

Changing Landscapes: Glaciated Landscapes

How do glaciers change the
landscape?

What you need to know

- a. Weathering – freeze-thaw weathering
- b. Erosion
 - i. Processes of abrasion, plucking and sub-glacial fluvial erosion
 - ii. Factors affecting glacial erosion including basal thermal regime, ice velocity, ice thickness, bedrock permeability and jointing

Weathering Processes

Freeze-thaw weathering

Glyder Fawr, Snowdonia



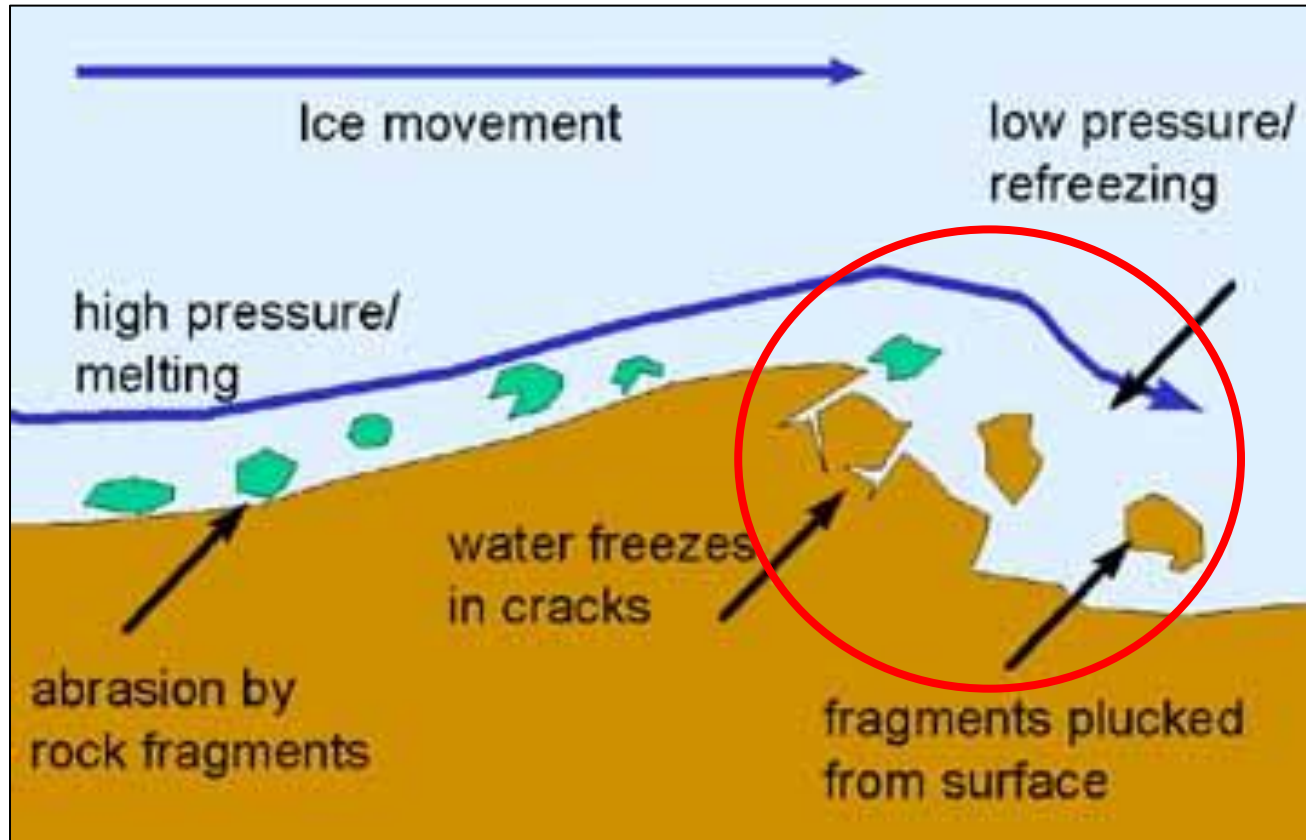
Nivation – a periglacial process



A nivation hollow in Old Man Range, New Zealand (S. Grab)

