

What' s going on in the Greenland ice sheet?

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In the Greenland ice sheet, the second largest ice body in the world, snow/ice melting and its resultant water runoff to its surrounding ocean are enhanced drastically due mainly to the so-called polar amplification. This is a serious global problem, because enormous water runoff from such a big ice sheet can cause a rise in the sea level globally. However, detailed current physical condition of the Greenland ice sheet has not been fully understood yet because of its hugeness and remoteness. To know what' s going on in the Greenland ice sheet, we conduct field measurements and use a state-of-the-art physically based polar regional climate model. In this contribution, we will introduce our recent activities in the Greenland ice sheet including the 2018 SIGMA-Traversal dog-sledge expedition (performed on the northwestern ice sheet), the 2019 Q19 ski-traverse expedition (conducted on the southern portion of the ice sheet), and an attempt to develop a reliable polar regional climate model.

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