A physical model of moulin evolution on the Greenland Ice Sheet

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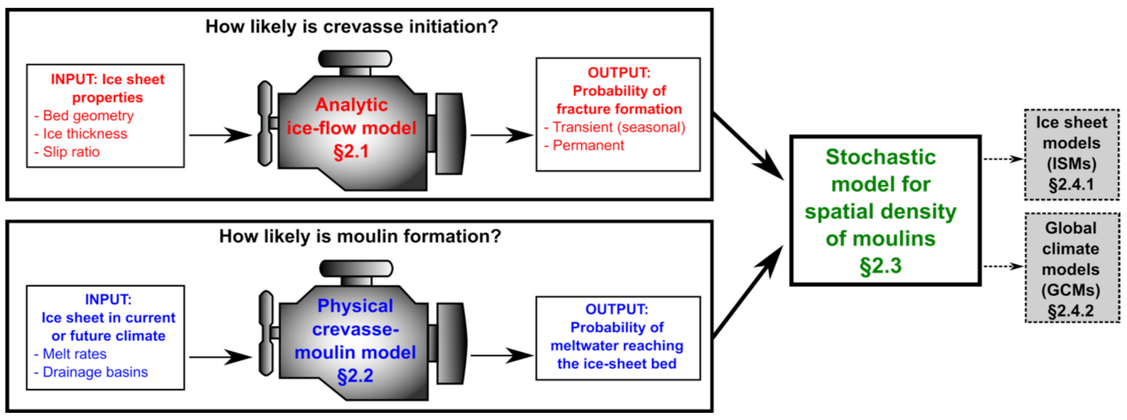
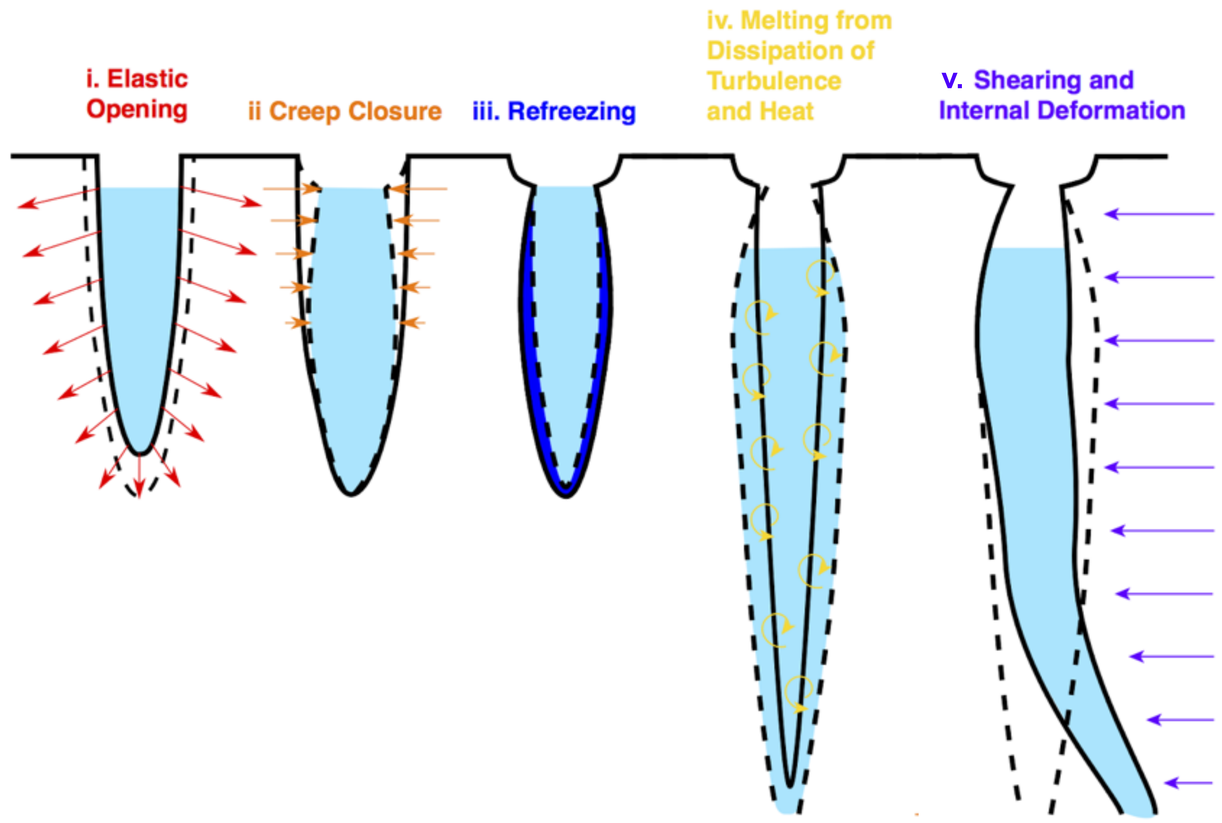
