EARTH AND SPACE SCIENCES **Autumn 2017**
431 *PRINCIPLES OF GLACIOLOGY* 4 Credits, SLN 14841
505 *THE CRYOSPHERE* 4 Credits, SLN 14862

Homework 1 – Due Friday, October 6th

Instructions:

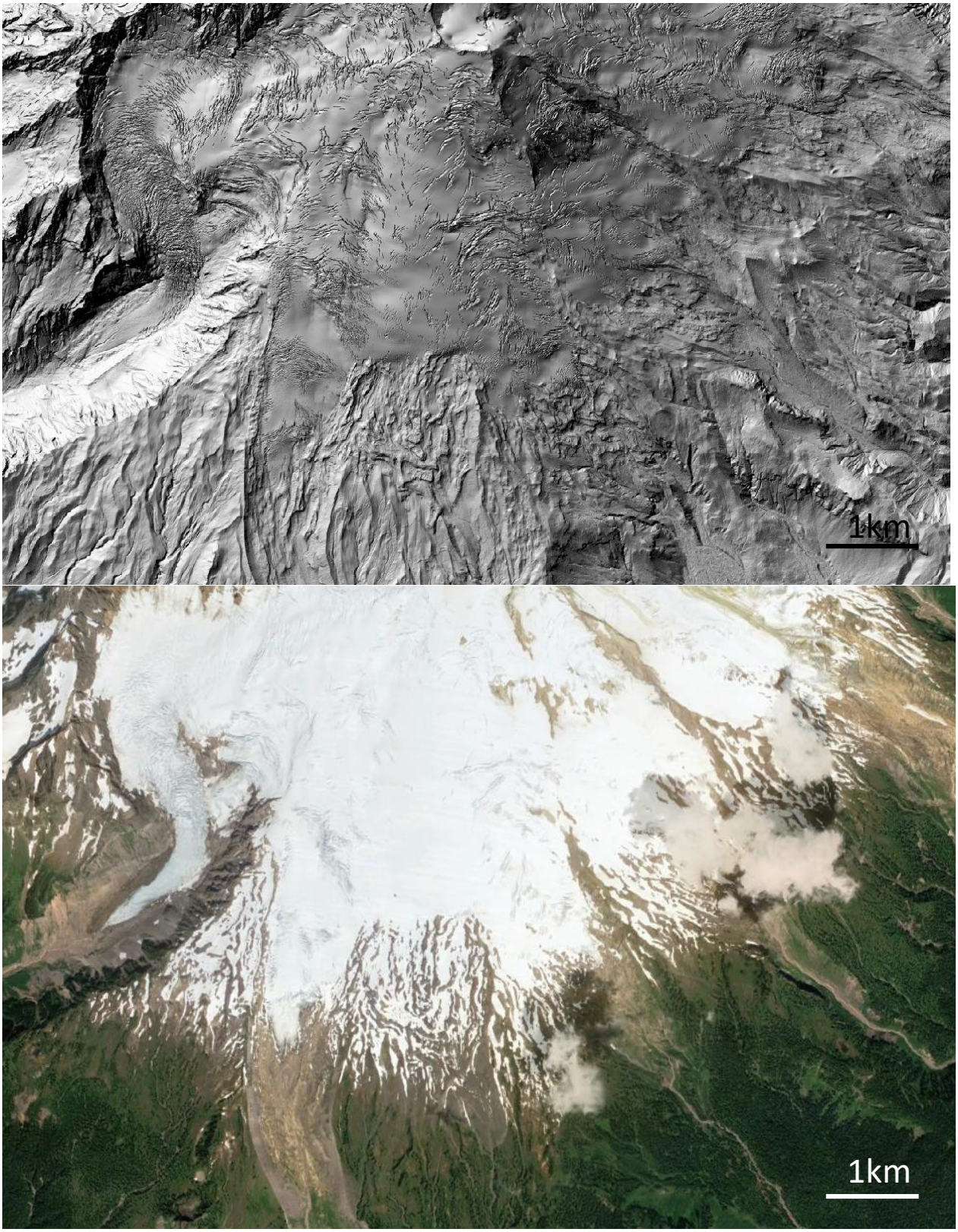
This assignment consists of two written statements:

(1) Observations and description of the glaciers on Mt. Baker from Satellite Data [~150-200 words]
(2) What features could you have seen in person that you couldn't see in the satellite data? What features could you only see in the satellite data but not in person? (IE, what are the pros and cons of satellite remote sensing) [~150-200 words]

This is designed to get you thinking about taking measurements in the cryosphere during the satellite era. Data collection from space provides amazing perspective on certain aspects of the system, but it can't measure everything we might be interested in.

Attached you will find two images of the south side of Mt. Baker. The first is a hillshade image of a "Digital Elevation Model" (DEM), produced using aerial laser scans of the region. The second is a visible light image taken by the Landsat satellite. In groups of 2, record observations about these two data sets, focusing on features you might look for during our hike on Saturday. These should include:

(1) Observations of texture – can it help you figure out what is glacier and what isn't?
(2) Observations of color – Is color better than texture at finding glacier boundaries? What might it tell us about the regions downstream of the current glaciers? Where is there vegetation, what type is it, and why isn't it everywhere?
(3) Unique features in the ice or rock – what stands out of the images? Is there evidence of unique and interesting glacial processes [even if you aren't sure what exactly you are seeing]?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