

*Geographic Characteristics of Canada
and the Approaches to Canada*

The geographic position of Canada with respect to its neighbours and surrounding oceans is badly represented on the most commonly used maps. The familiar Mercator projection, for example, suggests that Europe lies due east from Canada, and Asia due west, with nothing to the north except a swollen and distorted Greenland. A far better presentation is given by an azimuthal projection tangent at the north pole, or better still at a point near the centre of Canada. The maps in this paper use an oblique gnomonic projection which minimizes distortion in Canada, and depicts great circles, which form the shortest trajectories between any two points on the surface of the earth, as straight lines.

On a gnomonic map such as shown in Figure 1,¹⁷ it is evident that the shortest routes for missiles or aircraft coming from the interior of the USSR to the United States lie across the Arctic Ocean, Alaska, Greenland, Iceland, and Canada. Surveillance against these threats to the United States and Canada must be carried out over these territories.

As described earlier, the protection of NATO's shipping in the North Atlantic requires surveillance of submarine movements in the Norwegian Sea and GIUK gap, and of certain passages through the Canadian Archipelago, as well as surveillance of the approaches to the seaports and shipping routes. In the Pacific, the only choke points are on the Asian coast, but two zones close to Canada that have strategic importance are the focal points outside the Juan de Fuca Straits, and the route down the west coast for oil tankers coming from Alaska.

Inside the outer boundaries of Canada there is a most uneven distribution of population and assets. The cities and most of the other settlements are concentrated close

¹⁷ This gnomonic projection is tangent at 60°N latitude and 95°W longitude (very near Churchill, Manitoba). The scale and shape of geographic features are accurate at this point and become less so as distance from the point increases.