14
reyk	JJA	+0.28	+0.29	+0.01	+1.7	+1.7	-0.0	0.322	0.692	15
sant	monthly	-0.68	-0.08	+0.60	-5.6	-0.9	+4.7	0.018	0.780	152
sant	DJF	+1.17	+2.16	+1.00	+7.2	+19.5	+12.3	0.350	0.029	11
sant	JJA	-0.91	-1.06	-0.16	-9.8	-13.6	-3.8	0.228	0.274	14
shao	monthly	+0.82	-0.56	-1.38	+2.9	-1.9	-4.8	0.214	0.416	118
shao	DJF	+1.06	-0.01	-1.07	+8.7	-0.1	-8.8	0.537	0.945	12
shao	JJA	+1.42	+0.35	-1.07	+2.8	+0.7	-2.1	0.533	0.755	11
sio3	monthly	-0.22	-0.42	-0.20	-1.4	-2.7	-1.3	0.549	0.270	189
sio3	DJF	-0.98	-1.88	-0.91	-8.0	-15.5	-7.5	0.224	0.192	16
sio3	JJA	+1.48	+1.42	-0.05	+6.6	+6.4	-0.1	0.224	0.344	16
sni1	monthly	+0.60	+0.51	-0.09	+4.8	+3.7	-1.1	0.219	0.212	139
sni1	DJF	+0.48	+0.41	-0.07	+4.6	+3.6	-1.0	0.631	0.537	12
sni1	JJA	+2.62	+1.91	-0.70	+16.6	+10.8	-5.7	0.086	0.193	12
stjo	monthly	+0.81	+0.77	-0.04	+5.7	+5.1	-0.6	0.002	0.003	190
stjo	DJF	+0.27	+0.22	-0.05	+3.4	+2.5	-0.9	0.444	0.822	16
stjo	JJA	+2.19	+1.76	-0.43	+9.7	+7.5	-2.2	0.005	0.017	16
svtl	monthly	+0.35	+0.58	+0.22	+2.8	+4.4	+1.6	0.246	0.079	169
svtl	DJF	-0.08	+0.15	+0.23	-1.2	+2.1	+3.3	0.956	0.827	14
svtl	JJA	-0.69	-0.53	+0.15	-3.2	-2.4	+0.8	0.381	0.443	14
syog	monthly	+0.12	-0.07	-0.20	+4.1	-2.1	-6.3	0.237	0.343	173
syog	DJF	+0.32	+0.08	-0.23	+6.7	+1.6	-5.1	0.373	0.945	12

syog	JJA	+0.25	-0.05	-0.31	+13.8	-2.3	-16.0	0.553	0.843	15
tabl	monthly	-0.06	-0.11	-0.06	-0.9	-2.4	-1.4	0.756	0.388	174
tabl	DJF	-0.41	-0.24	+0.17	-9.6	-6.5	+3.1	0.151	0.198	15
tabl	JJA	+0.97	+0.33	-0.64	+11.2	+5.1	-6.2	0.125	0.324	14
tidb	monthly	+0.29	+0.46	+0.17	+2.0	+3.1	+1.1	0.315	0.105	158
tidb	DJF	+0.51	+0.85	+0.34	+2.5	+4.1	+1.6	0.451	0.537	12
tidb	JJA	+0.18	+0.08	-0.10	+1.9	+0.8	-1.2	0.692	0.621	15
tow2	monthly	+0.93	+0.67	-0.25	+2.8	+2.1	-0.7	0.221	0.394	182
tow2	DJF	+2.23	+2.04	-0.20	+4.8	+4.5	-0.3	0.373	0.553	15
tow2	JJA	+0.36	+0.03	-0.33	+1.6	+0.1	-1.4	0.692	0.843	15
trak	monthly	-0.74	-0.54	+0.20	-4.8	-3.6	+1.3	0.066	0.153	189
trak	DJF	-2.33	-2.17	+0.16	-20.4	-18.3	+2.2	0.022	0.058	16
trak	JJA	+1.30	+0.81	-0.49	+6.4	+4.0	-2.4	0.260	0.499	16
tskb	monthly	+0.70	+0.71	+0.01	+2.9	+2.8	-0.1	0.071	0.056	174
tskb	DJF	+1.53	+1.48	-0.05	+19.7	+15.7	-4.0	0.029	0.021	14
tskb	JJA	+2.14	+1.21	-0.93	+5.0	+2.7	-2.3	0.043	0.192	16
uclu	monthly	-0.11	-0.15	-0.04	-0.7	-1.0	-0.3	0.639	0.538	184
uclu	DJF	-0.15	-0.08	+0.07	-1.3	-0.6	+0.7	0.843	0.921	15
uclu	JJA	-0.45	-0.44	+0.01	-2.2	-2.2	-0.0	0.428	0.553	15
usud	monthly	+0.24	+0.34	+0.10	+1.8	+2.5	+0.6	0.374	0.174	164
usud	DJF	+0.46	+0.68	+0.22	+10.6	+13.7	+3.1	0.228	0.049	14
usud	JJA	-0.34	-0.06	+0.28	-1.4	-0.3	+1.1	0.584	0.956	14
vill	monthly	+0.06	+0.22	+0.17	+0.4	+1.5	+1.1	0.841	0.409	181
vill	DJF	-0.12	-0.26	-0.14	-1.1	-2.4	-1.2	0.893	0.964	16
vill	JJA	-0.04	+0.20	+0.24	-0.2	+1.0	+1.2	0.964	0.753	16
vndp	monthly	-0.28	-0.56	-0.28	-1.9	-3.7	-1.8	0.367	0.084	178
vndp	DJF	-1.76	-2.14	-0.39	-13.5	-15.7	-2.2	0.075	0.038	15
vndp	JJA	+0.74	+0.54	-0.20	+4.1	+3.0	-1.1	0.373	0.373	15
wes2	monthly	+0.79	+0.61	-0.18	+4.7	+3.5	-1.1	0.011	0.067	165
wes2	DJF	-0.40	-0.50	-0.10	-4.8	-5.8	-1.1	0.827	0.274	14
wes2	JJA	+2.59	+1.36	-1.23	+8.9	+4.7	-4.2	0.006	0.077	13
whit	monthly	+0.21	+0.18	-0.03	+3.3	+2.5	-0.8	0.114	0.212	168
whit	DJF	+0.17	-0.04	-0.22	+5.2	-1.1	-6.3	0.837	0.945	12

