

*Supplement of*

**Global time series and temporal mosaics of glacier surface velocities, derived from Sentinel-1 data**

**Peter Friedl et al.**

*Correspondence to:* Peter Friedl ([peter.friedl@fau.de](mailto:peter.friedl@fau.de))

**Table S1: Tracking parameters for each region.** Window sizes and tracking step sizes are provided in azimuth (az) and range (r) pixels. In some regions, where Sentinel-1A/B 6-day repeat acquisitions are available, the minimum temporal baseline is 12 days for the time prior to 2016 and 6 days for the time after.

<b>ID</b>	<b>Region</b>	<b>Window size [r x az]</b>	<b>Tracking step size [r x az]</b>	<b>Minimum temporal baseline [days]</b>
1	South Georgia	320 x 64	50 x 10	12
2	Southern Andes	250 x 50	50 x 10	12
3	Alaska, Western Canada	250 x 50	50 x 10	12
4	Arctic Canada	320 x 64	50 x 10	12/6
5	Iceland	250 x 50	50 x 10	12/6
6	European Alps	250 x 50	50 x 10	48
7	Svalbard	250 x 50	50 x 10	12/6
8	Russian Arctic	512 x 128	50 x 10	12
9	Caucasus	250 x 50	50 x 10	48
10	High Mountain Asia	250 x 50	50 x 10	12
11	New Zealand	250 x 50	50 x 10	48
12	Scandinavia	250 x 50	50 x 10	12/6

**Table S2: Naming convention of scene-pair velocity products and mosaics**

<b>Scene-pair velocity products</b>	
$\underbrace{\text{dis\_mag+S1\_20200417T061446\_0505\_1\_9\_1\_9\_1\_9}}_{\text{a)}} \text{-} \underbrace{\text{S1\_20200423T061528\_5275\_1\_9\_1\_9\_1\_9}}_{\text{b)}} \text{-} \underbrace{\text{+250-50\_50-10\_0.00-0.08\_2}}_{\text{c)}} \text{-} \underbrace{\text{geo\_filtered\_corrected.tif}}_{\text{d)}} \text{-} \underbrace{\text{}}_{\text{e)}} $	
<p><b>a) Product type:</b>  dis_mag: velocity magnitude (m d<sup>-1</sup>)  dis_az: azimuth velocity component (m d<sup>-1</sup>)  dis_r: range velocity component (m d<sup>-1</sup>)  dis_ang: displacement angle relative to the sensor's heading angle  dis_N_ang: displacement angle relative to true north  ccp: cross-correlation peak coefficient  ccs: cross correlation function standard deviation  loc_inc: local incidence angle</p> <p><b>b) Master scene:</b> S1_yyyymmddThhmmss_Product UID_burst start (sub-swath 1-3)_burst stop (sub-swath 1-3)</p> <p><b>c) Slave scene:</b> S1_yyyymmddThhmmss_Product UID_burst start (sub-swath 1-3)_burst stop (sub-swath 1-3)</p> <p><b>d) Processing parameters:</b>  window size (r)–window size (az)_step size (r)–step size (az)_initial CCP threshold–final CCP threshold_overs. factor</p> <p><b>e) Processing level:</b>  geo: geocoded  geo_filtered: geocoded and filtered  geo_filtered_corrected: geocoded, filtered and corrected</p>	
<b>Mosaics</b>	
$\underbrace{\text{07\_mag\_stack\_2020\_04.tif}}_{\text{a)}} \text{-} \underbrace{\text{}}_{\text{b)}} \text{-} \underbrace{\text{}}_{\text{c)}} $	
<p><b>a) Region:</b> Region number (see Fig. 1)</p> <p><b>b) Product type:</b>  mag_stack: weighted mean of the velocity magnitude (m d<sup>-1</sup>)  mag_sd_stack: weighted standard deviation of the velocity magnitude (m d<sup>-1</sup>)  mag_se_stack: weighted standard error of the velocity magnitude (m d<sup>-1</sup>)  y_stack: weighted mean of the y velocity component (m d<sup>-1</sup>)  y_sd_stack: weighted standard deviation of the y velocity component (m d<sup>-1</sup>)  y_se_stack: weighted standard error of the y velocity component (m d<sup>-1</sup>)  x_stack: weighted mean of the x velocity component (m d<sup>-1</sup>)  x_sd_stack: weighted standard deviation of the x velocity component (m d<sup>-1</sup>)  x_se_stack: weighted standard error of the y velocity component (m d<sup>-1</sup>)  N_ang_stack: mean displacement angle relative to true north  count_stack: number of measurements per pixel  date_stack: mean acquisition date per pixel (days since 1 January 1900)  time_sep_stack: mean time separation per pixel (days)</p> <p><b>c) Date:</b> yyyy (annual mosaic), yyyy_mm (monthly mosaic)</p>	