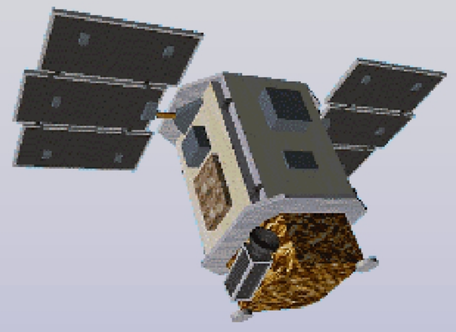
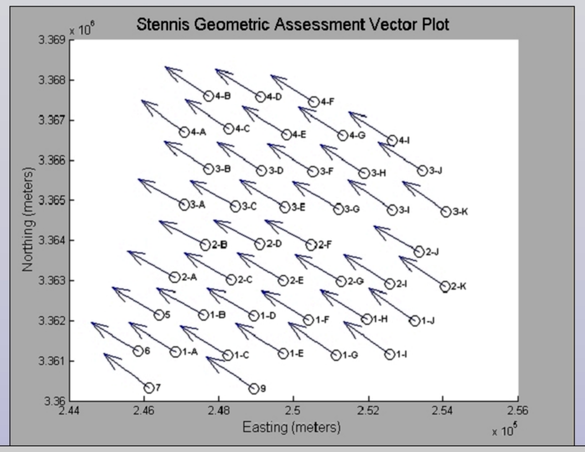
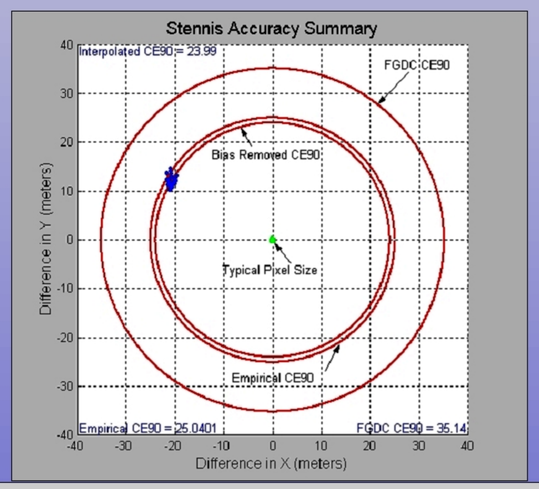
SSC Geometric Accuracy Assessment of DigitalGlobe QuickBird Imagery



QuickBird imagery collected on February 17, 2002.



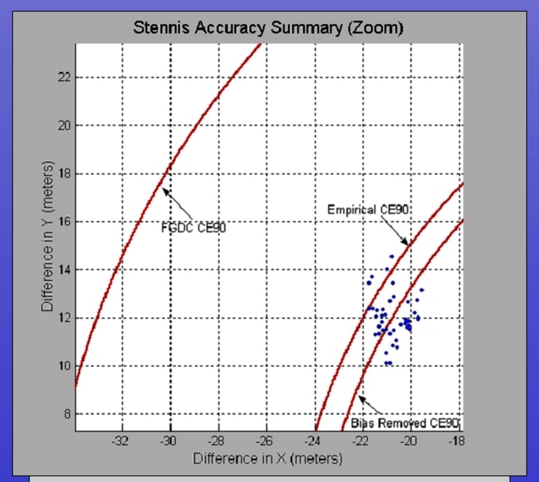
Vector plot showing geolocational errors associated with each SSC geodetic target. Vector magnitudes have been magnified for display purposes.



Data scatter plot showing the geolocational errors present in this imagery. Additionally, the CE_{90} (calculated by the FGDC standard method and by a percentile method) and the typical pixel size are shown on this plot.