whit	JJA	+0.01	+0.01	+0.01	+0.1	+0.1	+0.1	0.961	0.961	15
will	monthly	+0.02	+0.01	-0.01	+0.2	+0.1	-0.1	0.868	0.964	184
will	DJF	+0.43	+0.36	-0.07	+7.8	+5.9	-2.0	0.198	0.373	15
will	JJA	-0.59	-0.23	+0.36	-4.1	-1.5	+2.6	0.192	0.718	16
wslr	monthly	+0.75	-0.05	-0.80	+6.4	-0.5	-6.8	0.000	0.788	170
wslr	DJF	+1.04	+0.26	-0.79	+13.3	+3.5	-9.8	0.080	0.511	14
wslr	JJA	+0.64	-0.47	-1.11	+3.8	-3.1	-6.8	0.063	0.324	14
wztr	monthly	+0.29	+0.21	-0.08	+2.1	+1.5	-0.6	0.283	0.417	174
wztr	DJF	-0.53	-0.57	-0.04	-6.9	-7.0	-0.1	0.324	0.381	14
wztr	JJA	+1.19	+0.90	-0.29	+5.7	+4.3	-1.4	0.023	0.023	15
wuhn	monthly	+0.34	-1.45	-1.79	+1.1	-4.7	-5.9	0.513	0.005	173
wuhn	DJF	+1.49	-0.34	-1.84	+11.7	-2.5	-14.3	0.189	0.827	14
wuhn	JJA	+1.21	-0.70	-1.91	+2.4	-1.3	-3.7	0.322	0.621	15
yell	monthly	+0.25	+0.21	-0.04	+2.7	+2.2	-0.6	0.218	0.300	192
yell	DJF	+0.48	-0.01	-0.49	+13.8	-0.3	-14.1	0.241	0.964	16
yell	JJA	+0.51	+0.61	+0.10	+3.0	+3.4	+0.4	0.753	0.558	16
zimm	monthly	+0.20	+0.34	+0.15	+1.5	+2.6	+1.1	0.316	0.103	192
zimm	DJF	-0.69	-0.63	+0.06	-9.6	-8.2	+1.4	0.053	0.079	16
zimm	JJA	+0.75	+1.21	+0.46	+3.8	+6.2	+2.4	0.079	0.006	16

**Table S3b: Same as Table S3a, but for MERRA-2.**

nameGPS	flag	Trends (kg m <sup>-2</sup> decade <sup>-1</sup> )			Relative trends (% decade <sup>-1</sup> )			p-values		NP
		GPS	ERA1	Diff.	GPS	ERA1	Diff.	GPS	ERA1	
albh	monthly	-0.04	-0.01	+0.03	-0.2	-0.1	+0.1	0.856	0.970	192
albh	DJF	+0.14	+0.27	+0.13	+1.2	+2.2	+1.0	0.893	0.753	16
albh	JJA	-0.28	-0.38	-0.10	-1.4	-1.7	-0.3	0.753	0.558	16
algo	monthly	+0.25	+0.28	+0.03	+1.8	+1.9	+0.1	0.333	0.322	192
algo	DJF	-0.07	-0.29	-0.22	-1.2	-4.5	-3.3	0.685	0.685	16
algo	JJA	+0.77	+0.36	-0.41	+3.2	+1.4	-1.8	0.224	0.499	16
alic	monthly	-1.17	-0.81	+0.36	-6.4	-4.3	+2.1	0.126	0.293	162
alic	DJF	-0.97	-3.27	-2.30	-3.5	-11.4	-7.9	0.837	0.631	12
alic	JJA	-0.69	+0.18	+0.87	-6.6	+1.6	+8.2	0.913	0.827	14
ankr	monthly	+1.38	+0.42	-0.96	+10.8	+3.1	-7.7	0.000	0.228	136
ankr	DJF	+0.92	-0.18	-1.10	+11.1	-2.1	-13.2	0.033	0.760	13
ankr	JJA	+1.23	-0.24	-1.47	+6.7	-1.3	-8.0	0.640	0.755	11
areq	monthly	-0.65	-0.41	+0.24	-5.6	-3.2	+2.4	0.042	0.322	155
areq	DJF	+0.16	-0.31	-0.47	+0.9	-1.6	-2.5	0.945	0.732	12
areq	JJA	-1.40	-0.83	+0.57	-22.1	-10.7	+11.4	0.049	0.274	14
auck	monthly	+0.00	-0.27	-0.27	+0.0	-1.4	-1.4	0.991	0.439	174
auck	DJF	+0.38	-0.23	-0.61	+1.6	-1.0	-2.6	0.827	0.956	14
auck	JJA	+0.44	+0.57	+0.13	+3.0	+3.7	+0.7	0.692	0.373	15
blyt	monthly	-0.24	-0.21	+0.03	-1.5	-1.3	+0.2	0.543	0.587	189
blyt	DJF	-0.88	-1.28	-0.40	-8.4	-11.5	-3.1	0.260	0.260	16
blyt	JJA	+1.12	+1.64	+0.52	+4.5	+6.3	+1.8	0.224	0.300	16
bor1	monthly	+0.62	+0.53	-0.09	+4.1	+3.3	-0.8	0.032	0.061	191
bor1	DJF	+0.22	-0.01	-0.23	+2.6	-0.1	-2.7	0.893	0.964	16
bor1	JJA	+1.19	+1.35	+0.16	+5.0	+5.5	+0.5	0.163	0.065	16
braz	monthly	+0.23	+0.08	-0.15	+0.8	+0.3	-0.5	0.717	0.897	153

