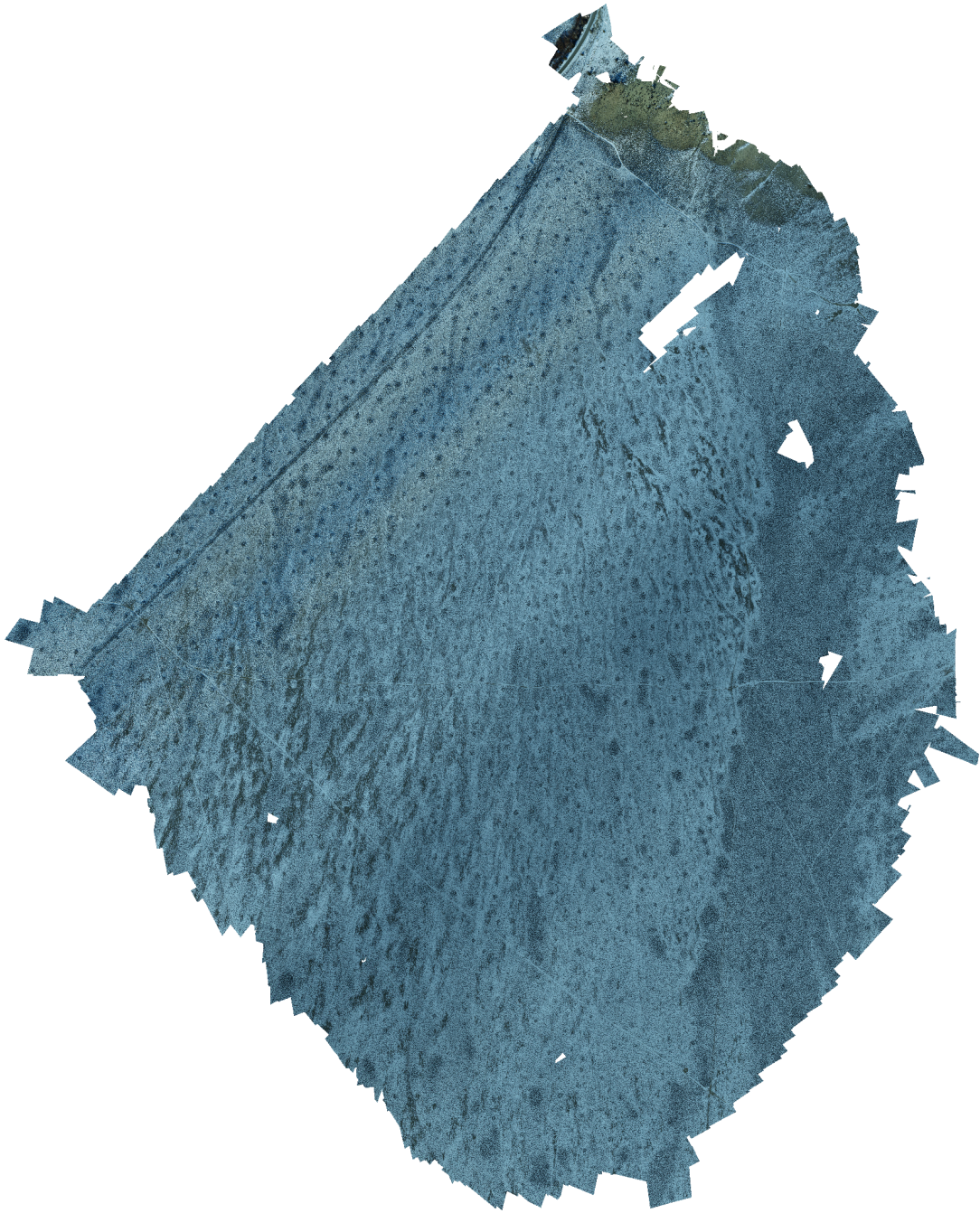


Agisoft PhotoScan

Processing Report

17 November 2015



Survey Data

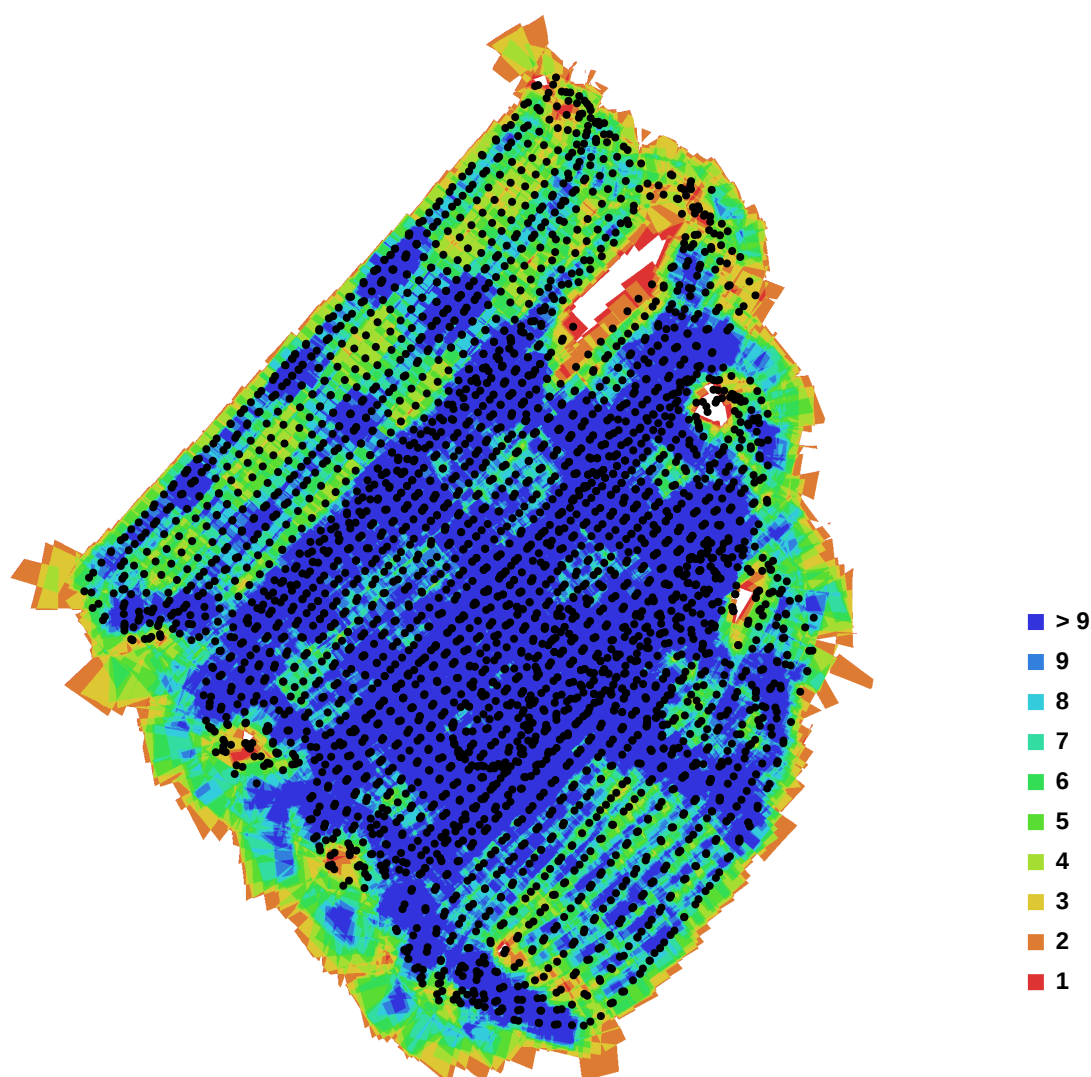


Fig. 1. Camera locations and image overlap.

Number of images:	3544	Camera stations:	3544
Flying altitude:	132.503 m	Tie-points:	16477526
Ground resolution:	0.0246349 m/pix	Projections:	76536937
Coverage area:	2.46683 sq km	Error:	0.400164 pix

Camera Model		Resolution	Focal Length	Pixel Size	Precalibrated
E-420	(25 mm)	3648 x 2736	25 mm	unknown	No
E-420	(25 mm)	3648 x 2736	25 mm	unknown	No
E-420	(25 mm)	3648 x 2736	25 mm	unknown	No
E-420	(25 mm)	3648 x 2736	25 mm	unknown	No

Table. 1. Cameras.

