Supplementary files

Table S1. Statistical data of the descending dataset. The tables report the statistics of the SAR-GNSS residuals (mean, median, standard deviation, and correlation coefficient) of the 16 tests obtained after calibration. The combinations are based on the Goldstein filter window size (32x32 and 64x64 pixels), the search radius used for calibration (200,400,600 and 800 meters), and the calibration error model (linear and quadratic). The values in red refer to the best calibrated test.

	Descending Datasets					
	Tests	**Number of PSs**	**Mean**	**Median**	**Standard Deviation**	**Correlation Coefficient**
Linear	32-L-200	50	0	0.02	0.64	0.77
	32-L-400	51	0	0.04	0.65	0.77
	32-L-600	51	0	0.13	0.64	0.77
	32-L-800	51	-0.01	0.13	0.64	0.77
	64-L-200	50	0	0.06	0.6	0.8
	64-L-400	51	0	0.09	0.63	0.79
	64-L-600	51	0	0.12	0.59	0.8
	64-L-800	51	0	0.11	0.6	0.8
Quadratic	32-Q-200	50	0.36	0.46	0.59	0.82
	32-Q-400	51	0.38	0.47	0.60	0.82
	32-Q-600	51	0.36	0.46	0.58	0.83
	32-Q-800	51	0.35	0.46	0.58	0.83
	64-Q-200	50	0.26	0.35	0.58	0.83
	64-Q-400	51	0.27	0.38	0.59	0.82
	64-Q-600	51	0.25	0.36	0.56	0.83
	64-Q-800	51	0.23	0.39	0.56	0.83

Table S2. Statistical data of the ascending dataset. The tables report the statistics of the SAR-GNSS residuals (mean, median, standard deviation, and correlation coefficient) of the 16 tests obtained after calibration. The combinations are based on the Goldstein filter window size (32x32 and 64x64 pixels), the search radius used for calibration (200,400,600 and 800 meters), and the calibration error model (linear and quadratic). The values in red refer to the best calibrated test.

	Ascending Datasets					
	Tests	**Number of PSs**	**Mean**	**Median**	**Standard Deviation**	**Correlation Coefficient**
Linear	32-L-200	52	0	0.13	0.82	0.53
	32-L-400	52	0	0.02	0.79	0.53
	32-L-600	52	-0.01	0.07	0.79	0.51
	32-L-800	52	0	0.10	0.8	0.49
	64-L-200	52	0	0.11	0.8	0.54
	64-L-400	52	0	0.01	0.78	0.54
	64-L-600	52	0	0.06	0.78	0.53
	64-L-800	52	0	0.05	0.78	0.51
Quadratic	32-Q-200	52	0.23	0.18	0.72	0.68
	32-Q-400	52	0.2	0.11	0.69	0.68
	32-Q-600	52	0.24	0.19	0.68	0.68
	32-Q-800	52	0.23	0.19	0.68	0.67
	64-Q-200	52	0.1	0	0.72	0.67
	64-Q-400	52	0.1	0.03	0.69	0.67
	64-Q-600	52	0.12	0.08	0.68	0.67
	64-Q-800	52	0.12	0.06	0.68	0.66

Table S3. Statistics of InSAR-GNSS velocities for the vertical and east-west components. The table reports the statistics of the SAR-GNSS residuals (mean, median, standard deviation, and correlation coefficient) for the east-west and vertical velocity components.

	Number of GNSS	**Mean**	**Median**	**Standard Deviation**	**Correlation Coefficient**
East-west	43	0.10	0.19	0.62	0.55
Vertical	43	0.27	0.28	0.61	0.8

Table S4. Standard Deviation values (mm/yr) of the LOS calibrated velocities. The table reports the statistics (minimum, maximum, mean, and median values) for the ascending and descending datasets.