braz	DJF	+0.79	+1.64	+0.85	+2.3	+4.6	+2.3	0.373	0.244	12
braz	JJA	-1.78	-1.00	+0.78	-10.7	-5.9	+4.8	0.304	0.373	12
brmu	monthly	-0.36	-0.77	-0.41	-1.2	-2.5	-1.3	0.332	0.030	184
brmu	DJF	-0.37	-0.49	-0.12	-1.8	-2.3	-0.5	0.511	0.511	14
brmu	JJA	-0.15	-1.04	-0.89	-0.4	-2.5	-2.1	0.822	0.260	16
brus	monthly	-0.05	+0.10	+0.15	-0.3	+0.6	+0.9	0.851	0.750	180
brus	DJF	-1.12	-0.97	+0.15	-11.1	-8.8	+2.3	0.189	0.101	14
brus	JJA	+0.97	+1.15	+0.18	+4.3	+4.9	+0.6	0.166	0.151	15
cagl	monthly	+0.37	+0.28	-0.09	+2.1	+1.5	-0.6	0.205	0.307	172
cagl	DJF	+1.03	+1.04	+0.01	+8.4	+7.7	-0.7	0.246	0.300	13
cagl	JJA	-0.75	-0.62	+0.13	-3.3	-2.6	+0.7	0.400	0.621	15
cas1	monthly	+0.20	+0.12	-0.08	+4.7	+2.9	-1.8	0.072	0.222	171
cas1	DJF	+0.49	+0.56	+0.07	+7.9	+9.5	+1.6	0.228	0.101	14
cas1	JJA	-0.00	-0.21	-0.21	-0.0	-6.5	-6.5	0.956	0.274	14
ccjm	monthly	-1.40	+0.61	+2.01	-4.0	+1.7	+5.7	0.006	0.207	178
ccjm	DJF	-0.89	+2.53	+3.42	-4.0	+11.5	+15.5	0.767	0.166	15
ccjm	JJA	-1.13	+0.44	+1.57	-2.5	+1.0	+3.5	0.192	0.822	16
cedu	monthly	+0.14	+0.06	-0.08	+0.9	+0.4	-0.5	0.716	0.853	133
cedu	DJF	-1.52	-2.04	-0.52	-7.2	-9.5	-2.3	0.592	0.474	10
cedu	JJA	+0.59	+0.26	-0.33	+4.9	+2.0	-2.9	0.640	0.938	11
cfag	monthly	-0.62	-0.63	-0.01	-3.8	-3.5	+0.3	0.082	0.071	162
cfag	DJF	+0.30	+0.12	-0.18	+1.2	+0.5	-0.7	0.669	0.951	13
cfag	JJA	-1.12	-1.12	+0.00	-12.3	-11.4	+0.9	0.274	0.228	14
chat	monthly	-0.49	-0.08	+0.41	-3.2	-0.5	+2.7	0.086	0.810	173
chat	DJF	-0.14	+0.30	+0.44	-0.7	+1.5	+2.2	0.743	0.443	14
chat	JJA	-0.26	+0.06	+0.32	-2.1	+0.4	+2.5	0.767	0.882	15
chur	monthly	+0.18	+0.09	-0.09	+1.9	+1.0	-0.9	0.385	0.715	186
chur	DJF	-0.18	-0.24	-0.06	-6.4	-7.6	-1.2	0.621	0.692	15

chur	JJA	-0.52	-0.72	-0.20	-2.9	-3.7	-0.8	0.163	0.043	16
coco	monthly	-1.20	-0.77	+0.43	-2.8	-1.8	+1.0	0.235	0.522	154
coco	DJF	-7.12	-7.18	-0.06	-16.5	-16.3	+0.2	0.033	0.100	13
coco	JJA	-3.58	-2.19	+1.39	-8.7	-5.3	+3.4	0.100	0.502	13
coso	monthly	+0.08	+0.10	+0.02	+1.0	+1.1	+0.1	0.783	0.756	161
coso	DJF	-0.45	-0.76	-0.31	-7.8	-11.4	-3.6	0.300	0.200	13
coso	JJA	+0.71	+0.95	+0.24	+6.3	+7.8	+1.5	0.228	0.274	14
crfp	monthly	-0.14	-0.15	-0.01	-1.1	-1.2	-0.1	0.632	0.622	186
crfp	DJF	-0.47	-0.75	-0.28	-5.3	-8.4	-3.1	0.235	0.373	15
crfp	JJA	+1.37	+1.73	+0.36	+7.5	+9.2	+1.7	0.065	0.163	16
cro1	monthly	+1.69	+1.18	-0.51	+4.5	+3.1	-1.4	0.001	0.024	149
cro1	DJF	+0.32	+0.47	+0.15	+1.0	+1.5	+0.5	0.743	0.584	14
cro1	JJA	+3.64	+3.29	-0.35	+8.6	+7.6	-1.0	0.062	0.029	11
darw	monthly	+0.69	+1.19	+0.50	+1.8	+3.1	+1.3	0.530	0.263	128
darw	DJF	+2.65	+2.26	-0.39	+4.9	+4.0	-0.9	0.386	0.386	8
darw	JJA	-0.58	-0.11	+0.47	-2.4	-0.5	+1.9	0.760	0.951	13
dav1	monthly	+0.06	-0.09	-0.15	+1.6	-2.4	-4.0	0.514	0.340	147
dav1	DJF	-0.42	-0.91	-0.49	-7.1	-15.5	-8.4	0.161	0.119	11
dav1	JJA	+0.03	-0.21	-0.24	+1.2	-8.5	-9.7	0.951	0.300	13
dgar	monthly	+1.62	+0.41	-1.21	+3.4	+0.8	-2.6	0.052	0.679	113
dgar	DJF	+3.24	+0.97	-2.27	+6.1	+1.8	-4.3	0.076	0.754	9
dgar	JJA	+0.55	+0.74	+0.19	+1.2	+1.7	+0.5	0.858	0.858	10
dhlg	monthly	-0.09	+0.08	+0.17	-0.5	+0.4	+0.9	0.878	0.895	169
dhlg	DJF	-0.23	-0.22	+0.01	-2.1	-1.9	+0.2	0.583	0.855	13
dhlg	JJA	+1.01	+1.62	+0.61	+4.1	+6.0	+1.9	0.621	0.373	15
drao	monthly	-0.15	+0.15	+0.30	-1.2	+1.2	+2.4	0.461	0.441	192
drao	DJF	-0.05	+0.36	+0.41	-0.6	+4.3	+4.9	0.893	0.224	16
drao	JJA	-0.50	+0.06	+0.56	-2.8	+0.3	+3.1	0.620	0.964	16

