



SCAR Sub-Group

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ISMASS

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Person
Responsible:

Catherine Ritz

SCAR Executive Committee Meeting 2019

Plovdiv, Bulgaria, 29-31 July 2019

ISMASS (Ice Sheet Mass Balance and Sea Level) 2018-19 Report

Report Authors:

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Optional additional information

Outreach, communication and capacity-building activities

Numerous exchanges with the press when the Pattyn et al. (2018) article was published (October 2018)

Updates for your group's SCAR web page

The ISMASS website is managed by CliC.

Notable Papers

(Three most notable papers, if applicable – see the example below, which includes a brief statement (shaded) indicating the link to the group.)

1. Pattyn, F., Ritz, C., Hanna, E., Asay-Davis, X., DeConto, R., Durand, G., ... & Kuipers Munneke, P. (2018). The Greenland and Antarctic ice sheets under 1.5° C global warming. *Nature Climate Change*, 8, 1053-1061.

This article is a review paper on the contribution of Greenland and Antarctic ice sheets to future sea level under a 1.5°C warmer climate (in line with the Paris agreement). The study concludes it is important to limit global warming by 2100 to 1.5°C to maximise the chance of avoiding so-called tipping points that would dramatically accelerate mass loss. It is the direct outcome of the workshop organized by ISMASS in Brussels from 11-13 January 2017.

2. Edward Hanna, Frank Pattyn, Francisco Navarro, Vincent Favier, Heiko Goelzer, Michiel R. van den Broeke, Miren Vizcaino, Pippa L. Whitehouse, Catherine Ritz, Kevin Bulthuis, Ben Smith (submitted to *Earth Science*)

reviews). Mass balance of the ice sheets and glaciers – progress since AR5 and challenges.

This article is the outcome of the ISMASS workshop held in Davos in June 2018. Title: “Update on mass balance of Greenland and Antarctica (linkages between data and models)”.

Any other information or issues you would like to raise

Please add here any additional information or issues you would like to raise with the SCAR Executive Committee or SCAR Secretariat.

ISMASS is dedicated to both Arctic and Antarctic and is supported by SCAR, CliC, and IASC. The following information does not directly concern Antarctica but Greenland. The tools however are common for both ice sheets. ISMASS promoted an intercomparison project (SMBMIP, also in the framework of ISMIP6) which aimed to evaluate all estimations of SMB, coming from RCM, PDD and GCM over the Greenland ice sheet in the goal of forcing ice sheet models afterwards. The first results were presented at AGU in fall 2018 (contact X. Fettweiss – Xavier.Fettweis@uliege.be)

ISMASS will continue to be involved in intercomparison projects such as ISMIP6 (climate and ice sheets), MISOMIP (ocean and ice sheet). Several members of ISMASS are members of the PPG AIDSL (Antarctic Ice Dynamics and Sea Level Change).