SDMI ORTHO 2012 Acceptance Report

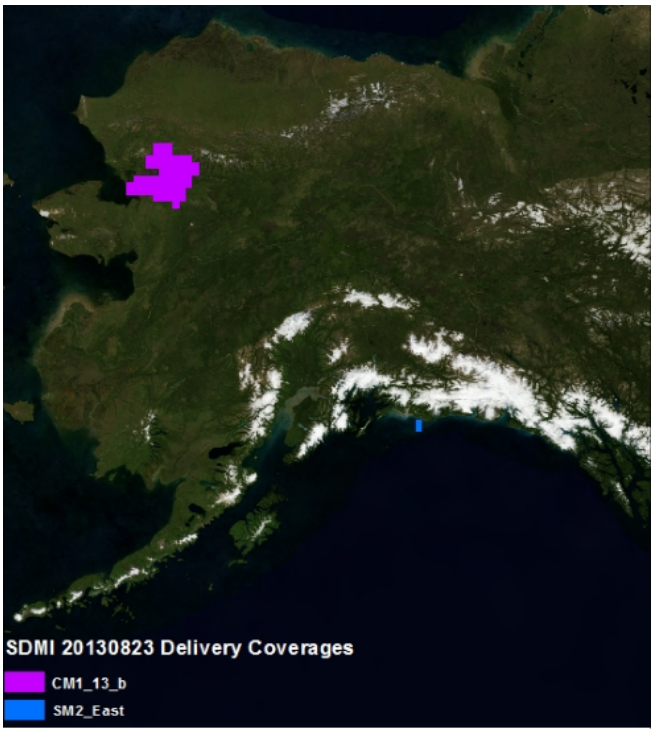
Acceptance Overview for 20130822 delivery

CM1_13_b_20130821: 61 Tiles 24,400 km²

SM2_East_13_a_20130821: 2 Tiles 800 km²

The 20130822 delivery of CM1_13_b_20130821 (Northern Block) SM2_East_13_a_20130821 (Southern Block) 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.

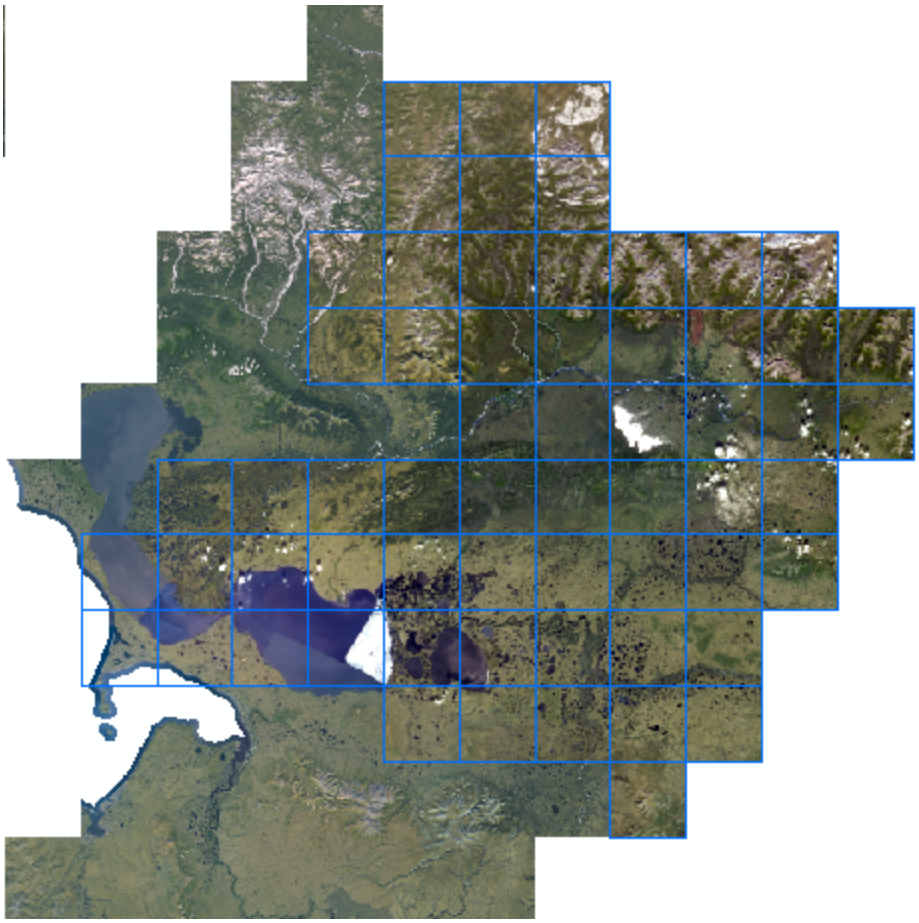
Figure 1 - Northern and Southern Block Coverages for 20130822 Delivery



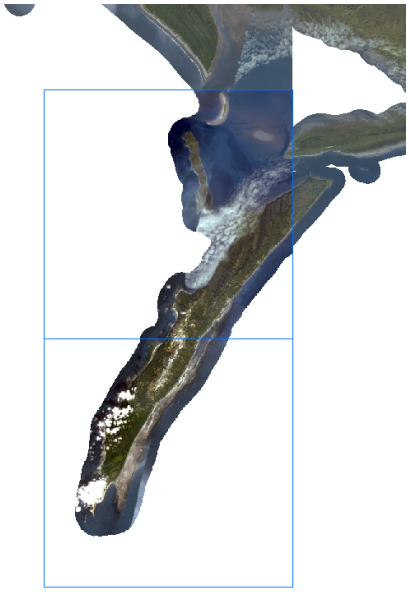
Radiometric Accuracy Assessment

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.

