

Russian Early-Warning System and the Risk of an Accidental Launch

Pavel Podvig
Center for International Security and Cooperation
Stanford University

podvig@stanford.edu
www.russianforces.org

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Global Strike

- § Conventional and nuclear warheads on SLBMs

- § “Russians won’t see it”
 - Moving SSBN patrol areas to Indian Ocean?

- § “U.S. will notify Russia”

- § “Russia will make the right decision”

What is the risk?

§ Cold War legacy

- Strategic nuclear forces still on alert
- Early warning and command and control that support launch on warning
- Cold-war practices are intact

§ A deliberate attack?

- An accident is more likely
- Misinterpretation, miscommunication, a human error, etc.

Early-warning satellites in 2006

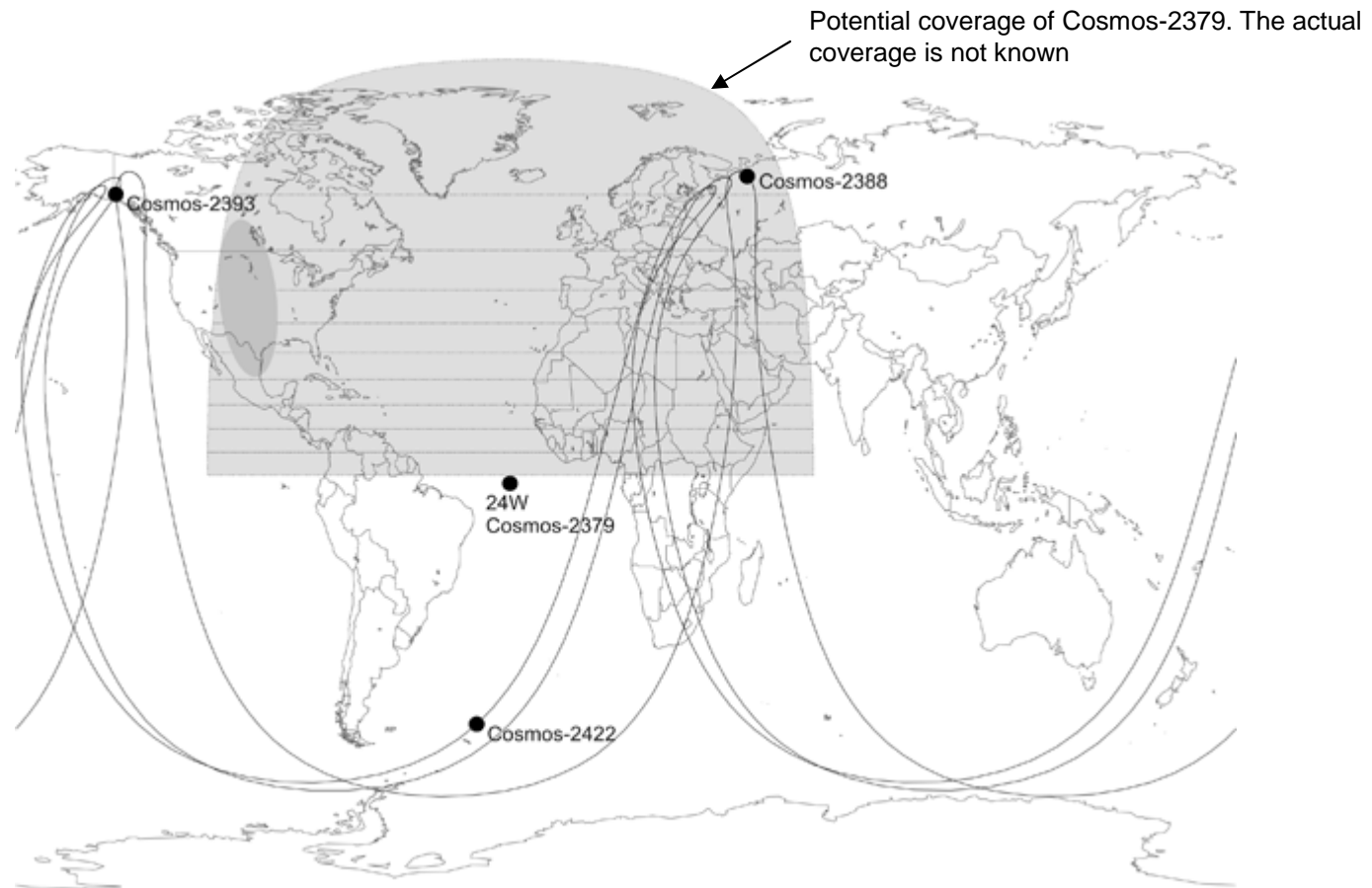
§ October 2006:

