SDMI ORTHO 2012 Acceptance Report

Acceptance Overview for 20130916 delivery

NM2_13_c_20130913: 121 Tiles 45,900 km²

The 20130916 delivery of NM2_13_c_20130913 has been inspected and evaluated by UAF-GINA staff. The evaluation has determined that no corrections or modifications are necessary and this delivery complies with the Scope of Work under this contract.

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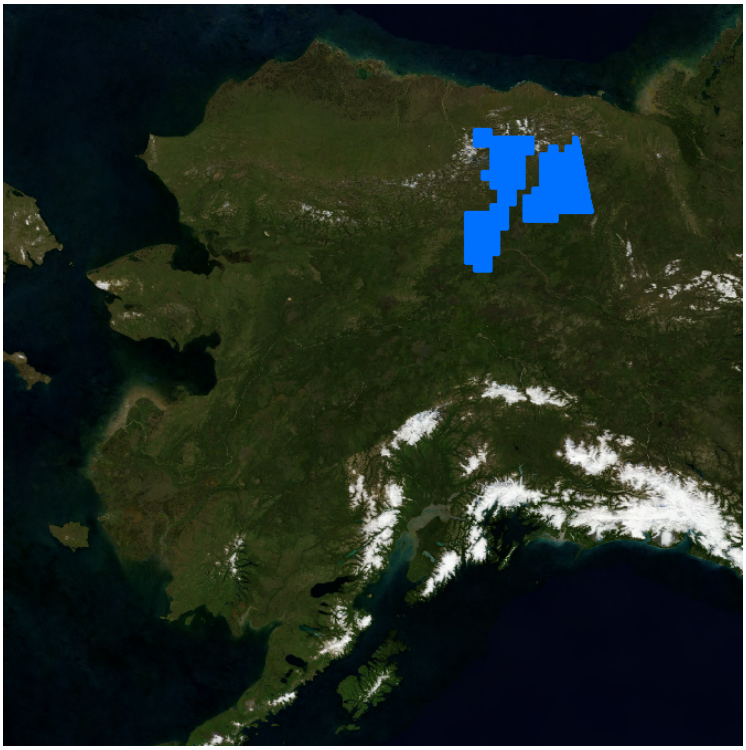
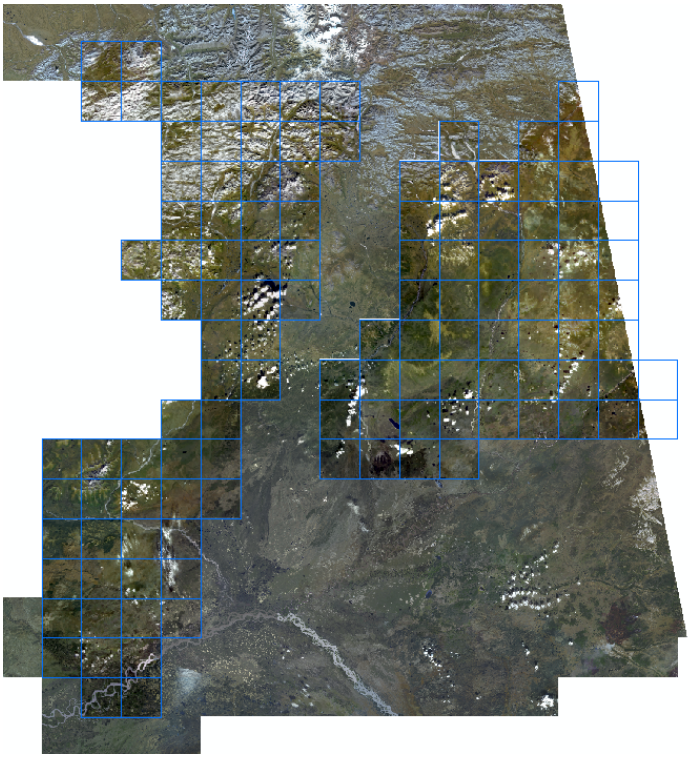
Figure 1 - Block Coverages for 20130916 Delivery



Radiometric Accuracy Assessment

Radiometric quality for all three image types (CIR, PAN, and RGB) was visually evaluated based on these categories: cloud/shadow, haze, blend, contrast, saturation, artifact, blurry, ghosting, color, location, and nodata. All images were within allowable limits.

