
Airborne Versus Space-based Remote Sensing

Some may wonder why airborne surveillance, as proposed in Open Skies, is relevant in the 1990s, given that an effective space-based remote sensing capability now exists. These two types of systems constitute quite different capabilities, however, and should not be seen as mutually exclusive. There are, moreover, a number of advantages to airborne reconnaissance systems, some of which are listed below.

Technical Flexibility

Airborne surveillance offers the following technical advantages:

- the scale of the imagery can be varied by changing, for example, the focal lengths of lenses or the flying height of the aircraft;
- the effective ground resolution of the imagery can be controlled, providing either very high resolution, if required, or coarser resolution, possibly limiting sensitivities regarding the intelligence potential of the data;
- sensors can be specifically adjusted to monitor a particular situation, for example, by using particular wavebands in a multispectral scanner;
- aircraft, if stationed locally, can collect coverage at specific times or on short notice (for satellites, this is more difficult or not possible), provided suitable weather conditions prevail;
- real-time data can be provided using a downlink; alternatively, data can be recorded on tape or film and be available in a period of several hours or several days;
- aircraft and airborne sensors can be repaired and replaced more easily than satellite-based reconnaissance systems;
- airborne reconnaissance systems do not require the same degree of specialization in equipment as do satellite sensors. They can use ordinary commercially-available aircraft and sensors. There are likely to be fewer problems associated with factors such as survivability in a potentially hostile environment.

Political Acceptability

Airborne surveillance offers the following political advantages:

- the capability is within the technical competence of a relatively larger number of countries than is a space-based capability;
- the ability to restrict overflight coverage may make airborne imagery more politically attractive for some states in a multilateral/international context. It would be less difficult to demonstrate that the coverage was restricted to specified areas;
- host-country personnel can be placed onboard an airborne platform to ensure that illicit data collection does not take place;
- civilian technology or non-sensitive military technology can be used since it should not be necessary to operate from excessive stand-off distances or at the high speeds that might be required for reconnaissance of hostile territory;
- multilateral agreements are made more verifiable and acceptable for all concerned by reducing the requirement for national satellite-based systems.