dubo	monthly	+0.46	+0.20	-0.26	+3.6	+1.5	-2.1	0.110	0.502	165
dubo	DJF	+0.01	-0.48	-0.49	+0.2	-9.4	-9.6	0.951	0.428	13
dubo	JJA	+0.64	+0.66	+0.02	+2.8	+2.8	+0.0	0.661	0.743	14
ebre	monthly	+0.43	+0.35	-0.08	+2.2	+1.7	-0.5	0.188	0.279	174
ebre	DJF	+0.23	+0.10	-0.13	+1.9	+0.8	-1.1	0.743	0.827	14
ebre	JJA	+1.16	+0.78	-0.38	+4.1	+2.7	-1.4	0.228	0.381	14
fair	monthly	+0.43	+0.46	+0.03	+4.9	+4.6	-0.3	0.060	0.058	169
fair	DJF	-0.19	-0.16	+0.03	-5.0	-3.4	+1.6	0.913	0.956	14
fair	JJA	+0.15	+0.59	+0.44	+0.9	+3.0	+2.1	0.913	0.743	14
fale	monthly	+1.50	+1.26	-0.24	+3.1	+2.5	-0.6	0.051	0.131	132
fale	DJF	+4.18	+4.17	-0.01	+7.9	+7.5	-0.4	0.029	0.062	11
fale	JJA	-0.44	-0.19	+0.25	-1.1	-0.5	+0.6	0.938	0.938	11
flin	monthly	+0.53	+0.25	-0.28	+4.8	+2.1	-2.7	0.013	0.305	167
flin	DJF	-0.20	-0.69	-0.49	-4.8	-14.8	-10.0	0.669	0.127	13
flin	JJA	+0.54	-0.06	-0.60	+2.7	-0.3	-3.0	0.166	0.961	15
gode	monthly	+0.61	+1.22	+0.61	+3.0	+5.7	+2.7	0.174	0.004	169
gode	DJF	-0.92	-0.98	-0.06	-9.1	-8.9	+0.2	0.274	0.189	14
gode	JJA	+1.73	+3.17	+1.44	+5.1	+9.2	+4.1	0.113	0.029	15
gold	monthly	-0.30	-0.11	+0.19	-3.1	-1.0	+2.1	0.479	0.851	138
gold	DJF	-0.27	-0.24	+0.03	-3.8	-3.0	+0.8	0.696	0.876	11
gold	JJA	+0.28	+0.79	+0.51	+2.0	+5.3	+3.3	0.732	0.373	12
gope	monthly	-0.20	+0.71	+0.91	-1.5	+5.1	+6.6	0.425	0.004	165
gope	DJF	-0.57	+0.39	+0.96	-7.3	+4.9	+12.2	0.502	0.760	13
gope	JJA	+0.16	+1.59	+1.43	+0.7	+7.3	+6.6	0.827	0.012	14
gras	monthly	+0.26	+0.40	+0.14	+2.6	+3.5	+0.9	0.157	0.051	161
gras	DJF	+0.05	+0.18	+0.13	+1.0	+2.9	+1.9	0.951	0.951	13
gras	JJA	-0.35	-0.21	+0.14	-2.2	-1.2	+1.0	0.743	0.913	14
graz	monthly	+0.56	+0.57	+0.01	+3.8	+3.6	-0.2	0.019	0.020	184