Camera Calibration

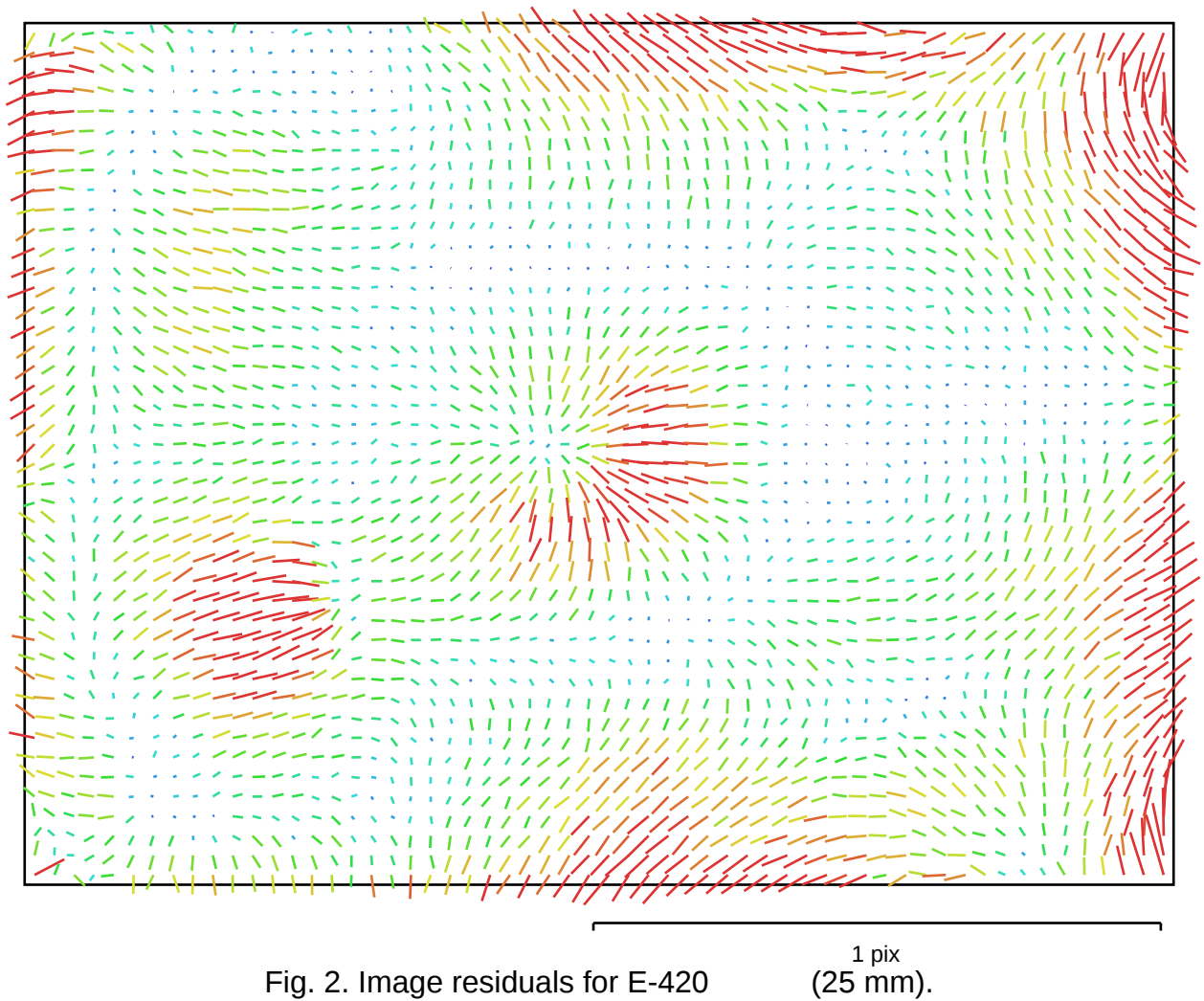


Fig. 2. Image residuals for E-420

1 pix
(25 mm).

E-420 (25 mm)

Type:	Frame	K1:	-0.183606
Fx:	5277.95	K2:	0.223147
Fy:	5278.64	K3:	-0.363636
Cx:	1829.3	K4:	0
Cy:	1347.43	P1:	0.000128125
Skew:	3.45069	P2:	0.000516383

Camera Calibration

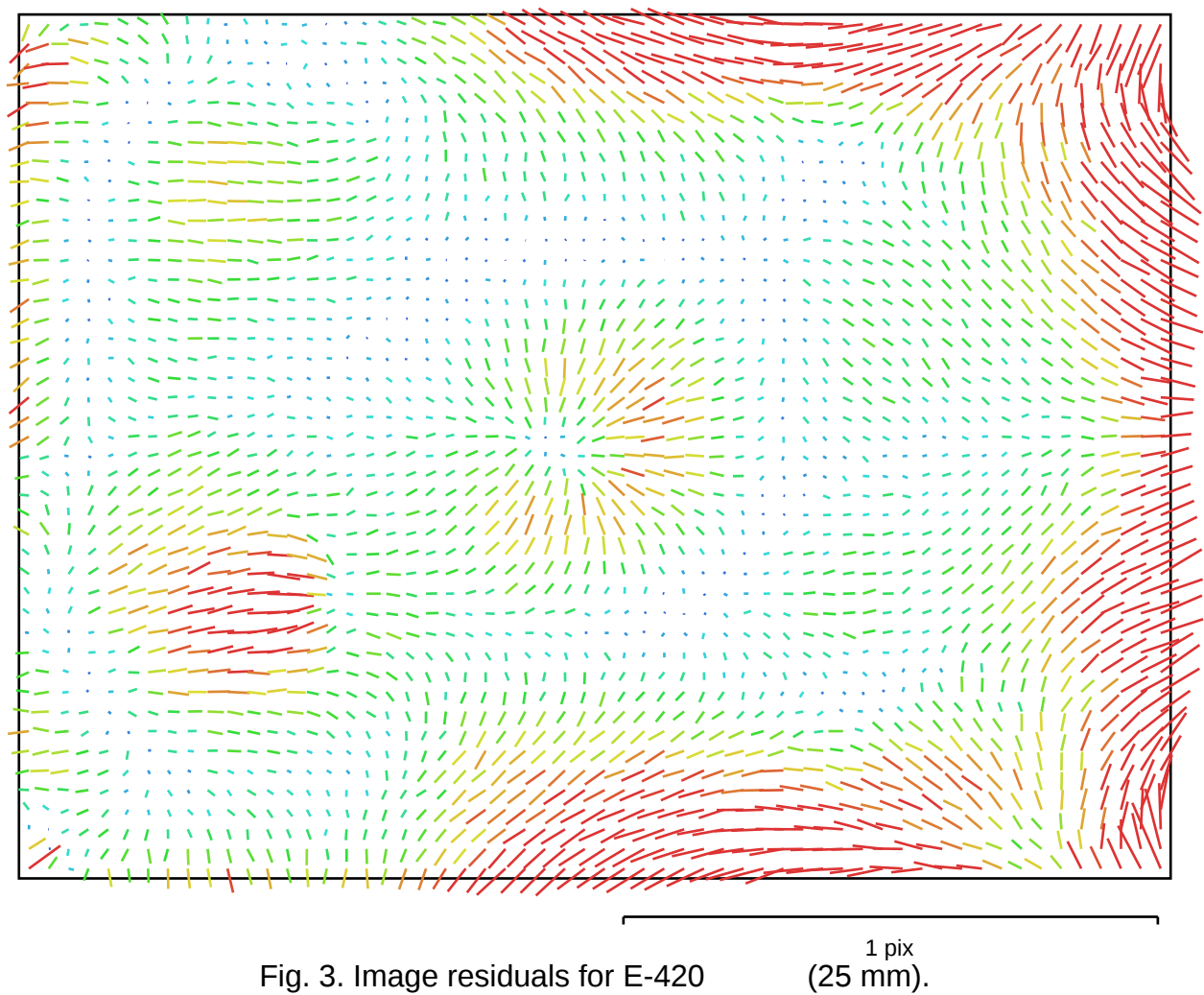


Fig. 3. Image residuals for E-420 (25 mm).

