in the more remote regions where there are few land-based meteorological reporting stations. Oil rigs can take precautions in advance of major storms.

When major accidents occur, at sea or in the air, the responsibility for search and rescue extends beyond the sovereign territory of a state. In the case of Canada, it covers large areas in the Pacific, Arctic, and Atlantic Oceans, indicated on Figure 3. An important contribution to efficient search and rescue has been made by SARSAT, a satellite system able to receive signals from an emergency location transmitter (ELT) carried by aircraft and ships. The ELT can be activated by hand or by the deceleration of a crash landing, and a satellite will record its bearing. However, rapid rescue could be expedited if surveillance had been following the course of an aircraft and could produce an accurate estimate as to its last known position, particularly in the event that the ELT is destroyed, malfunctions, or the transmission is blocked by terrain.

In the vicinity of seaports and airports, where it is most congested, sea and air traffic is surveyed and controlled by ground-based radar. But off-shore, and over most of the land area of Canada, ships and aircraft proceed without surveillance. Instructions are given as to the routes and altitudes to be adopted by aircraft, but often deviations are made, either unintentionally or sometimes on purpose.[13] Figure 3 shows the extent of air traffic control radar cover over Canada and the over-ocean areas that fall under Canadian responsibility. This assumes that the aircraft cooperates by use of a transponder beacon, which adds to the range and aids in identification. Continual tracking of air traffic would permit greater capacity, and contribute to the avoidance of accidents as well as to successful search and rescue following a crash.

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[13] "Blind Over the Pond," *Aviation Week & Space Technology*, 23 April 1990, p. 15. Article quotes the Canadian Aviation Safety Board as reporting : "... gross navigational errors continue to create serious losses of separation and sometimes risk of collision over the North Atlantic." The situation is assessed to be partly a problem with the limits of coastal radars.