Northern Block - CM1_13_b_20130821 - **Passed**



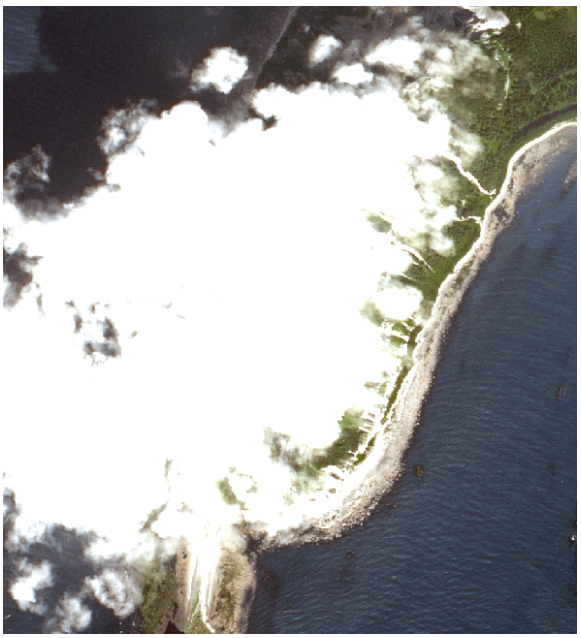
Southern Block - SM2_East_13_a_20130821- **Passed**



The Kobuk Dunes in the CM1 block appear saturated in both PAN and MS, Figure 2. The SM2 block exhibited heavy cloud cover in parts, Figure 3. The cloud artifacts do not exceed 5% coverage in any of the tiles and are derived from source imagery that met the projects requirements of less than 10% cloud cover in a source scene.

Figure 2-CM1_13_b_20130821 Kobuk Dunes saturation

Figure 3-SM2_East_13_a_20130821 cloud cover



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 in Northern and Southern block delivery images if necessary and the RMSE was calculated based on these differences. Control points were chosen based on them being photo identifiable in the base imagery. High resolution base imagery used for the northern block provided extremely limited coverage of the CM1_13_b_20130821 delivery. There was no high resolution base imagery available for the southern block SM2_East_13_a_20130821 delivery. Assessment for this block was made by alignment to adjacent SDMI ortho imagery and relative comparison among CIR, PAN, and RGB imagery.

Northern Block - CM1_13_b_20130821 - Passed

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 15 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 1.8 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.

Southern Block - SM2_East_13_a_20130821 - Passed

The southern block images (Figure 1) (CIR, PAN, and RGB) were located where there exists no suitable base images for comparison. The margins of the delivery were checked for continuity with adjacent SPOT 5 Ortho imagery. The CIR, PAN, and RGB imagery were checked for relative variation.

Figure 4 - Northern Block RMS Report

FID	POINT_X1	POINT_X2	POINT_Y1	POINT_Y2	X_Diff.	Y_Diff.	XY_Diff.	Ratio_to_R
0	-310320	-310320	1891162	1891162	0	0	0	0
1	-313507	-313507	1890699	1890703	-0.26458	-4.23335	4.24161	2.35
2	-314829	-314829	1890375	1890375	0	0	0	0
3	-315654	-315653	1887809	1887808	-1.19063	1.45521	1.880221	1.04
4	-314067	-314065	1886917	1886914	-1.85209	2.64584	3.229659	1.79
5	-314194	-314194	1888621	1888621	0	0	0	0
6	-309386	-309386	1888746	1888746	0	0	0	0
7	-309346	-309348	1889718	1889718	1.852087	0.52917	1.9262	1.07
8	-307607	-307608	1889898	1889896	1.058336	1.32292	1.694164	0.94
9	-306192	-306192	1889792	1889792	0	0	0	0
10	-302865	-302866	1889366	1889365	0.15875	1.90501	1.911613	1.06
11	-304033	-304033	1889495	1889495	0	0	0	0
12	-303701	-303701	1892046	1892046	0	0	0	0
13	-306967	-306967	1891070	1891068	0	1.66688	1.66688	0.92
14	-311583	-311583	1889286	1889284	0.132292	1.98438	1.988785	1.1

Sum of Sq.	9.51083	39.41481	48.92564
n = 15			
RMS in X,Y	0.796276	1.621004	
RMS	1.80602		
Average Er	1.235942		

Contro l 1 point sh file : CM1_b_Control
Contro l 2 point sh file : Z:\wo l\SDMI.OR 2013.08.22 M1_13_b_ rtho_Image GB\CM1_b_RGB.shp
Contro l 1 id field : FID
Contro l 2 id field : FID
Projec tion for RM : NAD_198 a_Albers
No. of excluded p s : 0