E-420 (25 mm)

Type:	Frame	K1:	-0.184879
Fx:	5291.57	K2:	0.229141
Fy:	5292.43	K3:	-0.383388
Cx:	1821.79	K4:	0
Cy:	1347.32	P1:	3.52144e-007
Skew:	3.25361	P2:	0.000499179

Camera Calibration

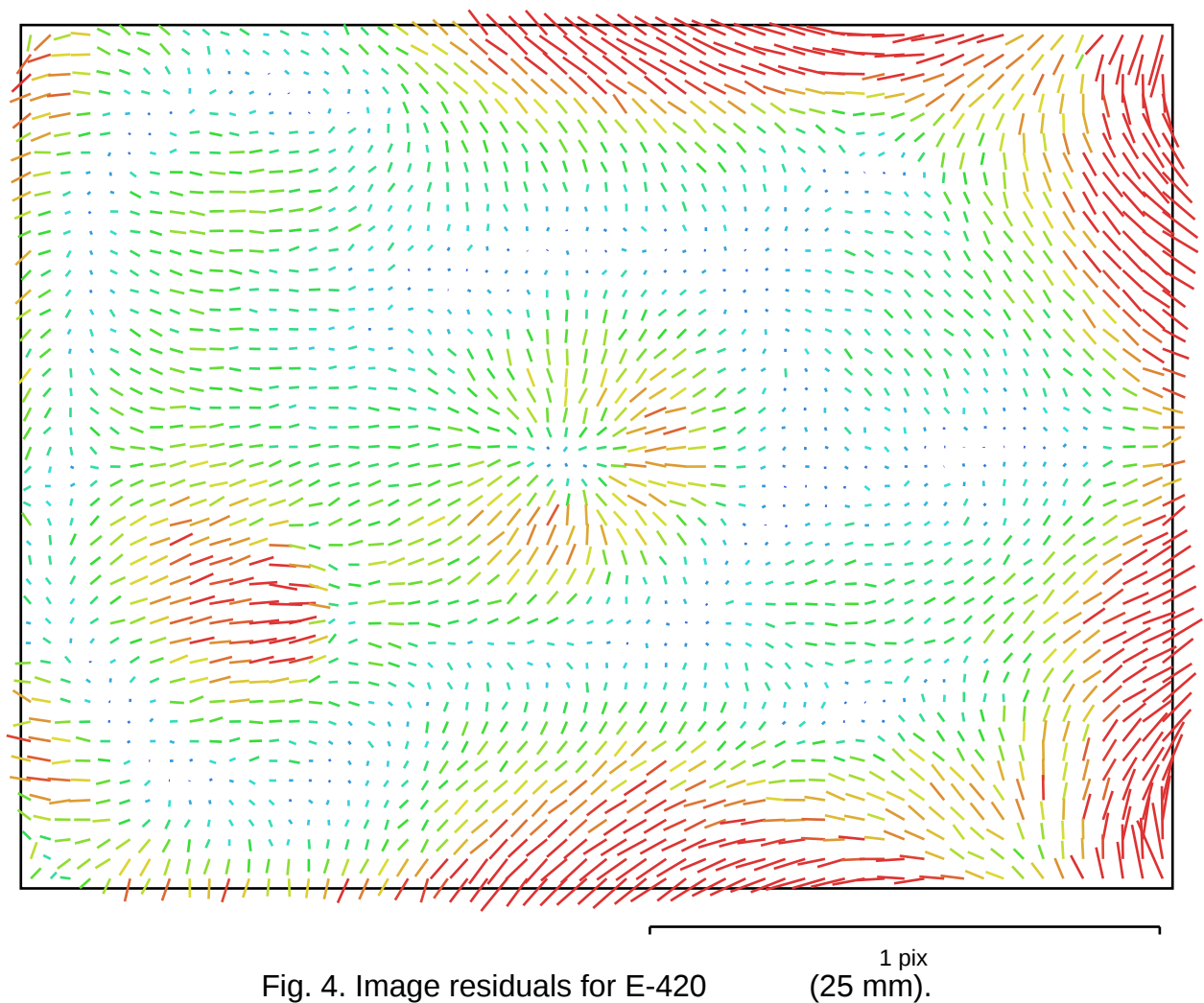


Fig. 4. Image residuals for E-420

1 pix
(25 mm).