Glacial Erosion Processes

Plucking (aka quarrying)

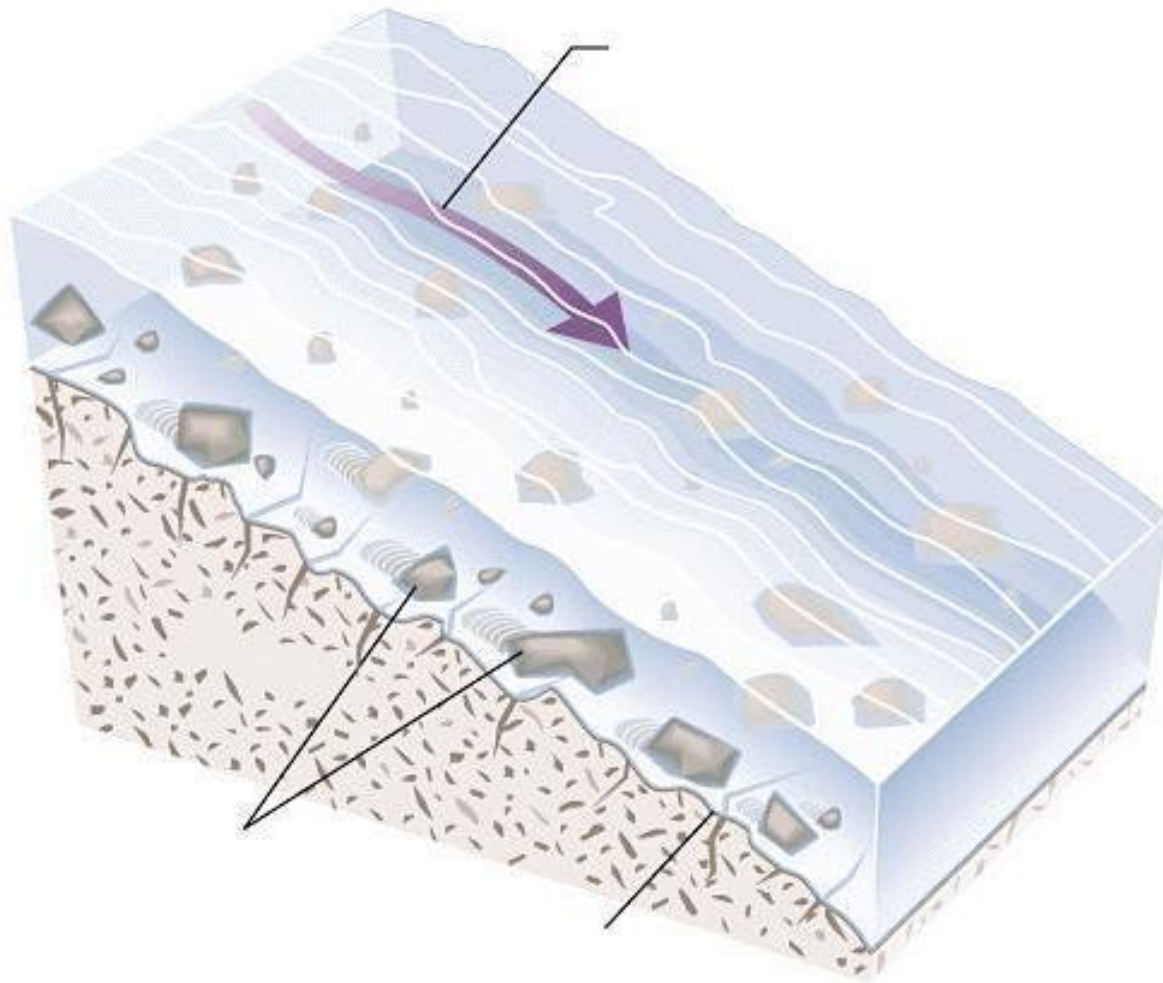


Plucking (aka quarrying)