- Satellites: 3 HEO + 1 GEO
- Provide continuous coverage of U.S. ICBM bases and of (some of) the Northern Atlantic
- Last launch – July 21, 2006

§ Full constellation:

- 1st generation (US-KS): 9 HEO + 1 GEO
- 2nd generation (US-KMO): up to 7 GEO + some HEO

Early-warning satellites



Early-warning radars

§ Radars

- Old: Dnepr/Hen House
- Newer: Daryal/Pechora, Don-2N/Pushkino, Volga
- New: Voronezh-DM

§ Sites

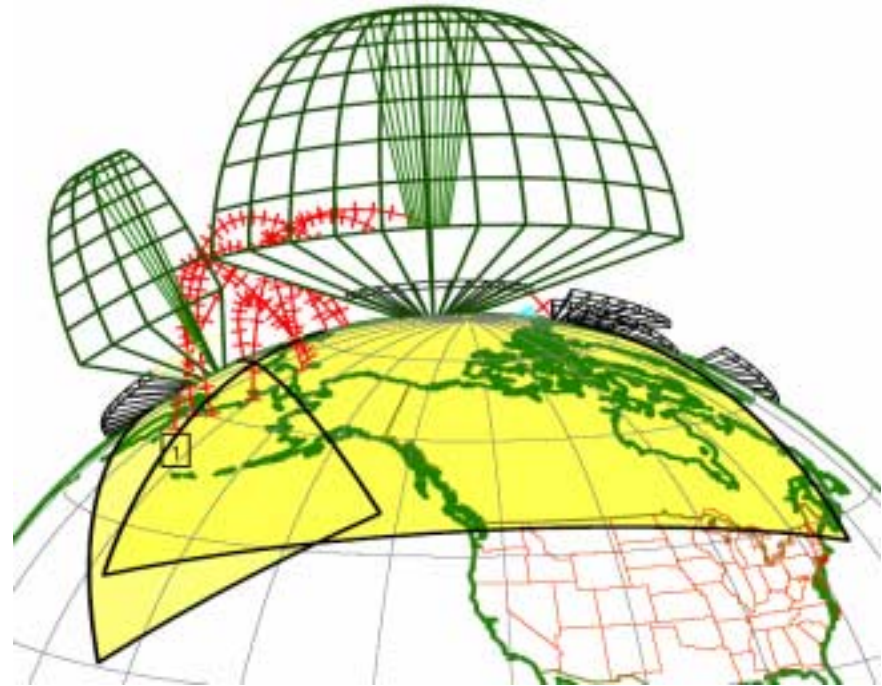
- Outside of Russia: Balkhash (Kazakhstan), Sevastopol, Mukachevo (Ukraine), Gabala (Azerbaijan), Baranovichi (Belarus)
- In Russia: Olenegorsk, Pechora, Mishelevka, Pushkino, Lekhtusi, Armavir (planned)

