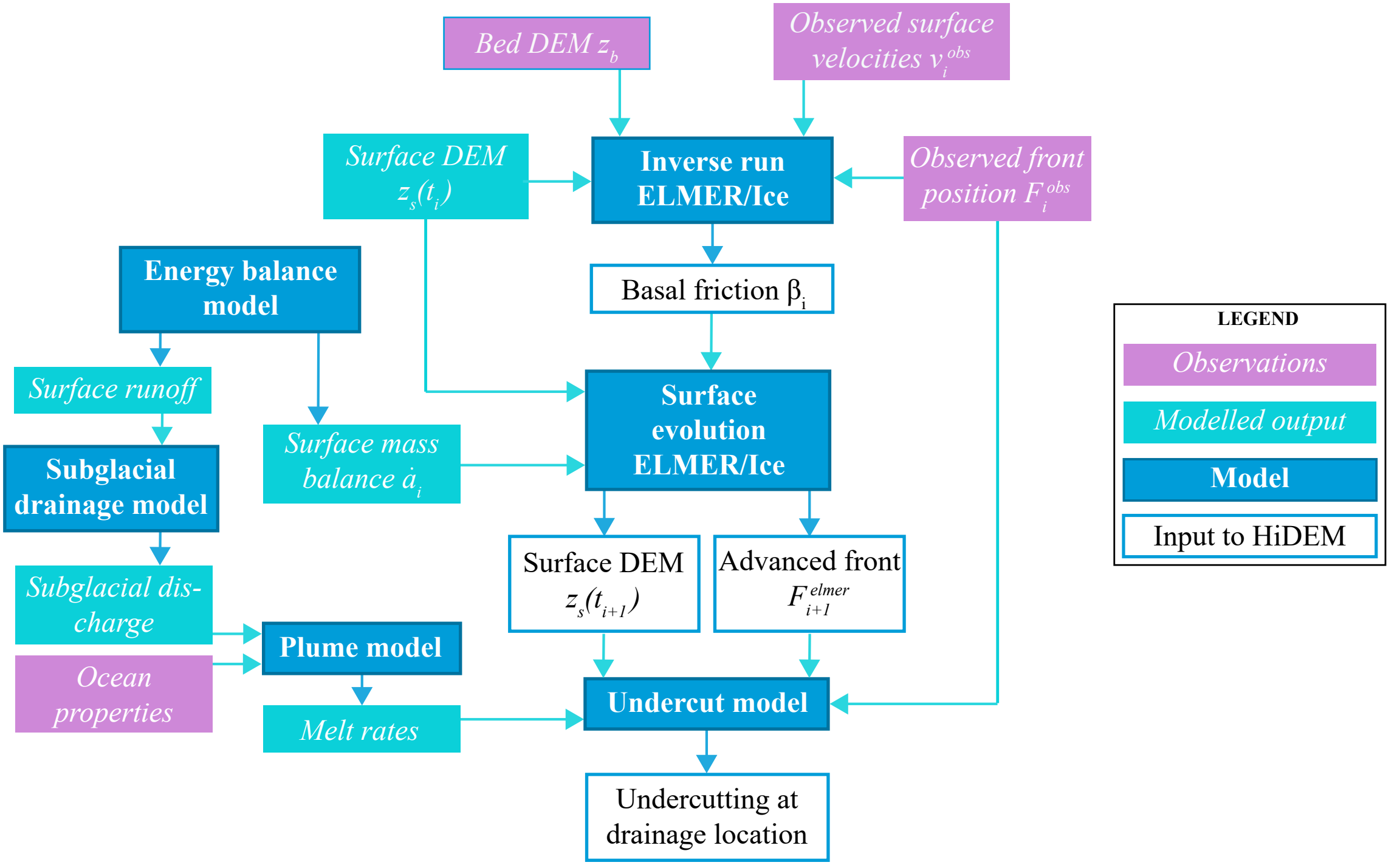
Bed DEM z_b
Observed surface velocities v_i^{obs}
Surface DEM $z_s(t_i)$
Inverse run ELMER/Ice
Observed front position F_i^{obs}
Energy balance model
Basal friction β_i
Surface runoff
Surface evolution ELMER/Ice
Subglacial drainage model
Surface mass balance $\dot{a}_i$
Surface DEM $z_s(t_{i+1})$
Advanced front F_{i+1}^{elmer}
Subglacial dis-charge
Plume model
Ocean properties
Undercut model
Melt rates
Undercutting at drainage location
LEGEND
Observations
Modelled output
Model
Input to HiDEM