graz	DJF	+0.50	+0.03	-0.47	+6.6	+0.4	-6.2	0.499	0.964	16
graz	JJA	+1.30	+1.55	+0.25	+5.5	+6.3	+0.8	0.034	0.005	16
guam	monthly	+0.50	-0.30	-0.80	+1.1	-0.7	-1.8	0.356	0.695	144
guam	DJF	-1.28	-0.67	+0.61	-3.5	-1.9	+1.6	0.631	0.631	12
guam	JJA	+0.55	-1.16	-1.71	+1.1	-2.2	-3.3	0.837	0.537	12
hers	monthly	+0.32	+0.15	-0.17	+1.9	+0.8	-1.1	0.335	0.667	163
hers	DJF	-0.82	-1.30	-0.48	-7.4	-10.9	-3.5	0.300	0.127	13
hers	JJA	+0.66	+0.40	-0.26	+2.9	+1.7	-1.2	0.827	0.584	14
hob2	monthly	+0.19	+0.30	+0.11	+1.3	+1.9	+0.6	0.447	0.149	167
hob2	DJF	-0.22	-0.17	+0.05	-1.2	-0.9	+0.3	0.837	0.732	12
hob2	JJA	-0.24	+0.19	+0.43	-2.0	+1.4	+3.4	0.457	0.488	15
holb	monthly	+0.30	+0.05	-0.25	+2.5	+0.4	-2.1	0.106	0.817	172
holb	DJF	-0.10	+0.04	+0.14	-1.1	+0.4	+1.5	0.701	0.913	14
holb	JJA	-0.14	-0.18	-0.04	-0.9	-1.0	-0.1	0.913	0.827	14
holp	monthly	-0.70	-0.26	+0.44	-4.2	-1.6	+2.6	0.076	0.516	188
holp	DJF	-1.92	-1.09	+0.83	-15.1	-8.7	+6.4	0.113	0.276	15
holp	JJA	+1.28	+1.30	+0.02	+5.8	+5.8	+0.0	0.192	0.260	16
hrao	monthly	+0.49	+1.28	+0.79	+2.9	+7.4	+4.5	0.221	0.007	150
hrao	DJF	+2.67	+4.04	+1.37	+10.1	+15.2	+5.1	0.107	0.049	10
hrao	JJA	-0.08	+0.11	+0.19	-1.0	+1.3	+2.3	0.951	0.855	13
iisc	monthly	+0.89	+0.40	-0.49	+2.8	+1.2	-1.6	0.197	0.576	125
iisc	DJF	-5.31	-5.78	-0.47	-27.9	-29.7	-1.8	0.152	0.152	10
iisc	JJA	+1.66	+0.96	-0.70	+4.0	+2.2	-1.8	0.436	0.640	11
irkt	monthly	+0.60	+0.17	-0.43	+5.9	+1.5	-4.4	0.002	0.372	179
irkt	DJF	+0.33	-0.44	-0.77	+12.1	-13.1	-25.2	0.322	0.373	15
irkt	JJA	+1.45	+1.29	-0.16	+6.3	+5.4	-0.9	0.235	0.092	15
joze	monthly	+0.57	+0.80	+0.23	+3.8	+5.0	+1.2	0.043	0.008	191
joze	DJF	+0.46	+0.54	+0.08	+5.5	+6.1	+0.6	0.444	0.344	16

joze	JJA	+0.69	+1.12	+0.43	+2.9	+4.5	+1.6	0.499	0.260	16
karr	monthly	-1.72	-1.76	-0.04	-7.0	-6.8	+0.2	0.018	0.024	170
karr	DJF	-3.43	-3.59	-0.16	-9.4	-9.3	+0.1	0.502	0.300	13
karr	JJA	-1.74	-1.13	+0.61	-11.6	-7.2	+4.4	0.155	0.228	14
kely	monthly	+0.84	+0.97	+0.13	+11.1	+11.4	+0.3	0.006	0.017	94
kely	DJF	+0.68	+0.62	-0.06	+20.2	+15.8	-4.4	0.806	0.806	5
kely	JJA	+2.28	+2.53	+0.25	+17.9	+17.2	-0.7	0.251	0.466	9
kerg	monthly	+0.58	+0.27	-0.31	+5.7	+2.5	-3.2	0.002	0.130	164
kerg	DJF	+0.42	+0.30	-0.12	+3.3	+2.3	-1.0	0.502	0.502	13
kerg	JJA	+0.90	+0.66	-0.24	+10.9	+7.3	-3.6	0.080	0.228	14
kiru	monthly	+0.02	+0.06	+0.04	+0.3	+0.5	+0.2	0.932	0.803	183
kiru	DJF	-0.42	+0.21	+0.63	-8.9	+3.8	+12.7	0.276	0.804	15
kiru	JJA	-0.06	-0.15	-0.09	-0.4	-0.9	-0.5	0.893	0.753	16
kit3	monthly	+1.42	+1.03	-0.39	+10.5	+8.2	-2.3	0.000	0.001	166
kit3	DJF	+1.55	+1.19	-0.36	+18.0	+14.0	-4.0	0.048	0.198	15
kit3	JJA	+1.14	+0.45	-0.69	+6.4	+2.7	-3.7	0.113	0.553	15
kokb	monthly	-0.64	+0.24	+0.88	-4.2	+1.4	+5.6	0.171	0.436	156
kokb	DJF	+0.42	+0.81	+0.39	+3.4	+5.6	+2.2	0.855	0.428	13
kokb	JJA	-0.83	-0.05	+0.78	-5.2	-0.3	+4.9	0.360	0.951	13
kosg	monthly	+0.07	+0.04	-0.03	+0.4	+0.3	-0.1	0.792	0.874	179
kosg	DJF	-0.44	-0.31	+0.13	-4.3	-2.9	+1.4	0.417	0.344	16
kosg	JJA	+1.03	+1.07	+0.04	+4.5	+4.5	+0.0	0.079	0.096	16
kour	monthly	+1.20	+0.13	-1.07	+2.5	+0.3	-2.2	0.008	0.814	163
kour	DJF	+1.69	+1.77	+0.08	+3.6	+3.8	+0.2	0.300	0.428	13
kour	JJA	+0.70	-0.70	-1.40	+1.4	-1.4	-2.8	0.488	0.373	15
lama	monthly	+0.55	+0.42	-0.13	+3.8	+2.8	-1.0	0.104	0.196	176
lama	DJF	+0.20	+0.07	-0.13	+2.5	+0.8	-1.7	0.661	0.956	14
lama	JJA	+1.20	+1.20	+0.00	+5.3	+5.1	-0.2	0.138	0.151	15