NM2_13_c_20130913 - Review



Cloud cover and shadow is a concern in this delivery. 1036_1202, 1036_1200, 1036_1198 tiles contain heavy cloud cover in parts, Figure 3. Most of the Brooks Range in this delivery has issues associated with snow induced saturation and low sun angle shadow casting in both PAN and MS imagery. The degree of detail captured in this imagery is diminished, Figure 4. Red roofs or objects in this delivery appear golden orange, Figure 5.

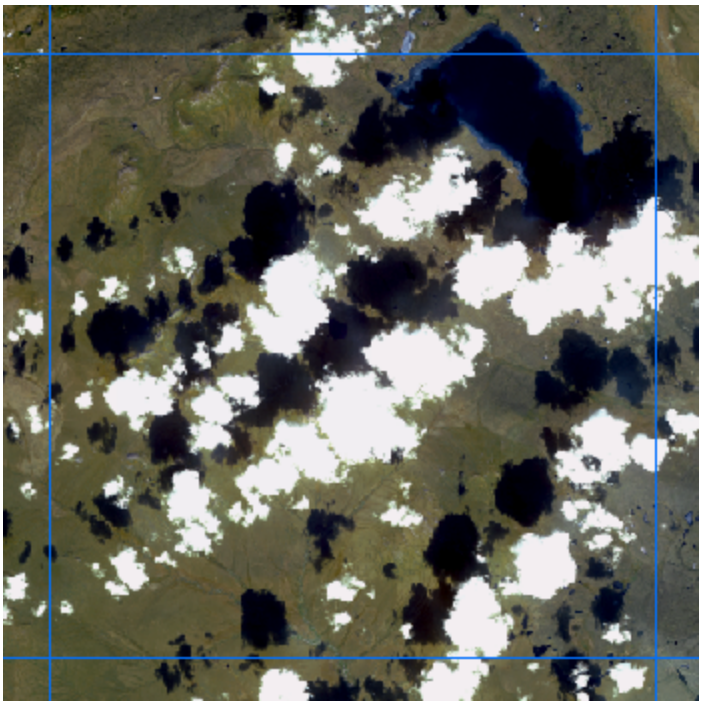


Figure 3. The block delivery presents several tiles containing heavy cloud cover and shadowing.

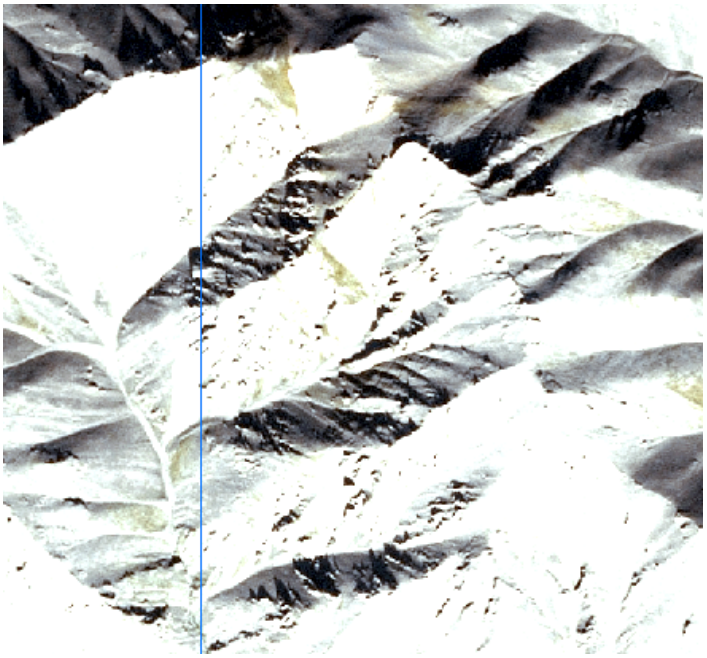


Figure 4. Effective detail captured from Brooks Range is diminished by snow cover saturation and low sun angle shadow casting. Stark contrast between shadow and snow confers a binary quality to the imagery in these regions.

Figure 5. Radiometric variation- red appears golden orange in delivery- SDMI imagery left and DCCED villages imagery right.