Task	Site	Date	Product	Resampling	Geo Algorythm	Band	RMSEx	RMSEy	RMSEr	FGDC CE90	Interpolated CE90	Percentage CE90
1793	SSC	2/17/2002	Standard	4x4 CC	2.0 or 2.1	MS	20.71	13.05	24.48	36.22	24.54	25.80
						PAN	20.72	12.02	23.96	35.14	23.99	25.04
1829		2/17/2002	Standard	MTF	2.0 or 2.1	MS	20.61	12.77	24.25	35.82	24.3	25.50
						PAN	20.73	12.13	24.02	35.26	24.05	25.11
NIMA		11/14/2002	Standard	4x4 CC	Unknown	MS	76.26	71.3	104.4	158.33	153.8	160.29
1787	Brookings, SD	6/27/2002	Standard	4x4 CC	2.0 or 2.1	MS	17.41	9.44	19.80	28.81	29.84	21.72
						PAN	18.14	9.65	20.54	29.82	35.78	22.59
1787		7/20/2002	Standard	4x4 CC	2.0 or 2.1	MS	9.99	19.60	22.00	31.75	37.87	23.58
						PAN	9.29	19.47	21.58	30.86	37.49	23.44
1797		8/7/2002	Standard	4x4 CC	2.0 or 2.1	MS	2.85	13.12	13.43	17.14	21.09	14.67
						PAN	3.31	13.34	13.75	17.87	21.43	15.90
NIMA		8/25/2002	Standard	4x4 CC	2.0 or 2.1	MS	1.64	2.01	2.60	3.92	4.52	3.74
						PAN	1.59	1.44	2.15	3.25	3.79	3.51
NIMA		9/7/2002	Standard	4x4 CC	2.0 or 2.1	MS	24.70	8.70	26.19	35.84	41.53	28.50
						PAN	25.05	8.43	26.43	35.92	42.48	28.44
NIMA		9/7/2002	Ortho	4x4 CC	2.0 or 2.1	MS	1.71	0.89	1.93	2.79	3.04	3.19
						PAN	1.88	1.16	2.21	3.26	3.63	3.10

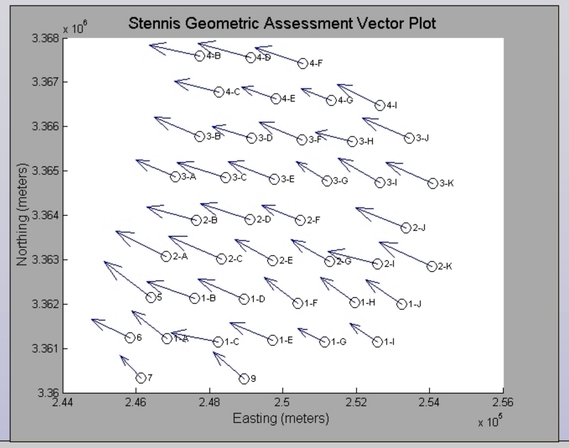
Depiction of data analyzed and computational results. The data suggests that a bias exists within the imagery and that once this bias is removed, the geolocational accuracy will be greatly improved.



Magnified image of data cloud from the above data scatter plot.

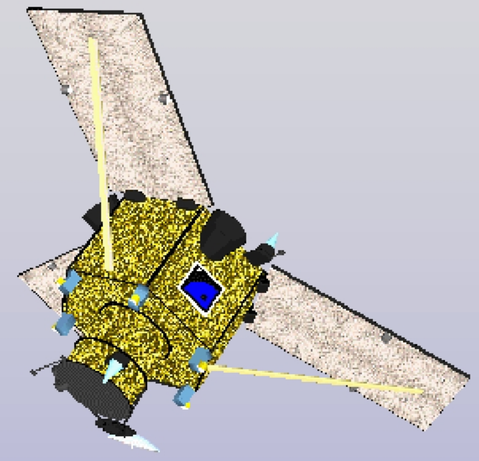
This work was supported by the NASA Earth Science Applications Directorate under contract number NAS 13-650 at the John C. Stennis Space Center, Mississippi.

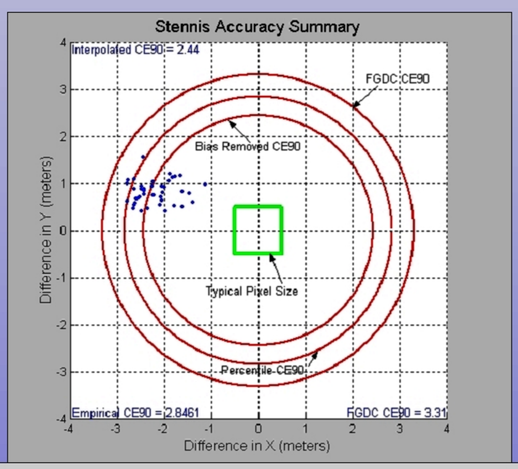
SSC Geometric Accuracy Assessment of Space Imaging IKONOS Imagery



Vector plot showing geolocational errors associated with each SSC geodetic target. Vector magnitudes have been magnified for display purposes.