leep	monthly	-0.36	-0.22	+0.14	-2.9	-1.6	+1.3	0.315	0.504	186
leep	DJF	-1.31	-0.90	+0.41	-13.8	-8.7	+5.1	0.075	0.276	15
leep	JJA	+0.98	+1.08	+0.10	+5.8	+5.8	+0.0	0.241	0.260	16
lpgs	monthly	-1.19	-0.33	+0.86	-5.8	-1.6	+4.2	0.027	0.523	150
lpgs	DJF	+1.34	+2.08	+0.74	+5.0	+7.7	+2.7	0.179	0.059	13
lpgs	JJA	-1.69	-0.94	+0.75	-11.0	-6.0	+5.0	0.161	0.669	13
mac1	monthly	+0.44	+0.57	+0.13	+4.0	+5.0	+1.0	0.011	0.002	167
mac1	DJF	+0.59	+0.88	+0.29	+4.5	+6.5	+2.0	0.583	0.360	13
mac1	JJA	-0.29	-0.03	+0.26	-3.1	-0.3	+2.8	0.373	0.921	15
madr	monthly	+0.37	+0.15	-0.22	+2.7	+1.1	-1.6	0.255	0.670	156
madr	DJF	-0.04	-0.69	-0.65	-0.4	-7.0	-6.6	0.951	0.300	13
madr	JJA	+1.08	+0.68	-0.40	+6.1	+3.8	-2.3	0.155	0.511	14
mas1	monthly	+1.37	+1.18	-0.19	+7.6	+5.9	-1.7	0.000	0.001	175
mas1	DJF	+2.43	+1.51	-0.92	+17.1	+9.3	-7.8	0.166	0.322	15
mas1	JJA	+1.22	+0.94	-0.28	+6.1	+4.2	-1.9	0.075	0.113	15
mate	monthly	+0.67	+0.56	-0.11	+4.3	+3.3	-1.0	0.013	0.050	176
mate	DJF	+0.99	+0.97	-0.02	+9.9	+8.6	-1.3	0.101	0.155	14
mate	JJA	+0.06	+0.16	+0.10	+0.3	+0.7	+0.4	0.921	0.961	15
maw1	monthly	+0.36	+0.23	-0.13	+14.7	+7.9	-6.8	0.000	0.007	169
maw1	DJF	+0.29	+0.38	+0.09	+6.5	+7.3	+0.8	0.511	0.324	14
maw1	JJA	+0.31	+0.07	-0.24	+23.0	+3.6	-19.4	0.012	0.753	16
mcm4	monthly	+0.59	+0.02	-0.57	+22.9	+1.3	-21.6	0.000	0.720	146
mcm4	DJF	+0.49	-0.26	-0.75	+10.8	-7.4	-18.2	0.115	0.732	12
mcm4	JJA	+0.33	+0.01	-0.32	+24.1	+1.2	-22.9	0.443	0.956	14
mdo1	monthly	+0.10	+0.45	+0.35	+0.9	+3.9	+3.0	0.628	0.075	171
mdo1	DJF	-0.04	+0.28	+0.32	-0.8	+5.0	+5.8	0.956	0.743	14
mdo1	JJA	+0.43	+1.17	+0.74	+2.2	+5.9	+3.7	0.767	0.138	15
medi	monthly	+0.73	+0.60	-0.13	+3.8	+2.9	-0.9	0.028	0.045	175

medi	DJF	+1.11	+0.66	-0.45	+10.0	+5.4	-4.6	0.324	0.511	14
medi	JJA	+0.91	+1.35	+0.44	+3.2	+4.5	+1.3	0.373	0.276	15
mets	monthly	+0.21	+0.29	+0.08	+1.7	+2.2	+0.5	0.506	0.375	168
mets	DJF	-0.02	-0.00	+0.02	-0.2	-0.1	+0.1	0.951	0.951	13
mets	JJA	-0.43	-0.31	+0.12	-2.1	-1.5	+0.6	0.669	0.855	13
mkea	monthly	+0.08	-0.31	-0.39	+2.8	+5.4	+2.6	0.748	0.046	149
mkea	DJF	+0.86	-0.60	-1.46	+35.6	+11.8	-23.8	0.350	0.350	11
mkea	JJA	-0.50	+0.40	+0.90	-18.0	-6.7	+11.3	0.669	0.669	13
monp	monthly	+0.05	-0.05	-0.10	+0.8	-0.8	-1.6	0.784	0.753	180
monp	DJF	-0.27	-0.35	-0.08	-5.8	-8.0	-2.2	0.488	0.553	15
monp	JJA	+0.84	+0.70	-0.14	+7.2	+7.5	+0.3	0.322	0.198	15
nano	monthly	+0.18	+0.00	-0.18	+1.2	+0.0	-1.2	0.392	0.994	183
nano	DJF	+0.28	+0.25	-0.03	+2.5	+2.0	-0.5	0.511	0.228	14
nano	JJA	-0.15	-0.39	-0.24	-0.7	-1.7	-1.0	0.822	0.499	16
nlib	monthly	-0.13	+0.49	+0.62	-0.8	+2.7	+3.5	0.765	0.191	160
nlib	DJF	-0.66	-0.76	-0.10	-8.3	-9.4	-1.1	0.161	0.044	13
nlib	JJA	-0.67	+1.23	+1.90	-2.2	+4.0	+6.2	0.827	0.189	14
nrc1	monthly	+0.41	+0.53	+0.12	+2.7	+3.3	+0.6	0.170	0.077	176
nrc1	DJF	+0.13	-0.09	-0.22	+2.0	-1.2	-3.2	0.956	0.827	14
nrc1	JJA	+0.87	+0.99	+0.12	+3.4	+3.6	+0.2	0.113	0.092	15
onsa	monthly	+0.31	+0.10	-0.21	+2.2	+0.7	-1.5	0.314	0.679	170
onsa	DJF	-0.03	-0.26	-0.23	-0.4	-2.8	-2.4	0.827	0.956	14
onsa	JJA	+1.44	+1.16	-0.28	+6.7	+5.1	-1.6	0.101	0.080	14
penc	monthly	+1.07	+0.85	-0.22	+6.6	+5.1	-1.5	0.001	0.013	173
penc	DJF	+0.69	+0.24	-0.45	+7.7	+2.6	-5.1	0.443	0.913	14
penc	JJA	+1.60	+1.48	-0.12	+6.5	+5.8	-0.7	0.063	0.042	14
pert	monthly	-0.46	-0.44	+0.02	-2.7	-2.5	+0.2	0.100	0.087	177
pert	DJF	-0.73	+0.03	+0.76	-3.5	+0.1	+3.6	0.692	0.961	15