Early-warning radars



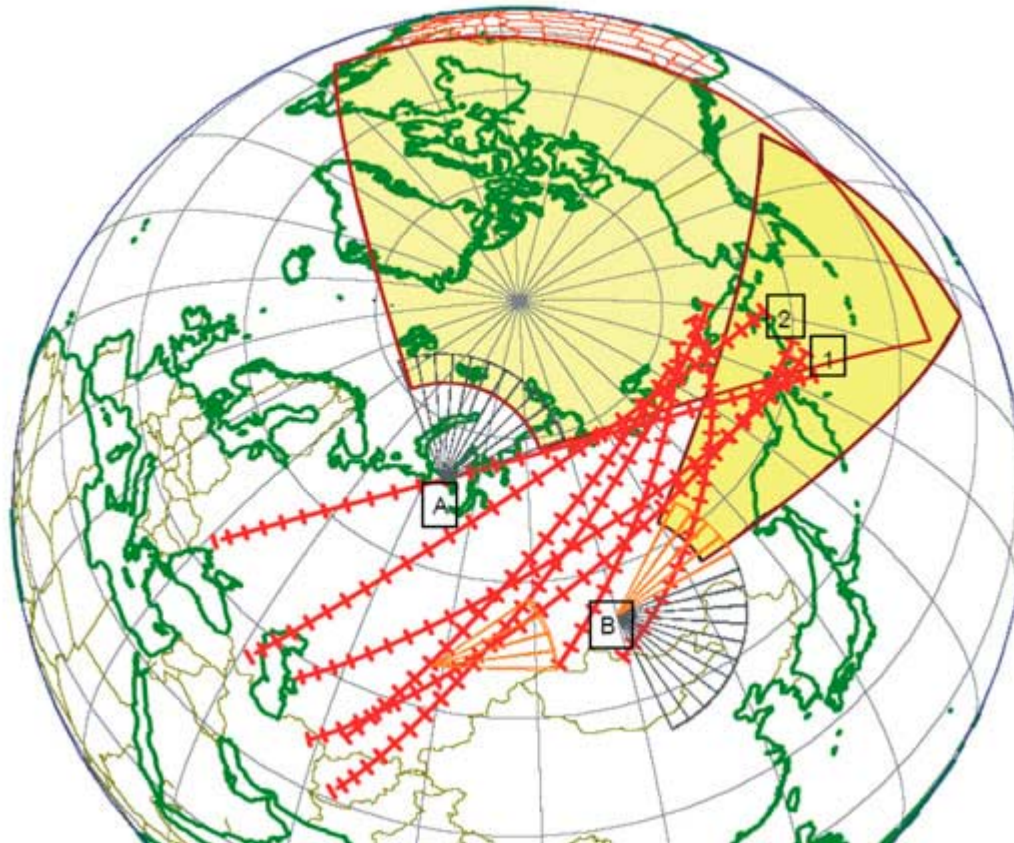
The “early-warning gap” issue

- “Russian leaders probably would not know of the attack until the warheads detonated” (Lieber and Press, “The Rise of U.S. Nuclear Primacy,” *Foreign Affairs*, March/April 2006)



<http://www.nd.edu/~klieber/>

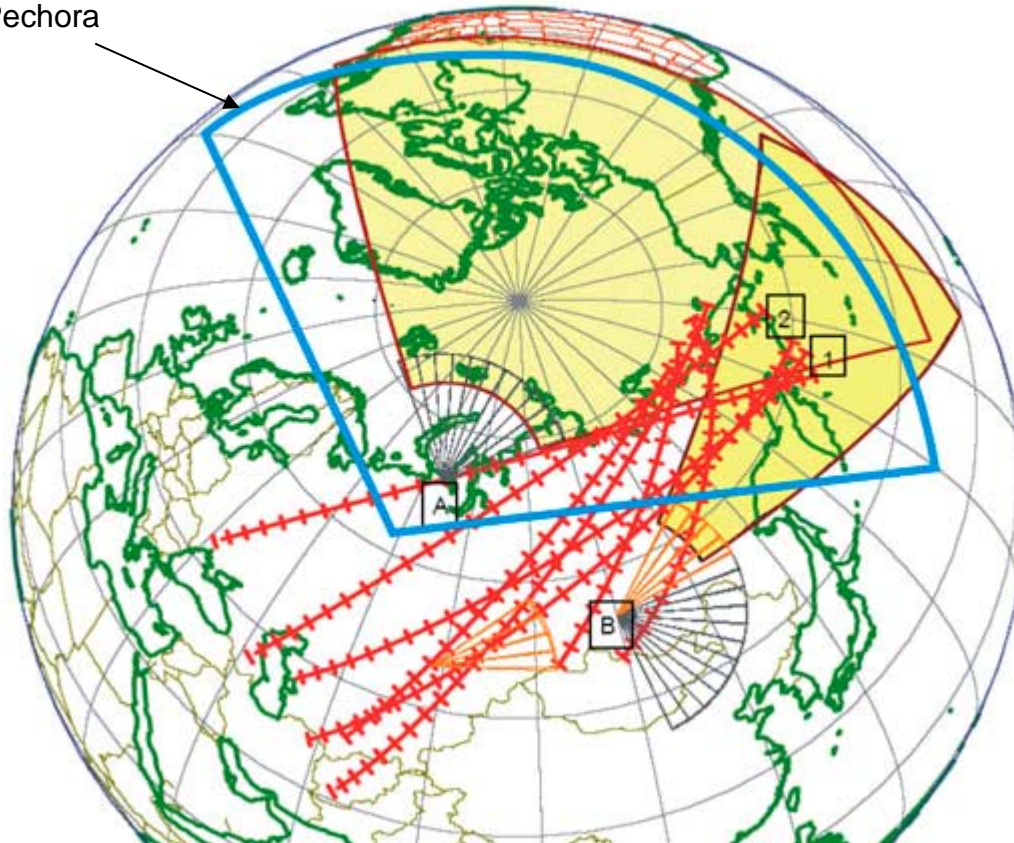
Is there a gap?