	Min	**Max**	**Mean**	**Median**
Ascending	0.0317	1.3441	0.2128	0.2080
Descending	0.0287	1.2634	0.2167	0.2033

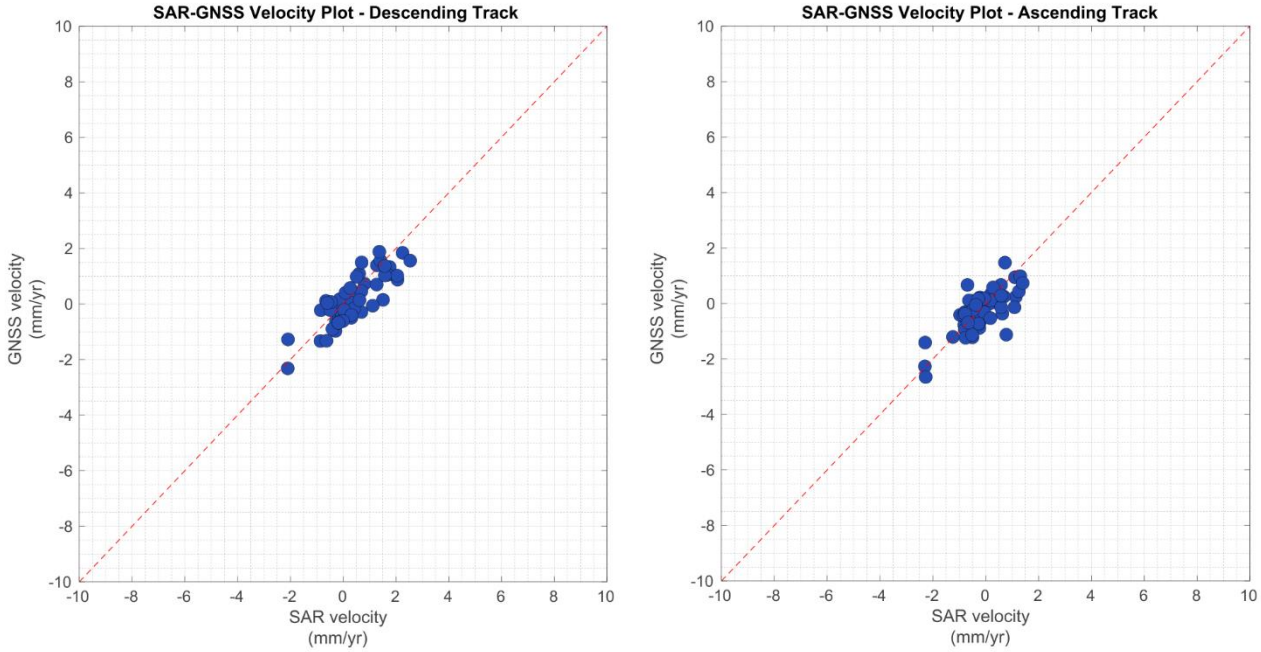


Figure S1. InSAR-GNSS LOS velocity plots. The plots show the correlation between geodetic measurements after the calibration for both orbit tracks. The best calibrated LOS datasets are those based on a quadratic calibration error model, a search radius of 600 meters around each GNSS station, and a Goldstein filter window size of 64.