pert	JJA	-0.37	-1.00	-0.63	-2.6	-6.6	-4.0	0.488	0.048	15
pie1	monthly	+0.07	+0.13	+0.06	+0.8	+1.4	+0.6	0.753	0.619	164
pie1	DJF	+0.26	+0.12	-0.14	+6.2	+2.7	-3.5	0.502	0.760	13
pie1	JJA	-0.30	-0.29	+0.01	-2.0	-1.7	+0.3	0.767	0.843	15
pin1	monthly	+0.44	-0.10	-0.54	+4.7	-1.0	-5.7	0.118	0.710	191
pin1	DJF	-0.11	-0.88	-0.77	-1.8	-13.0	-11.2	0.964	0.224	16
pin1	JJA	+1.56	+1.29	-0.27	+10.8	+8.9	-1.9	0.065	0.163	16
pol2	monthly	+0.08	+0.41	+0.33	+0.9	+4.4	+3.5	0.650	0.039	152
pol2	DJF	+0.36	+0.39	+0.03	+9.9	+9.1	-0.8	0.428	0.392	13
pol2	JJA	-1.74	-0.34	+1.40	-11.0	-2.2	+8.8	0.047	0.732	12
pots	monthly	+0.57	+0.41	-0.16	+3.8	+2.6	-1.2	0.027	0.106	186
pots	DJF	+0.33	-0.01	-0.34	+3.8	-0.1	-3.9	0.767	0.961	15
pots	JJA	+1.33	+0.86	-0.47	+5.9	+3.6	-2.3	0.022	0.105	16
quin	monthly	-0.66	-0.02	+0.64	-6.0	-0.2	+5.8	0.018	0.916	137
quin	DJF	-0.32	-0.25	+0.07	-3.7	-3.0	+0.7	0.244	0.945	12
quin	JJA	-0.60	-0.16	+0.44	-4.4	-1.3	+3.1	0.640	0.938	11
reyk	monthly	+0.38	+0.40	+0.02	+3.3	+3.2	-0.1	0.128	0.129	169
reyk	DJF	+0.22	+0.29	+0.07	+2.8	+3.3	+0.5	0.546	0.584	14
reyk	JJA	+0.28	+0.35	+0.07	+1.7	+1.9	+0.2	0.322	0.692	15
sant	monthly	-0.68	-0.09	+0.59	-5.6	-0.9	+4.7	0.018	0.746	152
sant	DJF	+1.17	+1.54	+0.37	+7.2	+13.0	+5.8	0.350	0.161	11
sant	JJA	-0.91	-0.82	+0.09	-9.8	-9.8	+0.0	0.228	0.584	14
shao	monthly	+0.82	+0.32	-0.50	+2.9	+1.1	-1.8	0.214	0.548	118
shao	DJF	+1.07	+0.69	-0.38	+8.7	+5.2	-3.5	0.537	0.732	12
shao	JJA	+1.42	+1.00	-0.42	+2.8	+1.9	-0.9	0.533	0.436	11
sio3	monthly	-0.22	-0.42	-0.20	-1.4	-2.5	-1.1	0.549	0.281	189
sio3	DJF	-0.98	-1.90	-0.92	-8.0	-14.5	-6.5	0.224	0.096	16
sio3	JJA	+1.48	+1.52	+0.04	+6.6	+6.5	-0.1	0.224	0.260	16

sni1	monthly	+0.60	+0.62	+0.02	+4.8	+4.4	-0.4	0.219	0.164	139
sni1	DJF	+0.48	+0.49	+0.01	+4.6	+4.2	-0.4	0.631	0.537	12
sni1	JJA	+2.62	+2.63	+0.01	+16.6	+14.3	-2.3	0.086	0.086	12
stjo	monthly	+0.81	+0.89	+0.08	+5.7	+5.8	+0.1	0.002	0.000	190
stjo	DJF	+0.27	+0.36	+0.09	+3.4	+4.3	+0.9	0.444	0.392	16
stjo	JJA	+2.19	+2.05	-0.14	+9.7	+8.5	-1.2	0.005	0.008	16
svtl	monthly	+0.36	+0.49	+0.13	+2.8	+3.6	+0.8	0.246	0.134	169
svtl	DJF	-0.08	-0.17	-0.09	-1.2	-2.4	-1.2	0.956	0.913	14
svtl	JJA	-0.69	-0.30	+0.39	-3.2	-1.3	+1.9	0.381	0.743	14
syog	monthly	+0.12	-0.04	-0.16	+4.1	-1.0	-5.1	0.237	0.621	173
syog	DJF	+0.32	+0.14	-0.18	+6.7	+2.5	-4.2	0.373	0.732	12
syog	JJA	+0.25	-0.07	-0.32	+13.8	-3.1	-16.9	0.553	0.921	15
tabl	monthly	-0.05	+0.05	+0.10	-0.9	+0.9	+1.8	0.756	0.781	174
tabl	DJF	-0.41	-0.20	+0.21	-9.6	-5.0	+4.6	0.151	0.553	15
tabl	JJA	+0.97	+0.72	-0.25	+11.2	+9.1	-2.1	0.125	0.228	14
tidb	monthly	+0.29	+0.36	+0.07	+2.0	+2.5	+0.5	0.315	0.258	158
tidb	DJF	+0.51	+0.92	+0.41	+2.5	+4.5	+2.0	0.451	0.373	12
tidb	JJA	+0.18	+0.12	-0.06	+1.9	+1.2	-0.7	0.692	0.843	15
tow2	monthly	+0.93	+0.47	-0.46	+2.8	+1.4	-1.4	0.221	0.559	182
tow2	DJF	+2.23	+1.00	-1.23	+4.8	+2.1	-2.7	0.373	0.553	15
tow2	JJA	+0.36	+0.13	-0.23	+1.6	+0.6	-1.0	0.692	0.961	15
trak	monthly	-0.74	-0.34	+0.40	-4.8	-2.0	+2.8	0.066	0.350	189
trak	DJF	-2.33	-1.68	+0.65	-20.4	-13.4	+7.0	0.022	0.065	16
trak	JJA	+1.30	+1.21	-0.09	+6.4	+5.3	-1.1	0.260	0.260	16
tskb	monthly	+0.70	+0.64	-0.06	+2.9	+2.4	-0.5	0.071	0.075	174
tskb	DJF	+1.53	+1.41	-0.12	+19.7	+14.7	-5.0	0.029	0.049	14
tskb	JJA	+2.14	+1.64	-0.50	+5.0	+3.6	-1.4	0.043	0.043	16
uclu	monthly	-0.11	-0.16	-0.05	-0.7	-1.0	-0.3	0.639	0.557	184