<http://www.nd.edu/~klieber/>

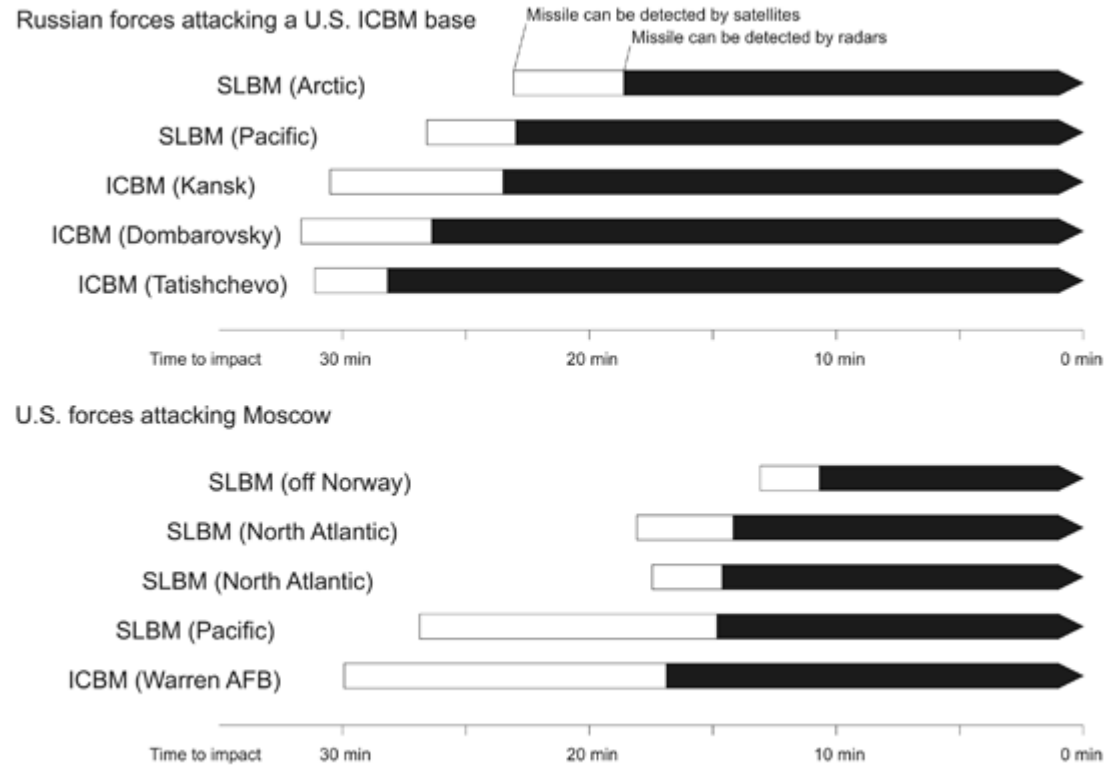
Not really

The actual fan of the
Daryal radar in Pechora



<http://www.nd.edu/~klieber/>

Would the gap matter? Attack detection timelines



Early-warning system upgrades

§ Radars

- Old: Baranovichi (2002)
- New: Lekhtusi and Armavir

§ Satellites

- Cosmos-2422 launch in July 2006
- Plans to complete the second-generation system
 - § Coverage of the Pacific and Indian oceans

Launch notification

§ Existing arrangements

- 1988 agreement. 24-hour notification
- Part of START Treaty. Expires in 2009
- Not suitable for prompt strike

§ Joint Data Exchange Center (JDEC)

- No progress since 1998
- May not work as planned

§ Pavel Podvig, "Reducing the risk of an accidental launch", *Science & Global Security*, Vol. 14, 2-3, 2006

<http://russianforces.org/podvig/eng/publications/20061000sgs.shtml>

§ Updates on the status of the Russian strategic forces and early-warning system

www.russianforces.org