Geoscape Ottawa-Gatineau

Grade 9 - 11 Lesson Plans to accompany the Geoscape Ottawa-Gatineau poster and website
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Theme 3 : CHANGING LANDSCAPE : THE RECENT PAST

OVERVIEW

- Students classify the effects of glaciation as erosional, transportation and depositional.
- Students understand the concept of “isostatic rebound”.
- Students locate and document evidence of glaciation in the Ottawa-Gatineau Geoscape.
- Students explain how specific features of glaciation found locally were formed.

DURATION

170 minutes (115 min. (1 period) + 55 min homework)

ACTIVITY

1. As a class, students take notes from a teacher directed outline explaining the concept of “isostatic rebound“. A gel ice pack is used for demonstration purposes. The formation and disappearance of the Champlain Sea is evidence of isostatic rebound in our Geoscape. Extent and depth of the Champlain Sea can be seen on the Urban Geology website at http://sts.gsc.nrcan.gc.ca/urban/mapviewer_champlain_sea_level.asp.

2. In a spreadsheet format, students classify the overall effects of glaciation as erosion, transportation or deposition, noting the specific characteristics and features of each. 15-20 features. i.e.:

EFFECT	APPEARANCE/ CHARACTERISTICS	FEATURE
Erosion	• Grooves, scratches in the bedrock	• Striations
	•	•
	•	•
Transportation		
Deposition		

3. On a blank outline map, students draw a generalized surficial geology map of the Ottawa region, depicting 4 major sediment units: post-Champlain Sea deposits, Champlain Sea deposits, glacial deposits, and bedrock. Create an appropriate legend that notes the types of deposits comprising each unit. For reference, use the Geological Survey of Canada’s Surficial Geology Map 1506A or 1425A, or the Urban Geology of the National Capital Area website at http://gsc.nrcan.gc.ca/urbgeo/natcap/surf_introduction_e.php . (Choose <Maps - GeoServ>)

4. Compare the surficial geology map to the satellite image on the geoscape. Discuss how the different surface deposits influence land use. (Hint: Larose Forest)

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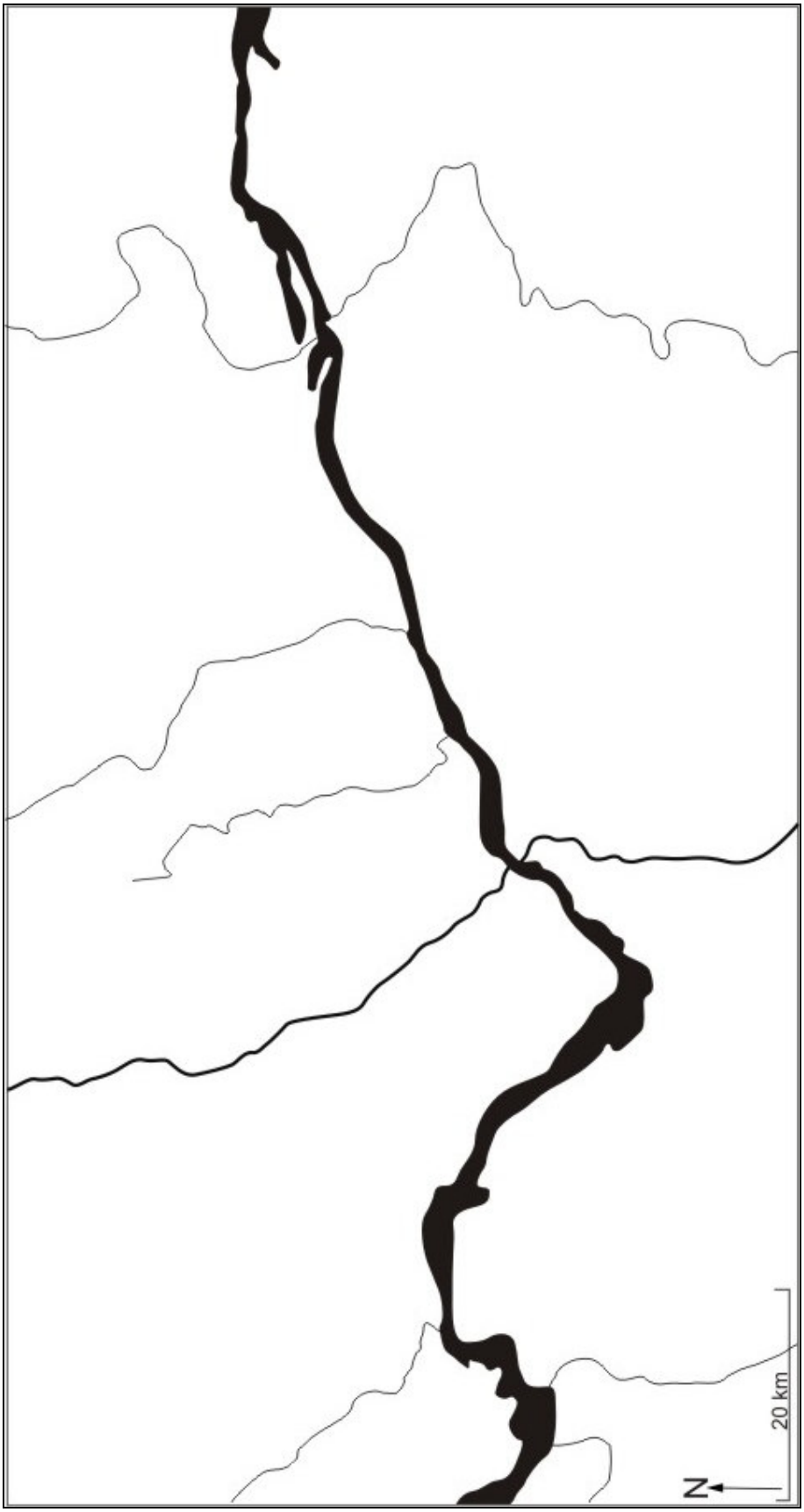
5. Students draw/shade and label on their map (activity 3), the location of an example of the following glacial features using the poster, maps, or web site noted above :

spillway	marine plain
delta	drumlin
esker	till plain
peat deposit	former channels of the Ottawa River
fluvial terraces -sand	marine beaches of Champlain Sea
kame	landslide (in marine (Leda) clay)

6. For homework, using their textbooks, students define and explain how each of the features in activity 5 was formed. Textbook is consulted.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