Geometric Accuracy Assessment

The geometric accuracy assessment was based on methodology developed by i-cubed, *Alaska SDMI QC Setup & Procedures.* The RMSE was calculated based on the i3tools toolbox, RMS Reporter tool developed for use in ArcMap. Control points were chosen for each block from the base imagery, and were adjusted if necessary. The RMSE was calculated based on these differences. Control points were chosen based on being photo identifiable in the base imagery. High resolution base imagery used for the northern block provided extremely limited coverage of the NM2_13_c_20130913 delivery.

NM2_13_c_20130913 - Review

The northern block images (Figure 1) (CIR, PAN, and RGB) were compared to base images obtained from the DCCED Village Profiles collection. A total of 30 ground control points were analyzed and all points fell within the National Map Accuracy Standard (NMAS) CE90 of 12.2 meters and generated an RMSE of less than 3.3 meters (Figure 4). These errors are acceptable base on map accuracy of the National Standard for Spatial Data Accuracy (NSSDA) CE95 of 13.9 meters or a RMSE of 8 meters.

Figure 4 - Block RMS Report for RGB

FID	POINT_X1	POINT_X2	POINT_Y1	POINT_Y2	X_Diff.	Y_Diff.	XY_Diff.	Ratio_to_R
0	352339.6	352341.4	2041059	2041057	-1.79917	1.905	2.620313	0.86
1	351663.2	351661.2	2040361	2040364	1.984379	-2.64584	3.307299	1.08
2	352652.4	352652.4	2039282	2039282	0	0	0	0
3	354068.2	354065.7	2041290	2041289	2.540005	1.27	2.839811	0.93
4	355297.5	355295.2	2039107	2039108	2.301879	-1.23032	2.610045	0.86
5	354849.7	354849	2038598	2038598	0.727606	-0.92604	1.177693	0.39
6	358001	358002.3	2039634	2039632	-1.27	1.48167	1.951474	0.64
7	358185.7	358185.7	2041437	2041437	0	0	0	0
8	355775.7	355775.7	2040628	2040628	0	0	0	0
9	355944	355941.8	2039709	2039710	2.222504	-1.05833	2.461623	0.81
10	331013	331012	1914881	1914879	0.926044	2.24896	2.432155	0.8
11	334379.8	334377.4	1914345	1914344	2.381255	1.32292	2.724058	0.89
12	335738.4	335736.6	1916010	1916009	1.799171	0.84666	1.988429	0.65
13	335679.9	335677	1918457	1918456	2.910422	1.32292	3.196979	1.05
14	332054.2	332049.6	1917441	1917441	4.630217	-0.33073	4.642014	1.52
15	333065.3	333063.2	1917084	1917080	2.116671	3.17501	3.815886	1.25
16	332287.6	332283.8	1912180	1912181	3.810008	-0.84667	3.902949	1.28
17	332982.1	332978.3	1915776	1915779	3.810008	-2.95011	4.818642	1.58
18	298012.4	298017.3	1837529	1837526	-4.86834	2.64583	5.540865	1.82
19	298675.6	298675.6	1838317	1838317	0	0	0	0
20	297082.8	297085.5	1839467	1839467	-2.75167	-0.3175	2.769929	0.91
21	294450	294446.4	1839121	1839121	3.598341	0	3.598341	1.18
22	296792.6	296796	1838300	1838296	-3.38667	3.59834	4.941418	1.62
23	295852.6	295849.4	1837252	1837251	3.175006	0.79375	3.272721	1.07
24	294833.3	294831.4	1837318	1837320	1.905003	-1.48167	2.413376	0.79
25	295192.9	295189.9	1837106	1837108	2.96334	-2.54	3.902946	1.28
26	293524	293524	1836303	1836303	0	0	0	0
27	295559.9	295557.8	1838669	1838669	2.063754	0.47625	2.117993	0.69
28	334815.2	334812.1	1919195	1919197	3.069173	-1.90501	3.612324	1.18
29	334292.1	334289.7	1917112	1917114	2.434172	-1.53459	2.877527	0.94

Sum of Sq. .	196.9791	82.3511	279.3303
n = 30			
RMS in X,Y	2.562415	1.656815	
RMS	3.051395		
Average Er	2.651227		

Contro l 1 point sh file : NM2_ rol
Contro l 2 point sh file : NM2_13_RGB
Contro l 1 id field : FID
Contro l 2 id field : FID
Projec tion for RM : NAD_198: aska_Albers
No. of excluded p s : 0