Soviet Rocket Falls to Earth In Canada

Associated Press

A Soviet rocket crashed in northeastern Canada yesterday, lighting up the sky from New Mexico to Michigan as it fell out of orbit, a Defense Department spokesman said. No injuries or damage were reported.

The craft, which plummeted to Earth at about 1 a.m. EDT, was launched by the Soviets on Aug. 18 to carry a Gorizont communications satellite into orbit, according to Maj. Alex Mondragon, spokesman for the North American Aerospace Defense Command and the U.S. Space Command, speaking from Peterson Air Force Base near Colorado Springs.

He said the rocket was probably an SL12, one of the Soviets' workhorse models.

"It's not unusual for a rocket body not to stay in orbit," he said. "There's nothing to keep it there."

The craft was tracked by officials at the U.S. Space Surveillance Center at Cheyenne Mountain in Colorado, where about 7,200 space ve-

Lost Among the Stars

A falling Soviet satellite raises global fears

Newsweek 29 Aug 88

Posted 6 Sep 88

To help keep track of U.S. Navy vessels, the Soviet Union launched Cosmos 1900 last December. But in April the spy satellite had become another piece of silent, celestial garbage: for unknown reasons, the Soviets lost radio contact with their craft. So, for about four months, Cosmos 1900 has flown without guidance from its ground controllers, slowly slipping its orbit and sinking closer to Earth. Cosmos 1900 is due to re-enter the atmosphere sometime in the next eight weeks. On board is a nuclear reactor fired by 110 pounds of enriched uranium, enough radioactive material to cause several hundred cases of cancer if it re-enters over a populated area.

By all accounts, the odds favor an uneventful return. Tass maintains that safety systems are on board the flight. And satellites typically burn upon re-entry. In all, nine nuclear-powered craft, both U.S. and Soviet, have failed to achieve orbit or otherwise re-entered the atmosphere. Despite the long odds against such a mishap, nuclear experts and civil-defense people around the globe are preparing for a nervous couple of hours. Only 120 minutes before reentry will scientists know precisely where the craft will impact.

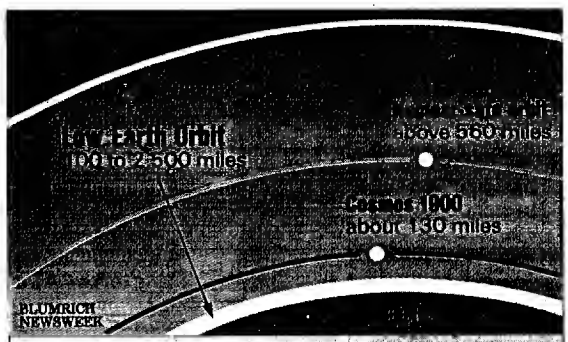
The uncertain fate of Cosmos 1900 has raised anew the question of why mankind is putting lethal material into the heavens. "All together these incidents present a pattern which suggests that this technology is unnecessarily dangerous," says Steven Aftergood, director of the Committee to Bridge the Gap, a Los Angeles-based public-interest group. Last May the Federation of American Scientists and the Committee of Soviet Scientists Against the Nuclear Threat jointly proposed a ban on orbiting nuclear reactors.

To date the Soviet Union has launched more than 30 nuclear-powered Radar Ocean Reconnaissance Satellites (RORSAT's). The RORSAT's are placed in a relatively low orbit, about 150 miles up, which makes them vulnerable to reentry. When a satellite's useful life ends, ground control is supposed to direct it into a higher, safer orbit, where it can circle the globe for hundreds of years while its radioactivity decays.

The United States also has used nuclear power in space, relying mainly on radioisotopes to provide the electricity aboard 23 spacecraft including flights to the moon and Mars. The last U.S. nuclear-powered spacecraft was launched in 1977.

For the moment, space is not likely to become a nuclear-free zone. The Soviets have shown no sign of redesigning their spy satellites. And since 1983 the United States has been developing plans for the next generation of nuclear-fueled spacecraft. Among other things, the Strategic Defense Initiative relies on nuclear power. If a disaster happens, to paraphrase the poet, the fault will lie not in the stars but with ourselves.

CONNIE LESLIE *with* MARY HAGER *in Washington*



Neither Bird Nor Plane

The uncertain fate of Cosmos 1900, which is slowly drifting out of control toward the Earth's atmosphere, underscores the growing threat from radioactive space debris.

Total launches (1957-1988)	**3,800 est.**
Still in orbit	**1,800 est.**
Decayed	**2,000 est.**
Total nuclear launches* (1961-1988)	**23 U.S., 39 Soviet**
Failure to orbit	**3 U.S., 2 Soviet**
Re-entered	**0 U.S., 4 Soviet**
Still in orbit	**9 U.S., 33 Soviet**
Orbiting trackable debris	**5,407 pieces**

*ALSO INCLUDES PLANETARY AND LUNAR MISSIONS.
SOURCES: NASA, COMMITTEE TO BRIDGE THE GAP