

Supplementary Materials: Impact of Sensor Zenith Angle on MOD10A1 Data Reliability and Modification of Snow Cover Data for the Tarim River Basin

Haixing Li, Xingong Li and Pengfeng Xiao

Table S1. Comparison of the overall accuracies * between MOD10A1 and the modified snow cover product in 30 typical areas of Tarim river basin.

ID	Dates	HJ-1 CCD			HJ-1B IRS		Center Longitude	Center Latitude	Average SZA Values (°)	Overall Accuracy (%)		Increased Overall Accuracy (%)
		A/B CCD1/2	Path	Row	Path	Row				MOD10A1	Modified Product	
1	2011/01/02	A-CCD1	45	72	40	70	83.86	36.25	29.00	63.87	67.16	3.29
2	2011/01/12	B-CCD1	46	73	49	74	78.14	34.42	39.19	63.62	68.86	5.24
3	2011/01/22	A-CCD1	48	72	43	69	80.73	36.84	36.37	64.85	68.55	3.70
4	2011/01/29	A-CCD2	47	72	52	70	77.57	36.84	45.46	63.86	67.97	4.11
5	2011/02/08	B-CCD2	48	72	46	70	79.37	36.64	38.98	63.37	67.87	4.50
6	2011/02/22	A-CCD1	46	72	40	70	82.64	36.94	42.01	64.81	67.89	3.08
7	2011/02/28	B-CCD1	46	72	49	70	78.79	36.22	35.08	64.96	67.61	2.65
8	2011/03/07	B-CCD2	42	70	45	72	81.79	36.16	34.65	63.88	68.02	4.14
9	2011/03/21	A-CCD2	47	72	52	70	77.19	36.56	42.51	63.22	68.02	4.80
10	2011/04/07	B-CCD1	37	68	39	65	86.81	40.62	27.67	63.52	68.64	5.12
11	2011/04/14	B-CCD2	35	68	32	70	89.69	38.18	28.66	63.82	68.59	4.77
12	2011/04/26	B-CCD2	37	68	34	68	88.75	38.68	29.47	64.19	68.29	4.10
13	2011/05/07	B-CCD1	56	68	59	63	71.86	40.40	33.82	63.52	67.76	4.23
14	2011/05/16	A-CCD2	55	68	60	63	72.25	40.68	42.63	64.21	68.62	4.42
15	2011/05/22	B-CCD1	50	68	53	70	75.76	37.89	42.07	64.42	68.07	3.64
16	2011/05/30	B-CCD1	52	68	54	63	75.75	40.41	27.21	63.44	67.70	4.26
17	2011/06/03	A-CCD2	42	64	39	63	86.12	42.13	33.99	63.23	68.88	5.64
18	2011/06/25	B-CCD2	44	64	42	63	83.64	42.05	36.54	63.59	68.75	5.16
19	2011/07/07	B-CCD2	46	60	43	63	83.23	43.56	34.34	63.64	68.10	4.46
20	2011/07/21	A-CCD1	44	60	42	63	84.67	43.56	39.14	63.85	68.24	4.40
21	2011/08/15	B-CCD2	43	60	40	63	85.57	43.71	38.56	64.02	68.17	4.16
22	2011/08/23	B-CCD2	43	60	43	63	84.68	43.34	31.84	63.17	67.42	4.24
23	2011/09/20	B-CCD1	44	60	44	63	86.54	44.65	34.63	63.52	67.60	4.08
24	2011/09/27	B-CCD2	39	64	37	63	87.74	42.27	26.31	64.60	67.94	3.34
25	2011/10/20	A-CCD1	44	60	39	63	86.23	43.30	45.68	63.06	67.46	4.40
26	2011/10/31	A-CCD1	44	60	39	63	82.87	43.19	29.34	64.86	68.69	3.83
27	2011/11/15	B-CCD1	46	60	49	60	81.63	44.33	28.12	64.46	67.39	2.93
28	2011/11/30	B-CCD2	44	64	41	63	84.22	42.34	33.45	63.98	67.45	3.47
29	2011/12/10	B-CCD2	45	60	41	63	84.32	43.45	29.96	64.16	67.34	3.18
30	2011/12/28	B-CCD2	45	60	41	63	84.07	43.64	35.79	63.47	67.46	3.98

* The overall accuracy was validated by using snow cover classification result from HJ-1A/B.

In order to demonstrate more convincing the modification, we selected 30 snow cover areas in a whole year of 2011, whose SZA is larger than the optimal threshold of 22.37°, to compare the overall accuracies between MOD10A1 and the modified snow cover product by means of HJ-1 A/B validation. From Table S1, we can see that comparing to the overall accuracies of the original MOD10A1, the overall accuracies of the modified dataset all increased evidently. The average value of the increased accuracy was 4.11%. Therefore this result adequately confirmed that our modified snow cover product is practical and effective.



© 2016 by the authors; licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC-BY) license (<http://creativecommons.org/licenses/by/4.0/>).