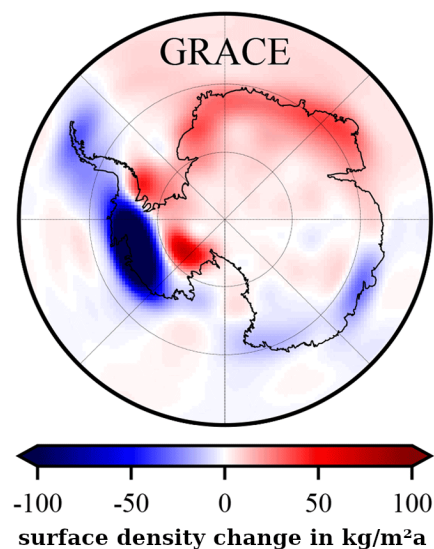


TALK ANNOUNCEMENT

The IAMG¹ student chapter Freiberg & Dresden² will be hosting a talk.

date:	Thursday, 25 November 2021, 4:30 p.m.
place:	online meeting room ³
room:	Big Blue Button ³
title:	Satellite data enables the determination of ice mass changes and solid-earth deformation in Antarctica
presenter:	MSc. Matthias O. Willen (Technische Universität Dresden)



The 6th IPCC Assessment Report concludes that the global mean sea level rise in the 20th century is the fastest during the last three millennia and that the current contribution (from 2006 until 2018) of ice sheets to the sea level rise is about 35%. The quantification of past ice mass changes from satellite observations is an important basis for realistic projections of sea level change. The satellite gravimetry mission GRACE measured changes in the gravity field allowing to determine mass changes of the ice sheets. In particular in Antarctica, the gravity field change due to the changing ice mass is of a similar magnitude compared to gravity field changes induced by solid-earth deformation related to past ice mass changes, the glacial isostatic adjustment (GIA) signal. However, GIA modelling results are different and lead to high uncertainties in mass change estimates of the Antarctic Ice Sheet. Here, the combination of data from satellite gravimetry, satellite altimetry, and climate and firn modelling holds promise to improve the signal separation. The talk presents methods, results, and limitations of data combination strategies over the Antarctic Ice Sheet. For instance, it is demonstrated that the treatment of uncertainties of the datasets is essential in the estimation framework.

¹International Association of Mathematical Geosciences (IAMG), <https://iamg.org>

²<https://tu-freiberg.de/iamg>

³<https://bbb.hzdr.de/b/sch-e94-vwj>
