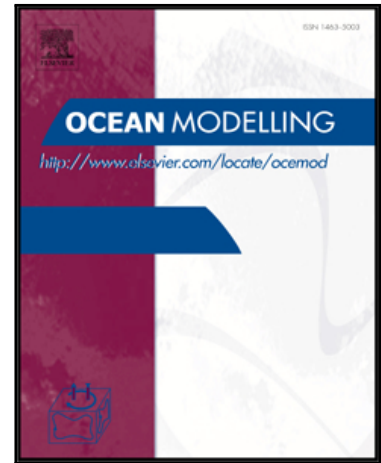


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Impact of increasing Antarctic glacial freshwater release on regional sea-ice cover in the Southern Ocean

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Highlights

- Impact of glacial freshwater on sea ice is studied with a sea ice/ocean/iceberg model
- Ice shelves mass change is included for the first time in the freshwater perturbation
- Changes in freshwater input increase sea ice cover with distinctive regional pattern
- Impact of freshwater on sea ice volume is comparable to atmosphere-induced changes
- Freshwater can decrease sea ice in Amundsen sector through ocean vertical circulation

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