E-420 (25 mm)

Type:	Frame	K1:	-0.183489
Fx:	5284.2	K2:	0.220219
Fy:	5284.28	K3:	-0.355669
Cx:	1822.28	K4:	0
Cy:	1348.11	P1:	8.04127e-005
Skew:	2.79842	P2:	0.000536744

Camera Calibration

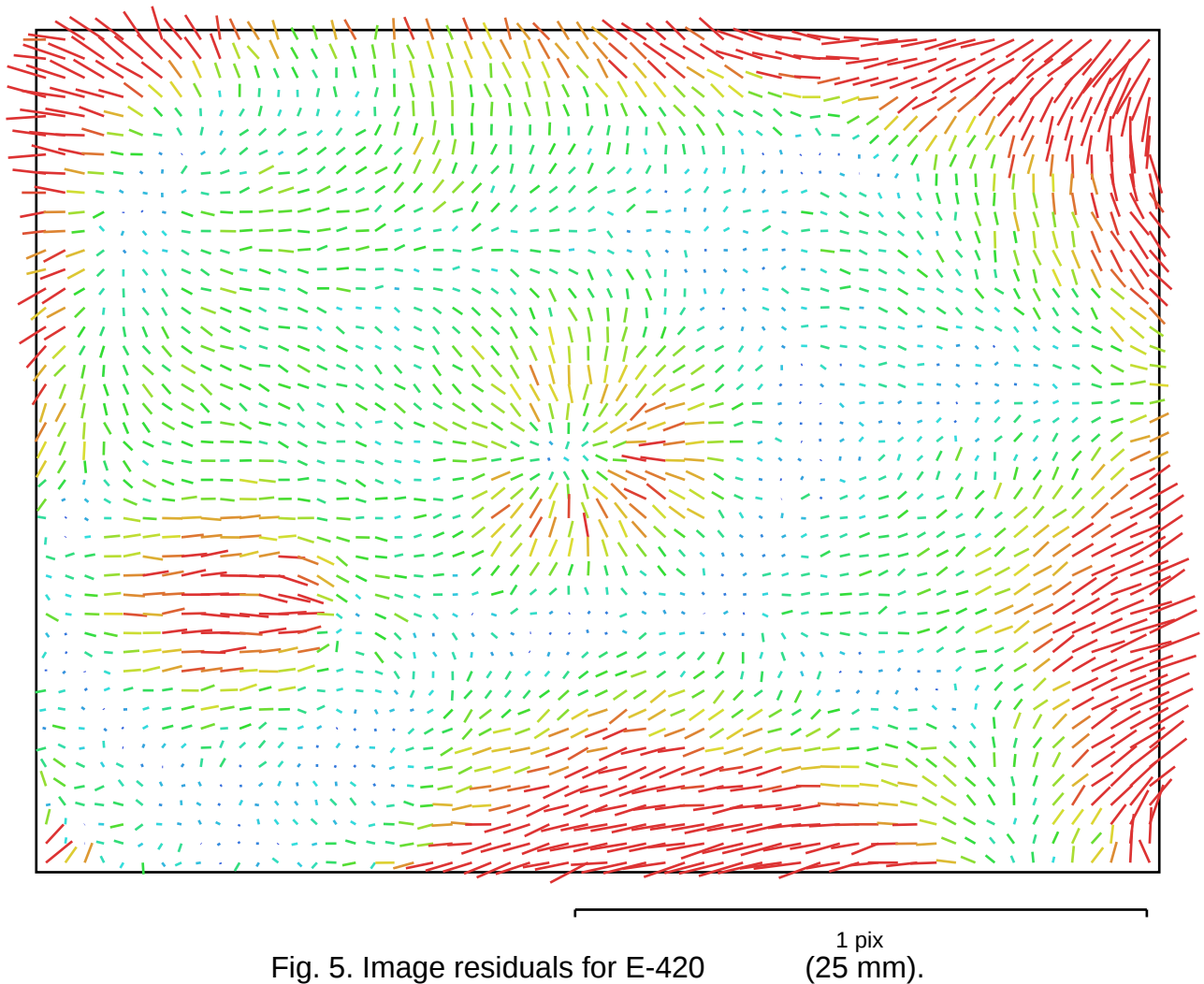


Fig. 5. Image residuals for E-420

E-420 (25 mm)

Type:	Frame	K1:	-0.184007
Fx:	5278.31	K2:	0.220442
Fy:	5278.85	K3:	-0.354213
Cx:	1829.09	K4:	0
Cy:	1347.58	P1:	8.57696e-005
Skew:	3.19948	P2:	0.000370933

