

ESS 431 PRINCIPLES OF GLACIOLOGY
ESS 505 THE CRYOSPHERE

Lecture 08 – Ice Dynamics II: Sliding of Glaciers

Due Monday, October 23 2017, at start of class

Drewry, 1986 pp. 10–14, 20–32.

- 1) Can a glacier slide if its temperature is below the freezing point of water?
- 2) In the Weertman theory, what are the two processes that allow ice to “slide” past small and large bedrock bumps respectively?
- 3) How does high subglacial water pressure influence glacier flow?
- 4) What is “effective pressure”?
- 5) How is a spreading ice shelf conceptually like a fast-sliding glacier?
- 6) How can a lake form under a glacier?
- 7) Sketch a Rothlisberger channel, and label the different forces acting to keep the channel in balance.