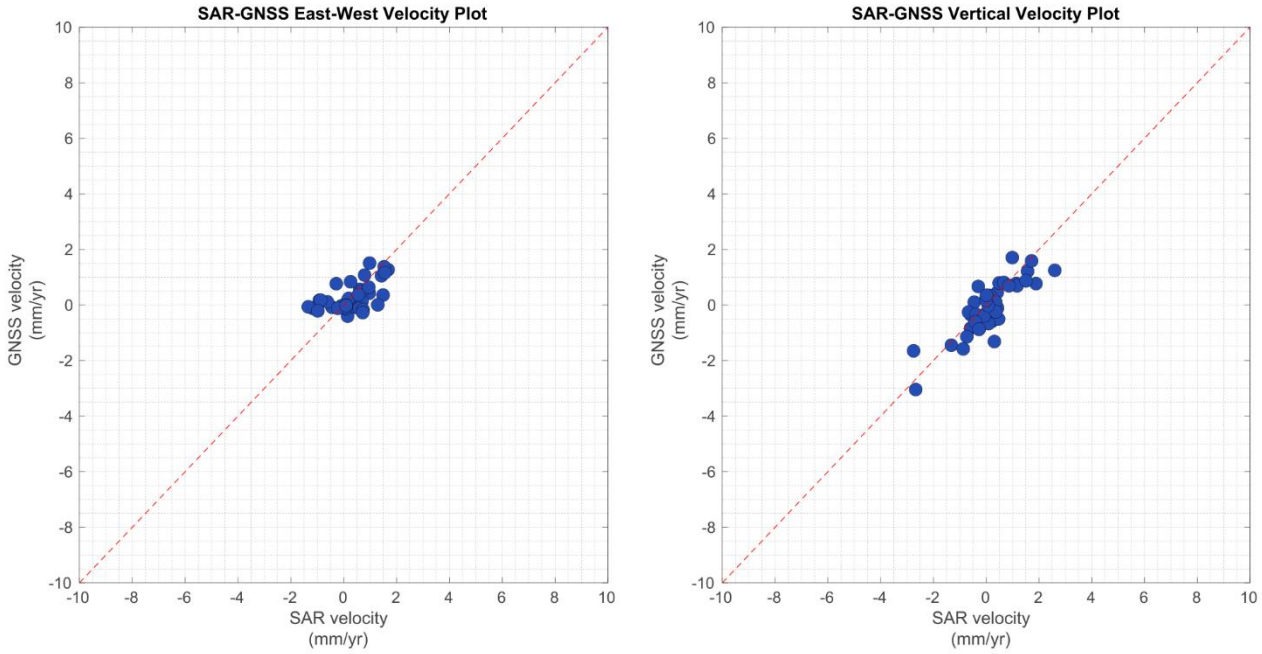
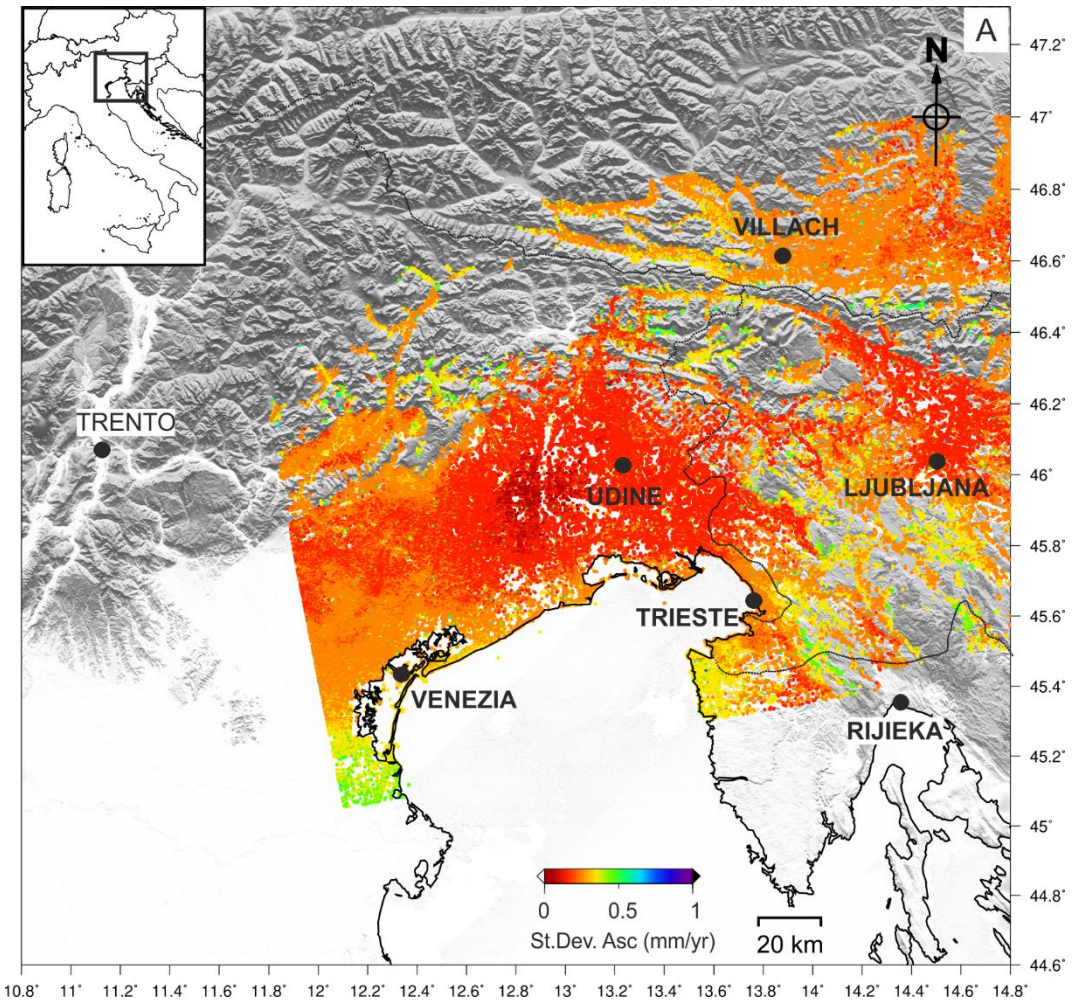


Figure S2. InSAR-GNSS east-west and vertical velocity plots. The plots show the correlation between geodetic data for the east-west and vertical components.