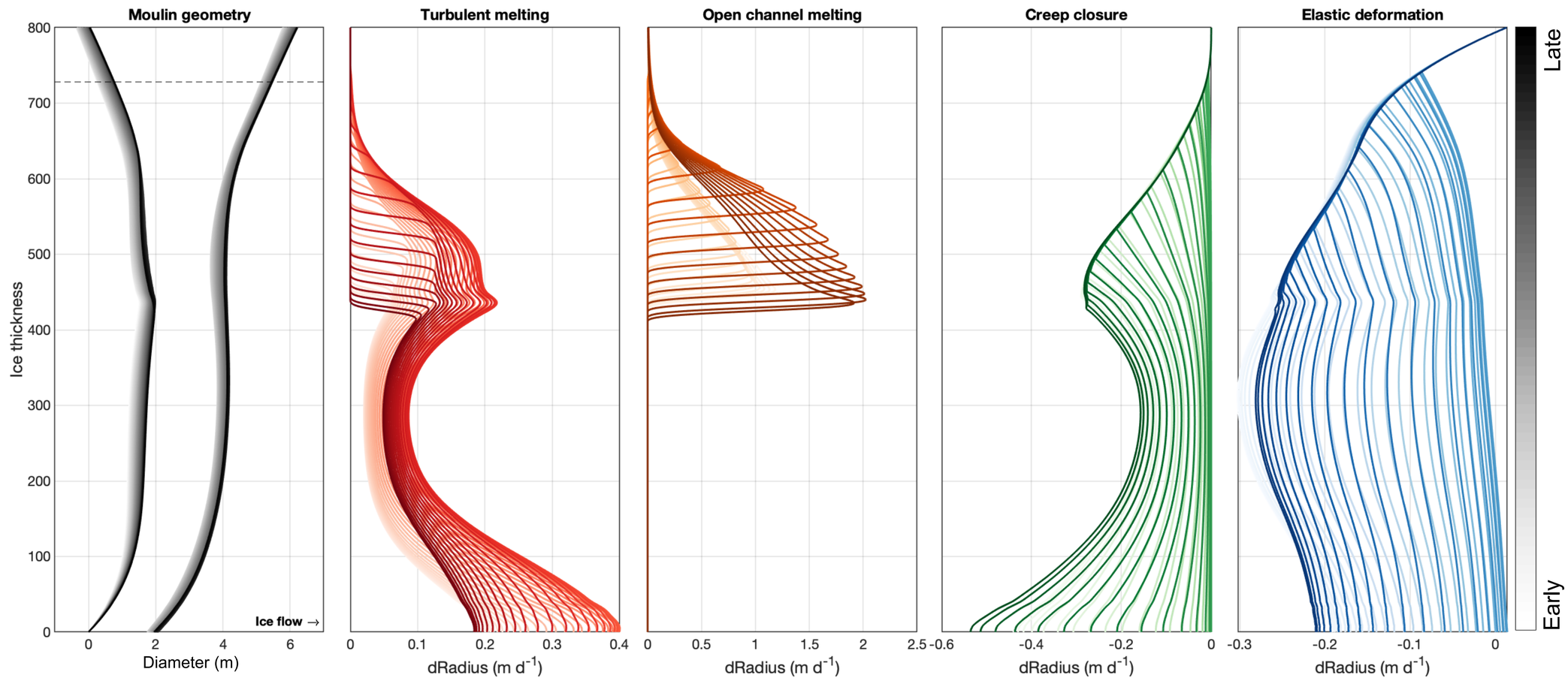
Moulins conduct meltwater formed on the ice sheet surface to the bed; their distribution and geometry can influence ice dynamics



