

Type	Predictor	Description
Flow parameters	Effective stress	Calculated using Eq. (5) and the observed velocities
	Back stress	Buttressing effect on ice streams calculated in ISSM from inversion
	Effective strain rate	The effective strain rate is calculated using Eq. (8) with observed velocities as an input
	Principal strain rate (1 and 2)	Eigenvalues (see Eq. 7) (using InSAR data)
	Principal stress (1 and 2)	Eigenvalues (normal stresses) in Eq. (4) (using InSAR data)
	Strain rate change	Maximum strain rate change in a 400–600 m vicinity
	Velocity	InSAR ice flow velocity
	Rheology predictor (viscosity)	B , Glen's flow predictor, calculated from inversion of velocities (only for floating ice)
Geometry	Ice thickness	Bedmap2 data for Antarctica at 1 km spatial resolution
	Proximity to the ice front	DM_{IF} , calculated using Eq. (9)
	Proximity to grounding line	DM_{GL} , calculated using Eq. (10)
	Proximity to glacier edges and nunataks	Distance to edges and nunataks
	Curvature	Curvature of the glacier channel α , calculated in each node based on the direction and rate of the flow velocities (see Eq. 11)
	Surface change	Maximum difference between surface elevation, calculated using Bedmap2
	Maximum surface slope	Calculated using Bedmap2 topography
	Maximum bed slope	