

2001 Fall Meeting  
Search Results

Cite abstracts as *Eos Trans. AGU*, 82(47),  
Fall Meet. Suppl., Abstract xxxxx-xx, 2001

Your query was:  
rignot

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HR: 10:40h

AN: IP31A-07

TI: On the Present-Day Mass Balance of the Antarctic Ice Sheet.

AU: \* Rignot, E

EM: eric@adelie.jpl.nasa.gov

AF: Jet Propulsion Laboratory, Mail Stop 300-235 4800 Oak Grove Drive, Pasadena, CA 91109-8099 United States

AB: Using interferometric observations combined with other data, we estimate the grounding-line fluxes of 18 of the largest glaciers draining West and East Antarctica with a precision better than ever before. The results are compared to accumulation in the interior of the basins to determine the state of mass balance of the glaciers. The major results are as follow: 1) Areas identified in prior studies as exhibiting a large positive mass balance - due to an erroneous knowledge of the grounding line - are in fact close to mass balance, if not losing mass. 2) Glaciers not draining East Antarctica into the Ross or Filchner/Ronne ice shelves are remarkably close to a state of mass balance. 3) West Antarctica glaciers are close to a state of mass balance except for the Pine Island/Thwaites/Dotson glaciers sector which is significantly out of balance and thinning. 4) As the glaciers reach the ocean waters and become afloat, a large fraction of the ice is removed from the bottom, not from iceberg calving. This latter result emphasizes the fundamental importance of ice-ocean interactions in the overall mass balance of Antarctic ice and on the potential evolution of ice shelves and grounded ice in a warmer climate.

DE: 1827 Glaciology (1863)

DE: 1863 Snow and ice (1827)

DE: 6924 Interferometry

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