

Figure 2a. Surficial geology (modified from Fulton, 1995).





Figure 2c. Natural land surface conditions moderating the impact of climate change (from Tarnocai et al., 2000).



Figure 2d. Average annual peak flow (in m[°]/s) for 1000 km² drainage basins (Energy, Mines and Resources Canada, 1993).



Canada

Figure 2. Fluvial regions of Canada and sensitivity to climate change.

GEOLOGICAL SURVEY OF CANADA

NOTES rences in river characteristics and sensitivity to climate change. s of broad physiographic, climatic, and hydrological differences. g report. Within any one region, fluvial characteristics and the ictive. The sensitivity legend and notes highlight the particular as provide additional background and interpretative information. hany regions will occur in addition to existing and future human pases, the human impact will be, or is already, greater than any ses, climatic change may compound the existing impact. The the country in which human impact on streams and landuse are ortant influence. gional scale downplays the real importance of local conditions in presence of factors which cross regional boundaries. Human ignificant influence of this type is surficial geology. Glaciation in atial patterns of surficial materials which do not correspond well iographic boundaries. Certain types of material are found in all s of, for example, fine-grained silt and sand, may be a more type and sensitivity than any regional terrain or hydrological regional patterns depicted on the map must be interpreted o any particular location without additional local information. bach region, also depend on the size of the drainage basin, ted by convectional rainstorms as well as frontal precipitation, with areas of the order of approximately 100 to 10 000 km ³ are torms. Streams with very large drainage basins (drainage areas m ⁵) are sufficiently large not to have the entire drainage basin dates respond primarily to seasonal-scale runoff events such of arge storms. The sensitivity of streamflow to climatic change of runoff-generating events prevalent in a particular scale of ment is most relevant to synoptic-scale events (convectional and not depicted on the map. affect streamflow regimes and will modify the response of some mortant influences of this type are glaciers, lakes, and wetlands, mer egions than others, but local conditions of this type must be m. Glacier influence is significant in the
an delimit it precisely.
the extent of 000 (heric CO ₂ 000
ctic' and 'High Arctic', ulnerable
7a 7b
ern shield but this will be mitigated
ost), but alluvial sections of rivers ally where they flow through posits material
ATLANTIC OCEAN
e sensitive and vulnerable 4a 4b 4c
ice of rainfall-generated floods, potential significant ents, producing damaging floods, especially on the Atlantic
duce the overall sensitivity but alluvial streams are at dth increase, bank erosion, and floodplain inundation or
and vulnerable 3a 3b n (summer), and cyclonic storms

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