

Symbol	Description	Units
W_{till}	Water layer thickness in till	m
W	Water layer thickness at bed	m
m_b	Basal melt rate	m s^{-1}
C_d	Till drainage rate	m s^{-1}
γ_t	Overflow rate from till	m s^{-1}
ϕ	Basal hydropotential	Pa
P_w	Basal water pressure	Pa
z_b	Bed elevation	m
N	Ice effective pressure	Pa
c_s	Basal roughness parameter	m^{-1}
W_r	Maximum bed bump height	m
c_{cd}	Creep scaling parameter for distributed drainage	
A_b	Ice flow rate factor for basal ice	$\text{s}^{-1} \text{Pa}^{-n}$
q	Water flow in distributed drainage system	$\text{m}^2 \text{s}^{-1}$
k_q	Conductivity coefficient for distributed flow	$\text{m}^{2\alpha_2 - \alpha_1} \text{s}^{2\alpha_2 - 3} \text{kg}^{1 - \alpha_2}$
α_1	Exponent on water thickness for water flow	
α_2	Exponent on water pressure for water flow	
S	Subglacial channel area	m^2
Ξ	Dissipation of potential energy in water flow	$\text{J s}^{-1} \text{m}^{-2}$
Π	Sensible heat change of water	$\text{J s}^{-1} \text{m}^{-2}$
c_{cc}	Creep scaling parameter for channelized drainage	
Q	Water flow in channelized drainage system	$\text{m}^3 \text{s}^{-1}$
k_Q	Conductivity coefficient for channelized flow	$\text{m}^{2\alpha_2 - \alpha_1} \text{s}^{2\alpha_2 - 3} \text{kg}^{1 - \alpha_2}$
q_c	Water flow in distributed drainage system along a channel	$\text{m}^2 \text{s}^{-1}$
l_c	Distance perpendicular to a channel where channel is influenced by distributed flow dissipation	m
V_d	Water velocity of distributed flow	m s^{-1}
D_d	Diffusivity of distributed flow	$\text{m}^2 \text{s}^{-1}$
δ	Dirac delta function	
ϕ_0	Notional englacial porosity	
C_0	Basal friction parameter	$(\text{s m}^{-1})^m$