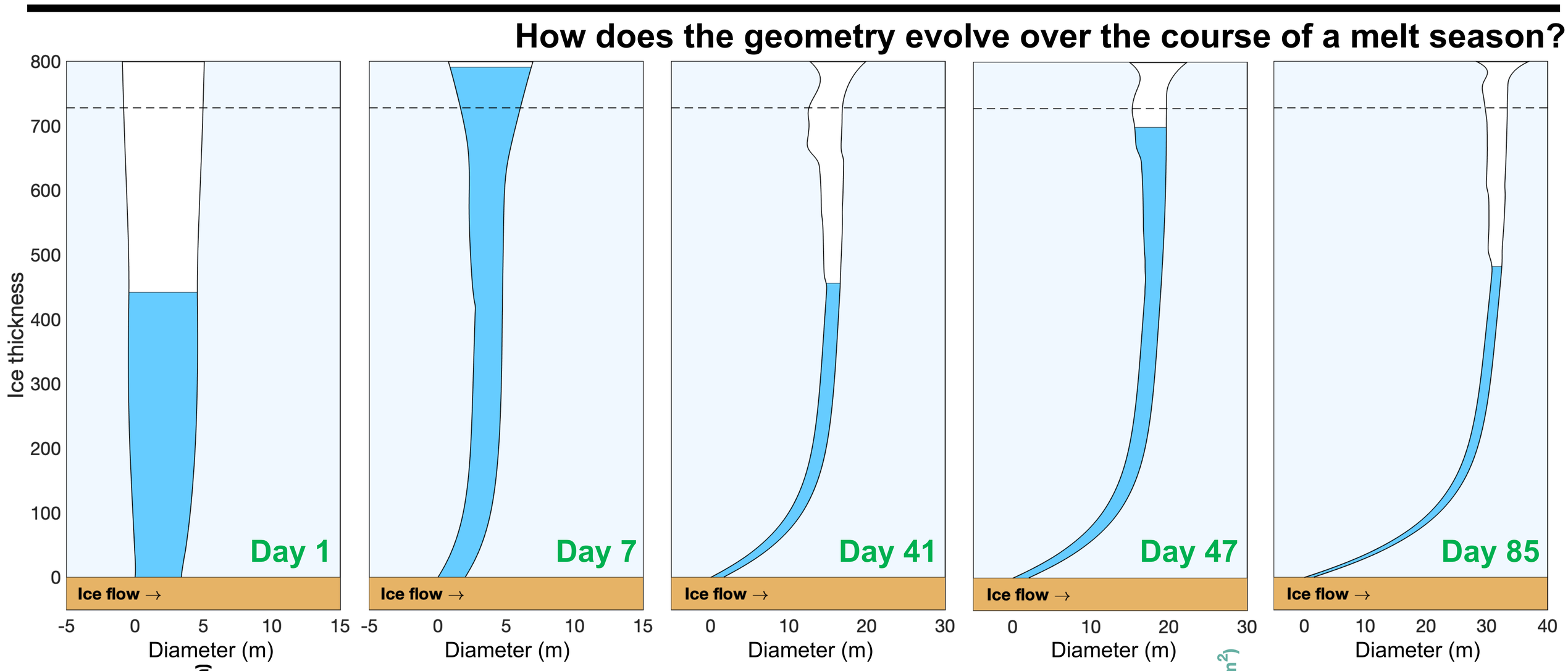


Moulin geometry evolves markedly on both short and long timescales. It may exert a first order control on the subglacial hydraulic gradient.

How does each parameter evolve over the course of 24 hours?



How does the geometry evolve over the course of a melt season?



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