IKONOS imagery collected on February 17, 2002





Data scatter plot showing the geolocational errors present in this imagery. Additionally, the CE_{90} (calculated by the FGDC standard method and by a percentile method) and the typical pixel size are shown on this plot.

Contact Information:
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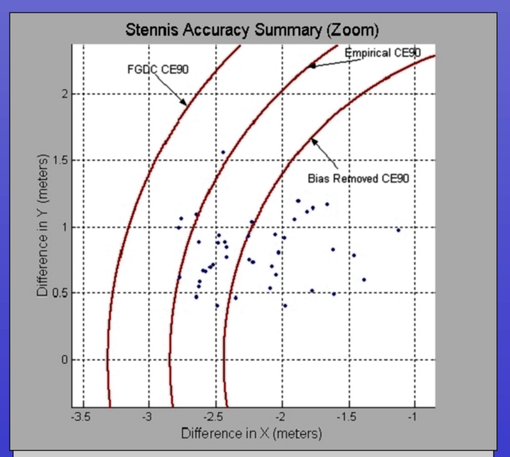
POID	Site	Date	Product	Resampling	MTFC	Band	RMSEx	RMSEy	RMSEr	FGDC CE90	Interpolated CE90	Percentile CE90
100264	Stennis Space Center, MS	11/24/03	Standard Original	CC	On	PAN	0.92	1.57	1.82	2.67	1.93	2.23
						RED	1.25	1.94	2.31	3.42	3.06	2.94
88157		01/15/02	Standard Master	CC	On	PAN	3.72	1.19	3.91	5.27	3.97	4.46
						BLUE	4.11	2.25	4.69	6.82	5.12	6.50
						GREEN	4.22	2.07	4.70	6.76	5.23	6.56
						NIR	4.08	2.00	4.54	6.53	4.89	6.67
						RED	4.19	1.92	4.61	6.55	5.07	6.44
87053		01/15/02	Standard Original	CC	Off	PAN	0.89	0.62	1.09	1.62	1.44	1.50
87052		01/15/02	Standard Original	NN	Off	PAN	0.87	0.61	1.06	1.59	1.41	1.55
88160		01/15/02	Standard Original	CC	On	PAN	2.56	2.56	3.62	5.50	3.74	4.48
						BLUE	2.45	2.02	3.17	4.79	3.62	4.33
						GREEN	2.67	2.07	3.38	5.08	3.89	4.64
						NIR	2.58	2.29	3.44	5.22	3.86	4.60
						RED	2.88	2.29	3.68	5.55	4.14	4.85
87051		01/15/02	Standard Original	NN	On	PAN	0.95	0.57	1.11	1.64	1.49	1.69
88735		02/17/03	Standard Original	CC	On	PAN	2.24	0.84	2.39	3.31	2.44	2.85
						RED	2.88	1.93	3.47	5.16	4.01	4.78
94682	Brookings, SD	06/27/02	Standard Original	CC	On	PAN	4.39	4.85	6.54	10.95	9.91	8.58
						MS	4.21	4.27	6.00	10.04	9.10	7.76
95101		07/03/02	Standard Original	CC	On	PAN	2.12	2.16	3.03	5.07	4.59	3.90
						MS	2.01	2.31	3.06	5.15	4.64	4.92
94684		07/22/02	Standard Original	CC	On	PAN	1.93	2.70	3.32	5.56	4.97	5.22
						MS	2.29	2.63	3.49	5.85	5.28	5.08

Depiction of data analyzed and computational results. The data suggests that a bias exists within the imagery and that once this bias is removed, the geolocational accuracy will be greatly improved.



Magnified image of data cloud from the above data scatter plot.

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