The results of combining the dropbox files that we got for GPS-data at each site, after cropping them (removing off-site measurements) and resolving issues with e.g. separators and decimal delineators, is found in [sitename]".txt".

The data processing files for GPS-data are "read\_data\_2.py" and "read\_data\_3.py". The second version of this file is the most convenient one, as it just does the data processing and shows the most relevant graphs. The third version additionally produces giant graphs with awefully big titles which were used in the presentation to show the intermediate steps.

These files use the ".txt" files with location data. The processing steps are described in detail in the report.

Using the "read\_data\_2.py", the [sitename]".csv" files (separated by ; and as decimal delineator a ,) were generated. These contain 96 hour average velocities. For S9, there was a special case, as Roderik sent processed velocities to us due to some missing data in the dropbox files. The values processed by us are featured in "S9 (old).csv" and the combination of two processed velocity records is found in "S9.csv". For different results, different choices out of the two were made, therefore this was convenient.

The csv-files are then read by the figure generating files (finding relations of time trends and correlations). In addition to this, the IWS results are read by the same files (except seasonal). These were separately processed and the results are found in numpy array files, "iws"[season][sitename]".npy". All three files below use the csv-files to read the GPS-velocity data from.

The files "cumbal"[sitename]".txt" are the cumulative balances of the sites. These are read in the "balancevelcorr+bal\_analyis.py"-file. This file is used to combine annual mass balance observations (corresponding time axis in "melttimes.txt") with the seasonal and annual velocity records. Here, trends in mass balance and correlations with velocity are calculated for the time lags. Additionally, the significance of trends is analyzed in this file.

A separate file is "seasonal.py", which basically throws all velocity records of a site in discretized time buckets of about 8 days and then averages these to produce a graph.

Then we have "vel\_time\_trends.py" for analyzing the time trends in velocity.

The "alllocations.xlsx"-file contains annual velocities per site as calculated in the balancevelcorr and mass balance, to compute weighted areal mean values of these variables. We couldn't finish this analysis, but yellow marked cells indicate values which deviate from earlier analyses.

Last but not least, there are a couple of folders:

The figures in the report are found in the folder figures, with subdirectories for older figures.

The "supplement\_VDWal2015"-folder contains the supplementary material of the paper R. S. W. van de Wal, C. J. P. P. Smeets, W. Boot, M. Stoffelen, R. van Kampen, S. H. Doyle, F. Wilhelms, M. R. van den Broeke, C. H. Reijmer, J. Oerlemans, and A. Hubbard. Self-regulation of ice flow varies across the ablation area in south-west greenland. The Cryosphere, 9(2):603–611, apr 2015. doi:10.5194/tc-9-603-2015

The folder "presentatie" contains the powerpoint presentation given on November 8th in class.

The other folders contain some intermediate result steps of the IWS data, most notably used for figure 3 of our report (this can be made with "poging.py"; the text file contains one of the original IWS data series). The following files are maybe not so well organized. The file "annual\_velocities.py" calculates annual velocities and puts these in ".npy"-files containing "annual" and site name in the filename, which we put in the parent directory. The input of this python code consists of "tuvtotuiws"[sitenumber][years]".npy", which were created with "iws"[sitenumber][years]"velocitycalcilfter.py". The latter do the processing steps for IWS data; this code was based on the GPS data processing files, but are slightly different and less organized in terms of documentation, input efficiency and output effciency, due to having separate files for each site and some years. Additionally, one can find the python-file "seasonalvelocityIWS". This file produces seasonal velocity arrays (".npy") per season and site, although it only uses site S6 eventually. The input files for these seasonal velocities are monthly averages to be found in filenames similar to "monthlytlonlatz", which are produced by similar files as mentioned for annual velocity prcoessing, but with "\_monthlyaverage"\*\* in addition. Inputs of files producing averages on the four week and monthly time scales are just the raw original text files of IWS data, which are cropped within the here described python files. Steps due to re-siting are manually put in the code of IWS data ("seasonalvelocityiws.py"). Indexing is manually applied to derive seasonal values from monthly values (e.g.: 8 for June and 11 for September in the first year of the records). The resulting seasonal velocities after all processing steps were manually put in the parent directory as well.

\*\* In this file, additionally, lists to select appropriate time bins are applied in addition to the GPS data processing parts of the files. And zero-values are reset to -10000 adn subsequently removed. The files also contain some segments of balancecorrelation files or other files.