NORTH AMERICAN AIR DEFENSE COMMAND

WIR

WEEKLY INTELLIGENCE REVIEW (U)

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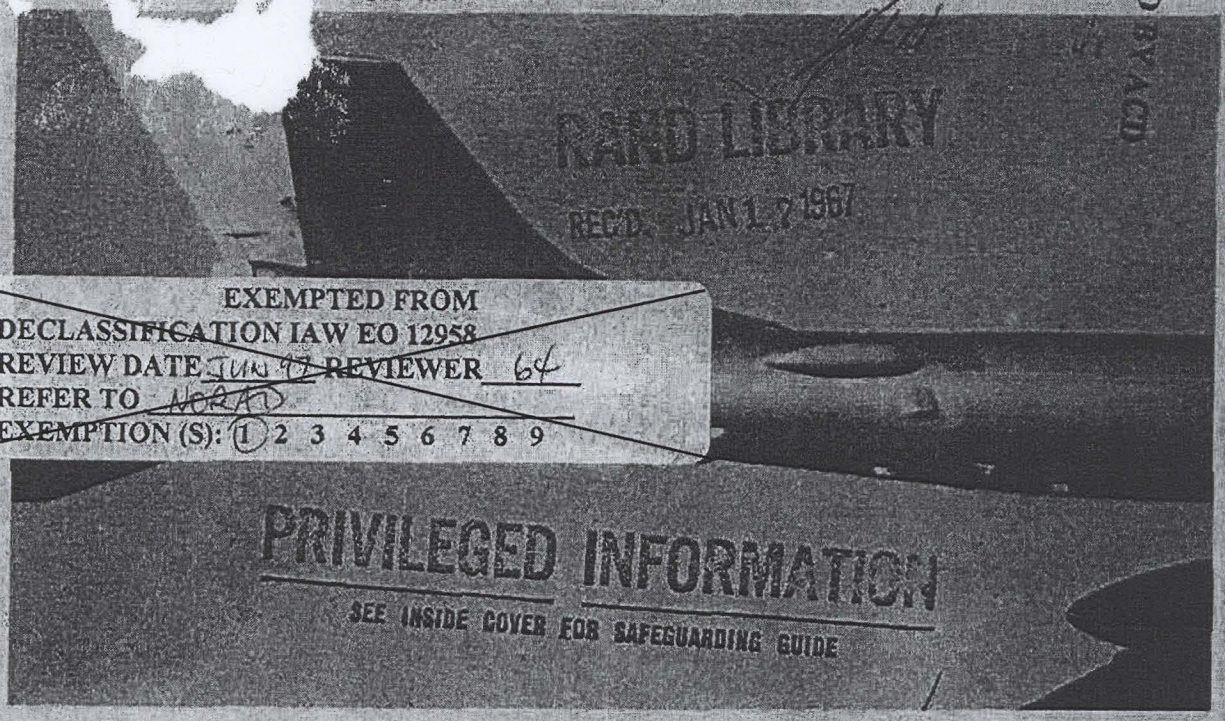

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Issue No. 2/67, 13 January 1967

The WIR in Brief

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Space

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COVER: BEAR Turboprop bomber.
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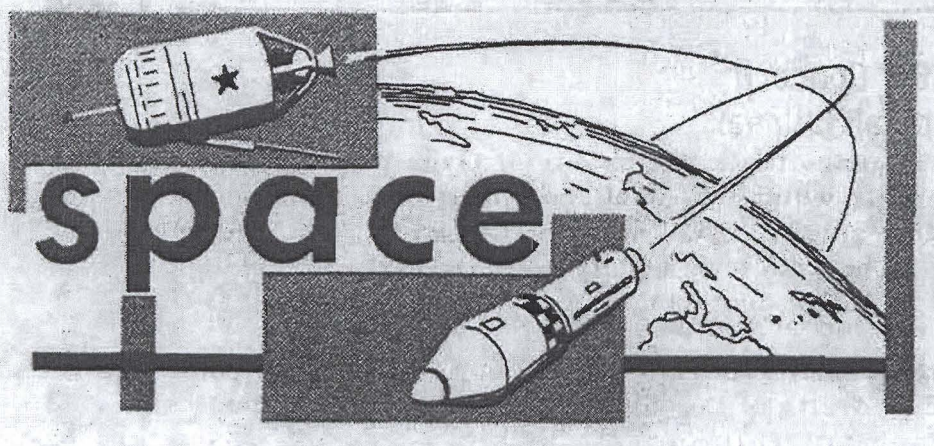

significant intelligence on space developments and trends

Molniya Satellites Could Be Developed into Missile-Launch Early-Warning System

The Soviets could be developing a satellite system to give early warning of missile launches, using the Molniya communications-relay satellites. There is no direct evidence that such a program exists, although the Soviets have announced that the Molniyas carry an experimental system for observing the Earth and that its TV system is "equipped with changeable lenses and light filters of various densities." However, such a development would be in keeping with past Soviet practice of using satellites for multiple missions when, as is often the case, the satellite is large enough to do so.

Three Molniyas injected into their usual 12-hour orbits, properly phased, could give 24-hour coverage of the Northern Hemisphere down to 10 degrees N. Launch data collected by a Molniya over the US could be relayed instantaneously to another Molniya over the USSR, which would relay it to any one of several ground stations.

A number of other factors also make the Molniya suitable for the mission:

- The 12-mhz bandwidth of its transmissions could handle large amounts of data.
- Orbital lifetime is long -- over 5 years.
- A station-keeping capability has been demonstrated.
- A suitable IR sensor, which would weigh less than 300 pounds, could be accommodated.

It may be significant that the Soviets in 1966 did not launch any of the multiple-payload Cosmoses, many of which were launched in 1964 and 1965 and which were suspected of being associated with a missile-launch detection and random-relay communications system.
(FTD)

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Mountain Acclimatization Considered for Future Cosmonaut Training

A paper presented at a recent Soviet conference on aerospace medicine described the benefits of acclimatization to high altitudes as a means of increasing resistance to various stresses. The effects of altitude on 28 subjects, some of them from mountain areas, were studied at a location at Tuya-Ashu pass, which is 11,000-13,000 feet above sea level. It was found that 45 days of acclimatization increased the tolerance of lowlanders not only for hypoxia (reduced oxygen) and physical work but also for acceleration and thermal loads. The purpose of the study was to develop a plan for mountain acclimatization for spaceship crews.

The Soviets in recent years have shown a marked increase in interest in adaptation to hypoxia, not only for training cosmonauts, but also for training troops for missions at high elevations and for preparing athletes for international contests. The Ukrainian Academy of Sciences reportedly has set up a laboratory somewhere on 18,000-foot Mt. Elbrus, to gain knowledge valuable for training Soviet competitors for the 1968 Olympic Games, which will be held in Mexico City (altitude 7500 feet).
(CIA)
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