

relay of signals from floating sonobuoys, including fields of long-life moored buoys, and communications to and from submerged submarines.

Surveillance for Verification and Peacekeeping

Although this study is aimed at the needs for surveillance over Canadian territory and its approaches, aircraft and satellites able to perform surveillance over this part of the world could be used elsewhere as well. In fact, it is a basic characteristic of a satellite that it cannot help overflying all of the earth's surface between the latitudes set by the inclination of its orbit. It must return its information to earth via a ground readout station, but if some delay is tolerable the data can be stored until the satellite comes into the line of sight of a readout station in home territory. A possible restriction could be presented by limitations of electrical power, should this be insufficient to maintain operation of the equipment over a large part of the orbit. In this case, surveillance over home territory might have to be suspended during the orbits used for distant surveillance. Similarly, aircraft useful for surveillance over Canada could be sent elsewhere.

The recent increase in interest over arms control is due in no small part to the improved prospects of verifying compliance with the undertakings agreed. These prospects are due to an improved climate for cooperation, but also in part to the rapidly developing capabilities of satellites and aircraft to monitor the types of activity that would signal the breaking of the terms of an arms control treaty. Studies of the potential use of observation satellites have been made by France, which suggested the creation of an International Satellite Monitoring Agency,⁷ by Canada, which has examined the possibility of using satellites to monitor activity in space (PAXSAT A),⁸ or on the ground (PAXSAT

⁷ "An International Arms Control Monitoring Agency," *SIPRI Yearbook, 1980* pp. 187 - 188. During the 1978 United Nations General Assembly Special session on Disarmament France proposed the formation of an International Satellite Monitoring Agency.

⁸ SPAR Aerospace Limited, *PAXSAT A, A Study of the Feasibility of a Spacecraft Based System to Determine the Presence of Weapons in Space*, Ottawa: November 1984.