Ground Control Points

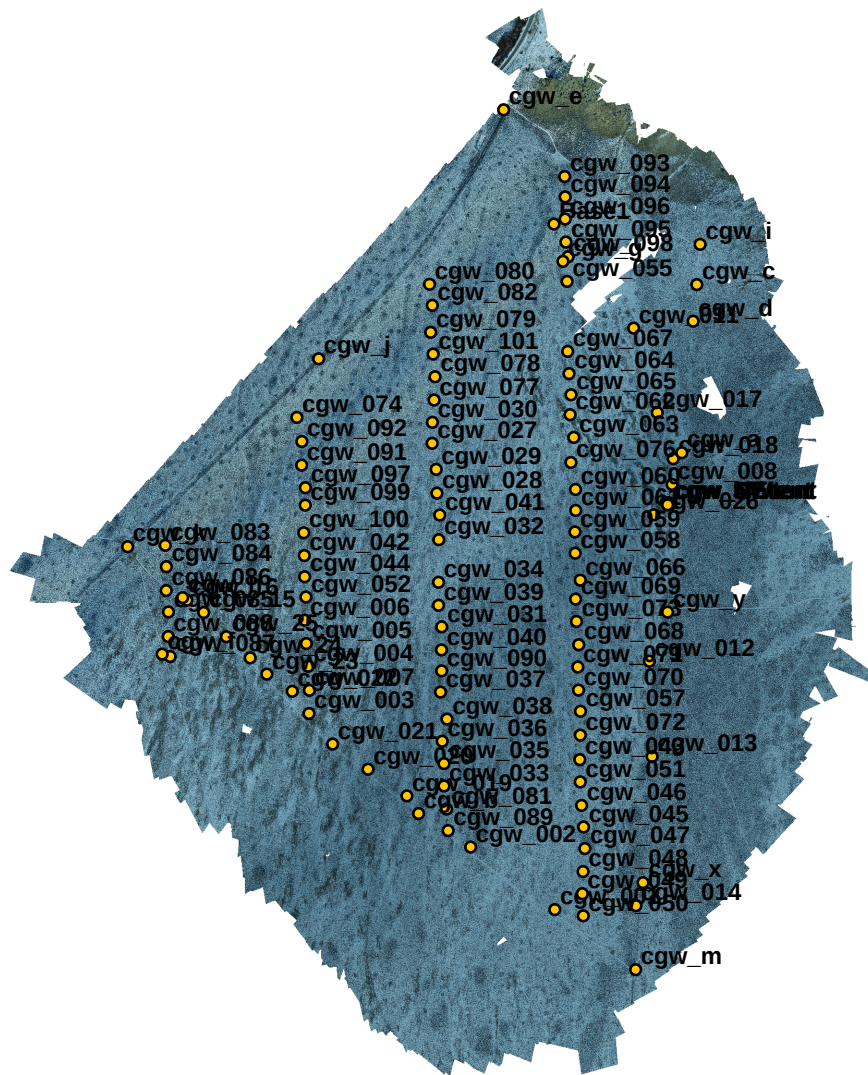


Fig. 6. GCP locations.

Label	X error (m)	Y error (m)	Z error (m)	Error (m)	Projections	Error (pix)
Base1	-0.016614	0.008836	0.372701	0.373175	7	0.778297
cgw_001	0.096641	-0.119184	-0.007862	0.153643	7	0.266626
cgw_002	-0.023771	0.054626	-0.003458	0.059675	11	0.457657
cgw_003	0.091391	0.023422	-0.021984	0.096872	9	0.288599
cgw_004	0.093683	0.055605	0.037384	0.115178	6	0.284733
cgw_005	-0.035979	-0.029713	-0.023799	0.052381	5	0.318390
cgw_006	0.031823	0.037063	0.000755	0.048856	16	0.290302
cgw_007	0.053661	-0.000962	-0.019691	0.057168	8	0.478578
cgw_008	-0.059027	-0.056448	-0.018755	0.083799	11	0.458570
cgw_011	-0.053731	0.097798	-0.008781	0.111931	8	0.135861

Label	X error (m)	Y error (m)	Z error (m)	Error (m)	Projections	Error (pix)
cgw_012	-0.191533	-0.046436	0.013371	0.197535	10	0.348436
cgw_013	-0.011422	-0.108639	0.000325	0.109238	23	0.366945
cgw_014	-0.069456	0.015989	0.016602	0.073181	5	0.277720
cgw_017	-0.042767	0.091235	0.022352	0.103211	17	0.776196
cgw_018	-0.027776	0.013064	-0.024190	0.039081	7	0.206739
cgw_019	-0.040003	-0.097611	0.006584	0.105695	7	0.420372
cgw_020	-0.032732	-0.042431	-0.020611	0.057416	10	0.139659
cgw_021	0.085033	-0.020947	0.019517	0.089723	18	0.522413
cgw_022	-0.015646	0.051732	0.032886	0.063265	5	0.407462
cgw_026	0.077400	0.117293	-0.012619	0.141095	19	0.409657
cgw_027	0.107069	-0.003473	-0.017144	0.108488	10	0.385937
cgw_028	0.036306	-0.005984	-0.050829	0.062750	13	0.353764
cgw_029	0.058428	0.014956	-0.005768	0.060587	10	0.421392
cgw_030	-0.037336	0.034099	0.085094	0.098984	11	0.355715
cgw_031	0.053585	0.005162	0.008481	0.054497	15	0.479562
cgw_032	-0.104591	0.054920	0.066470	0.135549	12	0.669198
cgw_033	-0.112455	0.037854	-0.009036	0.118999	11	0.393705
cgw_034	0.050219	0.001760	-0.015560	0.052604	11	0.429310
cgw_035	-0.011197	-0.044891	0.054201	0.071262	17	0.428295
cgw_036	0.044547	0.074182	-0.026163	0.090399	18	0.596753
cgw_037	0.053142	0.012514	-0.017493	0.057329	15	0.343319
cgw_038	0.077391	-0.095069	-0.004163	0.122658	8	0.285691
cgw_039	-0.022013	-0.031793	-0.026966	0.047143	11	0.242817
cgw_040	0.071481	-0.090659	0.010813	0.115954	17	0.307986
cgw_041	0.093103	-0.052803	-0.003087	0.107079	14	0.364750
cgw_042	0.146239	-0.109030	-0.017932	0.183289	16	1.150606
cgw_043	0.012645	0.044995	-0.009320	0.047658	11	0.215731
cgw_044	0.064515	-0.045279	-0.014902	0.080215	16	0.430754
cgw_045	0.094959	-0.015492	0.056870	0.111765	6	1.169411
cgw_046	0.005945	-0.023392	-0.015101	0.028470	10	0.675975
cgw_047	-0.082121	0.062093	-0.001200	0.102960	7	0.598103
cgw_048	0.007332	0.087841	-0.010093	0.088722	11	0.352135
cgw_049	0.078634	0.016414	0.006698	0.080607	4	0.292413

