

----- Off-line, data input

— Interactive

Temperature–salinity profiles

Fjord measurements and reanalysis data $T(Z), S(Z)$ (Fig. S3)

Projected temperature trend

3-D ocean-circulation models $\Delta T(t)$ (Table 1)

+

$T(Z) + \Delta T(t), S(Z)$



$\sin(\alpha(x))$

$m(x)$



$smb(x, t)$

$Q(t)$

Projection: surface mass balance

Data output from 3-D regional climate model **MAR** for surface mass balance (Fettweis et al., 2013) (Fig. S1)

$smb(lat, lon, t)$

Projection: subglacial discharge

3-D ice sheet model **SICOPOLIS** and hydrological model **HYDRO** route basal melt and runoff to glaciers (Calov et al., 2018) (Fig. S4)