A
N
VILLACH
TRENTO
UDINE
LJUBLJANA
TRIESTE
VENEZIA
RIJIEKA
0
0.5
1
St.Dev. Asc (mm/yr)
20 km
47.2°
47°
46.8°
46.6°
46.4°
46.2°
46°
45.8°
45.6°
45.4°
45.2°
45°
44.8°
44.6°
10.8°
11°
11.2°
11.4°
11.6°
11.8°
12°
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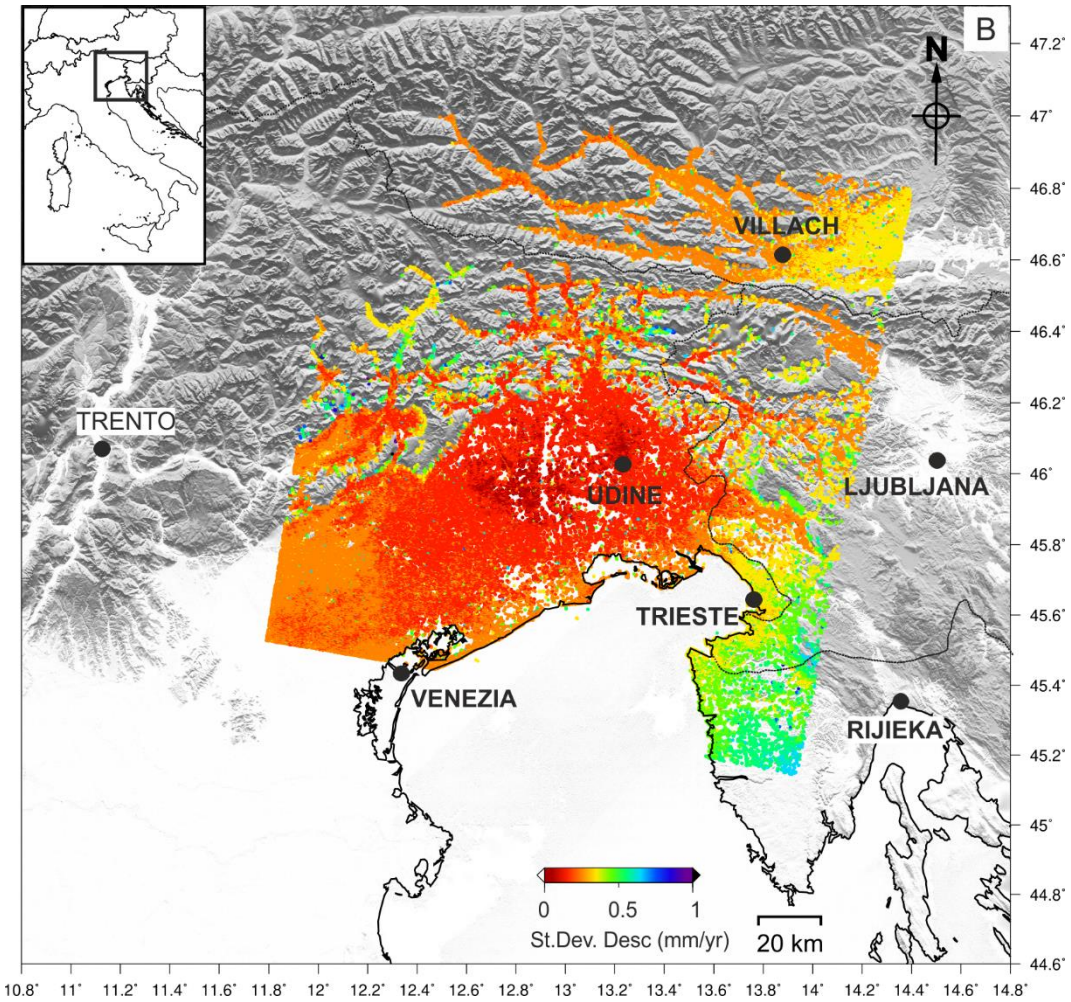

Figure S3. Standard Deviation maps of the LOS calibrated velocities for the ascending (A) and descending (B) datasets.