Label	X error (m)	Y error (m)	Z error (m)	Error (m)	Projections	Error (pix)
cgw_050	-0.022850	-0.001492	0.010258	0.025091	8	0.368545
cgw_051	-0.007501	0.036123	-0.023289	0.043629	8	0.097001
cgw_052	0.016846	0.007629	0.007329	0.019893	15	0.411148
cgw_055	-0.023772	-0.023812	0.023390	0.040979	6	0.388308
cgw_057	0.049301	0.089202	0.012986	0.102743	15	0.314305
cgw_058	0.008784	-0.073953	-0.013355	0.075661	10	0.269248
cgw_059	-0.017301	-0.126412	0.007377	0.127804	12	0.481372
cgw_060	-0.069059	-0.104521	-0.007490	0.125498	25	0.425990
cgw_061	-0.029058	-0.023745	-0.012282	0.039485	17	0.455575
cgw_062	0.017454	0.048980	-0.009635	0.052882	14	0.259655
cgw_063	0.083814	-0.022076	-0.042026	0.096324	15	0.335270
cgw_064	0.041308	-0.040032	0.022938	0.061928	7	0.377340
cgw_065	-0.012774	-0.051744	-0.001357	0.053314	14	0.392082
cgw_066	0.089177	-0.038547	0.011696	0.097853	7	0.229994
cgw_068	-0.000340	0.019045	-0.013643	0.023430	22	0.272440
cgw_069	-0.042213	0.118525	0.021625	0.127662	17	0.312059
cgw_070	0.004718	-0.043768	0.020670	0.048633	27	0.587823
cgw_071	-0.033533	0.088264	-0.018518	0.096218	25	0.388010
cgw_072	0.001457	-0.069447	-0.003061	0.069530	8	0.338851
cgw_073	0.008012	0.029663	-0.013185	0.033435	23	0.276217
cgw_074	-0.799495	1.019203	0.275010	1.324235	4	0.706259
cgw_076	0.056619	-0.039742	0.050807	0.085829	13	0.622476
cgw_077	0.006539	-0.077597	-0.036818	0.086137	11	0.357270
cgw_078	-0.077975	-0.032054	-0.001299	0.084316	4	0.141571
cgw_079	0.048390	-0.094156	-0.009487	0.106287	11	0.387096
cgw_080	-0.008373	0.089160	-0.028809	0.094073	10	0.735835
cgw_081	-0.061886	0.032624	0.021033	0.073052	15	0.354933
cgw_082	-0.023839	-0.022379	-0.001136	0.032718	14	0.863298
cgw_083	0.107142	-0.075372	0.015256	0.131883	7	0.500673
cgw_084	0.060800	-0.154988	0.006033	0.166596	6	0.296631
cgw_085	0.210522	-0.167418	-0.041132	0.272104	10	0.770411
cgw_086	0.034154	-0.161036	0.041085	0.169668	8	0.854102
cgw_087	0.087554	0.019558	0.033060	0.095610	7	0.315055

Label	X error (m)	Y error (m)	Z error (m)	Error (m)	Projections	Error (pix)
cgw_088	0.128890	-0.185614	-0.013935	0.226406	4	0.269099
cgw_089	-0.020582	-0.017917	-0.007977	0.028430	15	0.438376
cgw_090	-0.049915	0.052140	0.008279	0.072654	14	0.317873
cgw_091	0.316723	-0.124769	-0.038112	0.342539	9	0.447169
cgw_092	0.322353	-0.322395	-0.065922	0.460647	6	0.515697
cgw_093	0.001645	0.036487	0.027613	0.045787	10	0.359816
cgw_094	0.099071	-0.017559	-0.100067	0.141904	8	0.518420
cgw_095	-0.090065	0.012000	-0.102572	0.137028	6	0.348638
cgw_096	-0.004350	0.014238	-0.234174	0.234647	6	0.386908
cgw_097	0.301971	-0.195831	0.003705	0.359931	8	0.425891
cgw_098	-0.012197	0.057579	0.055674	0.081017	5	0.351470
cgw_099	-0.667768	0.127037	0.048749	0.681490	5	0.846252
cgw_15	0.113219	-0.109370	0.034841	0.161227	12	0.409452
cgw_16	-0.679970	0.952894	-0.033411	1.171103	15	0.457396
cgw_23	-0.000616	-0.113772	-0.013994	0.114631	11	0.352506
cgw_24	-0.039477	-0.100153	0.003249	0.107701	12	0.346720
cgw_25	0.116480	-0.057625	-0.022726	0.131927	10	0.280650
cgw_100	0.077379	-0.032452	0.028240	0.088533	12	1.115236
cgw_101	-0.011725	-0.081229	0.002794	0.082118	6	0.322019
cgw_NEtent	0.012886	-0.049050	-0.030038	0.058943	20	0.849993
cgw_NWtent	0.058997	0.064102	0.084583	0.121425	19	0.422964
cgw_SEtent	0.019265	-0.001164	0.047292	0.051078	19	1.088946
cgw_SWtent	-0.069179	-0.021902	-0.049895	0.088062	18	0.824238
cgw_a	-0.045386	-0.019302	-0.029826	0.057637	8	0.253883
cgw_b	-0.011663	-0.030626	-0.028603	0.043498	10	0.201224
cgw_c	-0.044971	-0.044098	-0.018119	0.065538	8	0.328199
cgw_d	0.082818	-0.005920	0.011856	0.083872	10	0.192163
cgw_f	-0.067439	-0.053240	-0.015043	0.087228	5	0.323572
cgw_g	-0.030553	-0.017949	-0.085681	0.092720	6	0.232827
cgw_i	-0.009706	0.019561	0.010348	0.024164	8	0.221311
cgw_j	0.078146	-0.204419	-0.028524	0.220698	10	0.945925
cgw_k	0.015878	-0.143909	-0.034578	0.148854	7	0.166188
cgw_l	-0.168262	0.501529	-0.023118	0.529507	12	0.560674