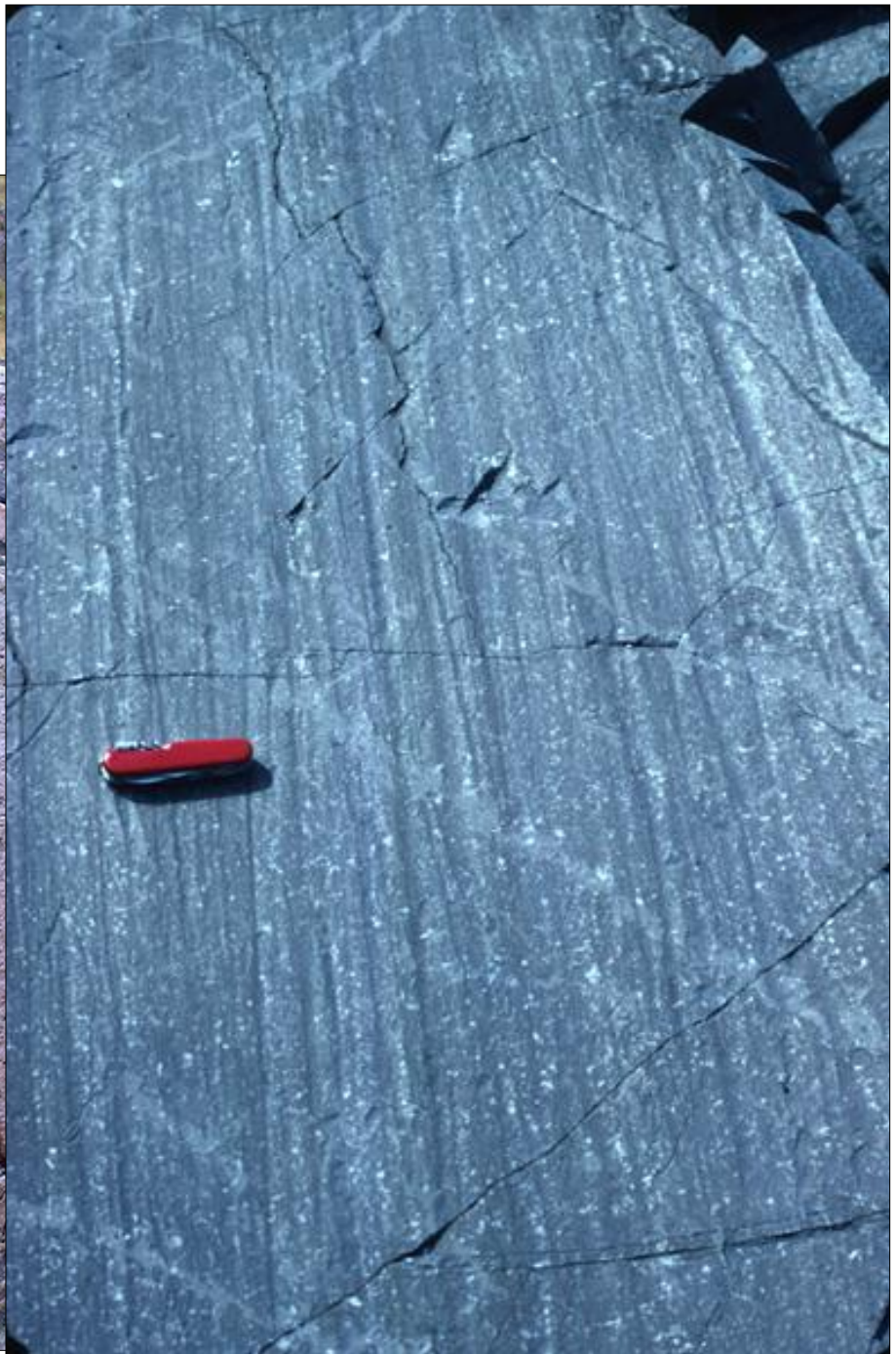


<http://www.homepage.montana.edu/~geol445/hyperglac/eroprocc1>

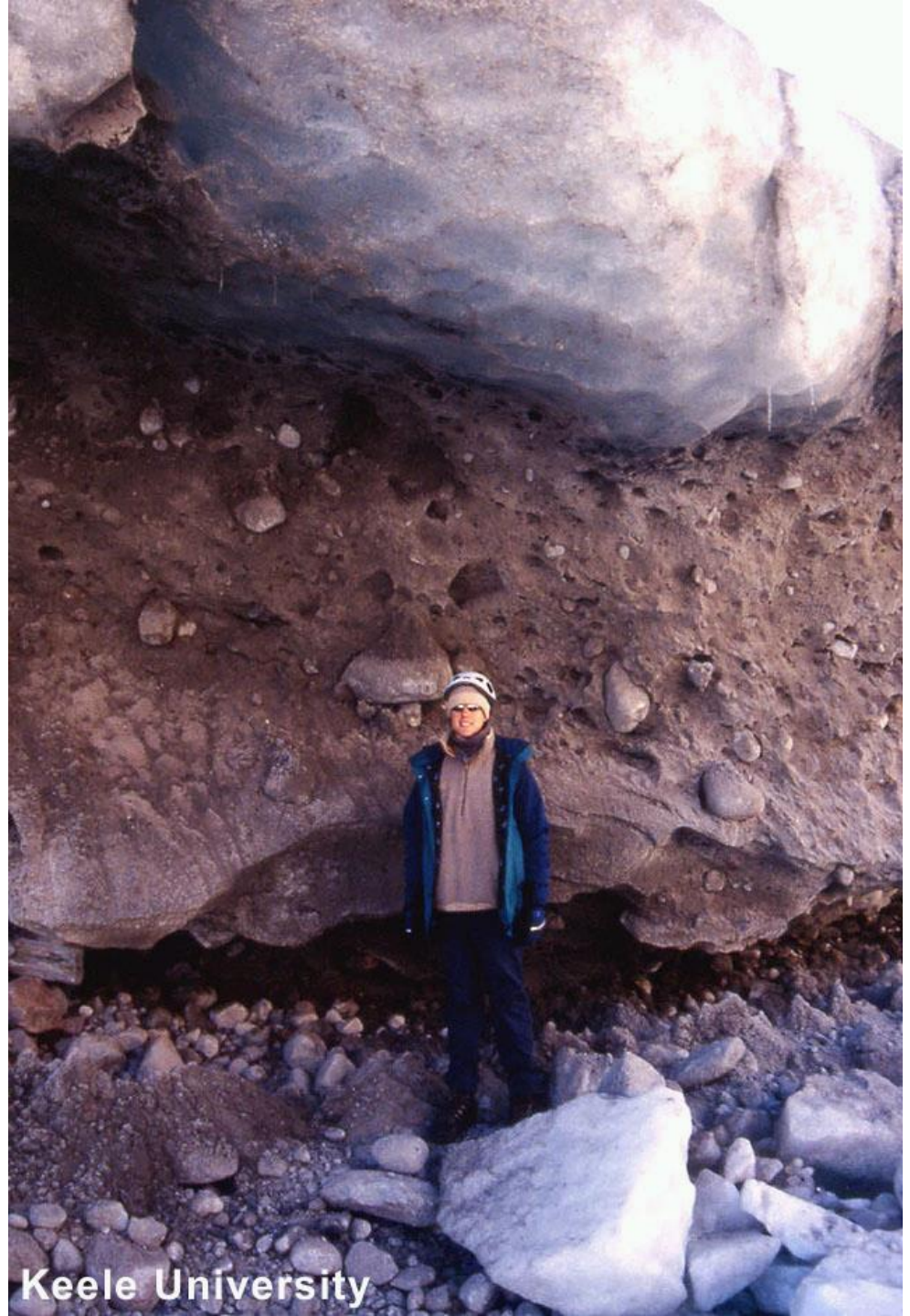
Abrasion



Abrasion



Basal moraine,
Leverett Glacier,
Western Greenland





They are usually $< 1\text{m}$ wide
and deeper than wide

Factors influencing rates of glacial erosion