uclu	DJF	-0.15	+0.02	+0.17	-1.3	+0.1	+1.4	0.843	0.961	15
uclu	JJA	-0.45	-0.54	-0.09	-2.2	-2.5	-0.3	0.428	0.488	15
usud	monthly	+0.24	+0.33	+0.09	+1.8	+2.3	+0.5	0.374	0.200	164
usud	DJF	+0.46	+0.52	+0.06	+10.6	+11.0	+0.4	0.228	0.155	14
usud	JJA	-0.34	+0.27	+0.61	-1.3	+1.0	+2.3	0.584	0.913	14
vill	monthly	+0.06	+0.29	+0.23	+0.4	+1.9	+1.5	0.841	0.275	181
vill	DJF	-0.12	-0.24	-0.12	-1.2	-2.2	-1.0	0.893	0.822	16
vill	JJA	-0.04	+0.47	+0.51	-0.2	+2.4	+2.6	0.964	0.499	16
vndp	monthly	-0.28	-0.25	+0.03	-1.9	-1.5	+0.4	0.367	0.507	178
vndp	DJF	-1.76	-1.92	-0.16	-13.5	-13.5	+0.0	0.075	0.075	15
vndp	JJA	+0.74	+1.09	+0.35	+4.1	+5.7	+1.6	0.373	0.138	15
wes2	monthly	+0.79	+1.01	+0.22	+4.7	+5.7	+1.0	0.011	0.003	165
wes2	DJF	-0.40	-0.28	+0.12	-4.8	-3.2	+1.6	0.827	0.443	14
wes2	JJA	+2.59	+2.21	-0.38	+8.9	+7.3	-1.6	0.006	0.012	13
whit	monthly	+0.21	+0.04	-0.17	+3.3	+0.6	-2.7	0.114	0.754	168
whit	DJF	+0.17	+0.06	-0.11	+5.2	+1.5	-3.7	0.837	0.891	12
whit	JJA	+0.01	-0.21	-0.22	+0.1	-1.7	-1.8	0.961	0.692	15
will	monthly	+0.02	+0.02	+0.00	+0.2	+0.2	+0.0	0.868	0.939	184
will	DJF	+0.43	+0.36	-0.07	+7.8	+5.7	-2.1	0.198	0.276	15
will	JJA	-0.59	-0.47	+0.12	-4.1	-3.0	+1.1	0.192	0.321	16
wslr	monthly	+0.75	-0.07	-0.82	+6.4	-0.6	-7.0	0.000	0.729	170
wslr	DJF	+1.04	+0.25	-0.79	+13.3	+3.3	-10.0	0.080	0.511	14
wslr	JJA	+0.64	-0.58	-1.22	+3.8	-3.5	-7.3	0.063	0.443	14
wtzz	monthly	+0.29	+0.54	+0.25	+2.1	+3.8	+1.7	0.283	0.040	174
wtzz	DJF	-0.53	-0.50	+0.03	-6.9	-6.3	+0.6	0.324	0.324	14
wtzz	JJA	+1.19	+1.59	+0.40	+5.7	+7.3	+1.6	0.023	0.003	15
wuhn	monthly	+0.34	-0.23	-0.57	+1.1	-0.7	-1.8	0.513	0.684	173
wuhn	DJF	+1.49	-0.04	-1.53	+11.7	-0.3	-12.0	0.189	0.913	14

wuhn	JJA	+1.21	+1.38	+0.17	+2.4	+2.6	+0.2	0.322	0.198	15
yell	monthly	+0.25	+0.11	-0.14	+2.7	+1.1	-1.6	0.218	0.651	192
yell	DJF	+0.48	+0.04	-0.44	+13.8	+1.0	-12.8	0.241	0.620	16
yell	JJA	+0.51	+0.33	-0.18	+3.0	+1.7	-1.3	0.753	0.753	16
zimm	monthly	+0.20	+0.51	+0.31	+1.5	+3.9	+2.4	0.316	0.010	192
zimm	DJF	-0.69	-0.57	+0.12	-9.6	-7.6	+2.0	0.053	0.043	16
zimm	JJA	+0.75	+1.50	+0.75	+3.8	+7.4	+3.6	0.079	0.008	16