Label	X error (m)	Y error (m)	Z error (m)	Error (m)	Projections	Error (pix)
cgw_m	-0.033559	-0.017959	0.004199	0.038294	8	0.209036
cgw_x	0.025549	-0.022570	-0.007708	0.034951	8	0.121366
cgw_y	-0.031814	0.036537	-0.012629	0.050066	21	0.260547
Total	0.143636	0.160410	0.058138	0.223030	1269	0.498937

Table. 2. Control points.

Label	X error (m)	Y error (m)	Z error (m)	Error (m)	Projections	Error (pix)
cgw_067	0.043740	-0.011671	-0.041194	0.061207	2	0.110462
cgw_e	0.045774	-0.109976	0.059860	0.133316	3	0.271522
Total	0.044769	0.078201	0.051382	0.103729	5	0.221620

Table. 3. Check points.

Digital Elevation Model

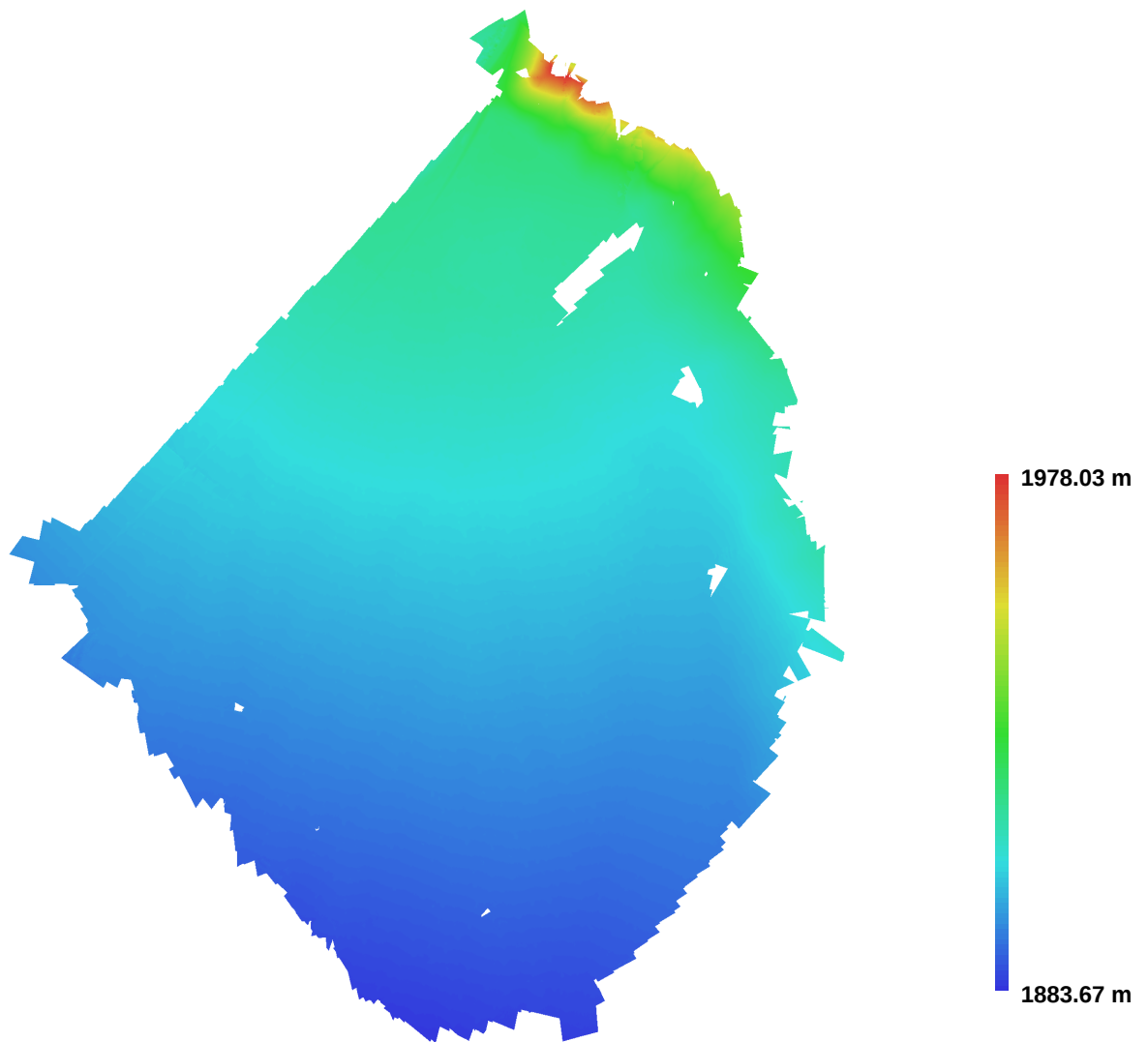


Fig. 7. Reconstructed digital elevation model.

Resolution: 0.0985395 m/pix
Point density: 102.986 points per sq m