

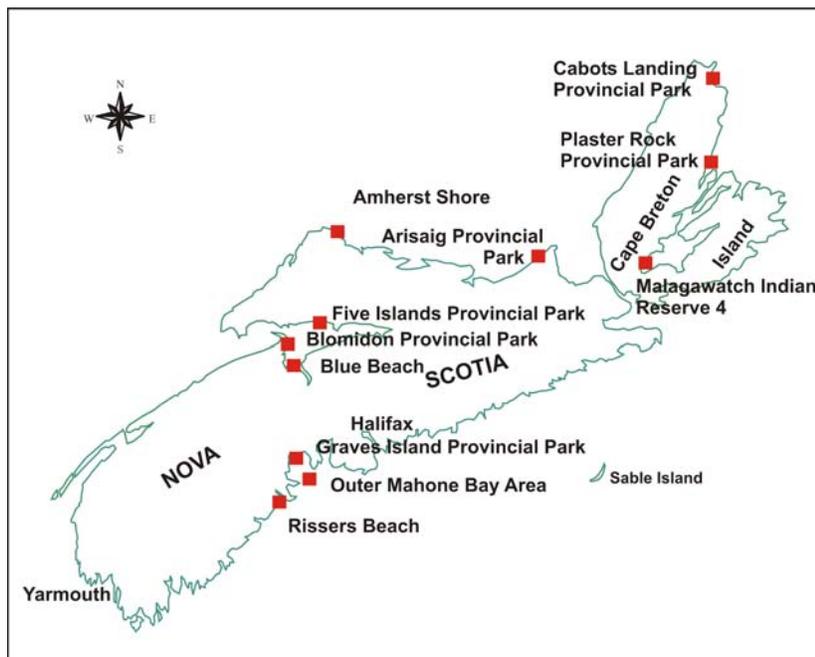
# Applications of Coastal and Engineering Geology in the Identification, Prediction and Adaption to Geohazards in Nova Scotia

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The Geological Services Division (GSD) has one full time geological position dedicated to the identification and study of geohazards within the coastal zone area of Nova Scotia.

A variety of geohazards are identified, but examples of major hazards include processes such as shore face erosion, coastal flooding, rock falls, large scale rotational slumps, beach deflation and migration. The spatial occurrence and magnitude of the impact of geohazards is highly variable in Nova Scotia. Many factors influence this variability including bedrock type and structure, the physical presence or absence of exposed bedrock, sediment supply, near-shore water depth, coastal geomorphology, and variable exposure directions to different storm track patterns. There is a myriad of other factors that locally influence the type and the magnitude of risk associated with coastal geohazards.

The division's Coastal Hazard Assessment Project has three main focuses: (1) the identification and quantification of hazard or risk, (2) determining the type of risks found in the many and diverse coastal environments in Nova Scotia and (3) examining both public and private coastal infrastructure from a diverse scientific perspective to assist in determining the best ways to mitigate risk and enhance the sustainability of coastal infrastructure. One specific example is the use of engineering geology to identify and mitigate effects such as coastal erosion and wave impact on private and public land and infrastructure. The last year's activity has concentrated on the examination of coastal provincial parks and efforts to reduce the cost of storm damage and to increase the sustainability of coastal park infrastructure (Fig. 1).



**Figure 1.** Squares identify locations where geohazard and infrastructure sustainability assessments have been or are presently being undertaken during 2010 – 2011.

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