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How Weather Could Link Japan Radiation to U.S.

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A serious nuclear incident that followed Friday's catastrophic Japan earthquake has raised fears of radiation leakage, a weather-dependent matter that could have a far-reaching impact.

Were there to be a significant release of radiation, tracking the fallout would become a meteorological problem.

Japan lies in the mid latitudes of the Northern Hemisphere, as does the United States. Likewise, its weather is dominated by prevailing westerly winds, but with significant variation near the earth surface.

Exactly where a hypothetical "radiation cloud", from either Fukushima Daiichi or Onagawa, would go should depend upon the weather pattern at the time of, and following, the release.



Moreover, it should depend upon how high the cloud rose into the atmosphere. This is because the winds near the upper atmosphere, home to the eastward-flowing jet stream.

Generally speaking, any radioactive cloud rising significantly into the atmosphere would travel essentially eastward over the Pacific Ocean, eventually reaching North America anywhere between Alaska and California. The precise details as to state of the atmosphere at the time of the hypothetical radiation release.

Although such a cloud would pose virtually no threat while in the upper atmosphere, the fallout at the ground level is a concern for any monitoring authority.

A hypothetical release of radiation staying near the ground would be subject to low-level winds, which are m



Residents evacuated from areas surrounding the Fukushima nuclear facilities damaged in Friday's massive earthquake react as they are asked to be checked for radiation exposure, Sunday, March 13, 2011, Koriyama city, Fukushima prefecture, Japan. (AP Photo/Wally Santana)

Commonly, during cooler months of the year, surface winds blow off shore, or essentially west to east, in not confined to the lower atmosphere should be steered out to sea under such conditions.

Still, there are times when area winds blow on shore, and a hypothetical release amid a setting of onshore winds would be steered toward authorities in Japan.

Calculated time for radioactive particles to cross the Pacific from the power plants in Japan to big direct path and move at a speed of 20 mph:

Cities	Est. Distance (miles)	Est. Time to Cross Pacific
Anchorage	3,457	7
Honolulu	3,847	8
Seattle	4,792	10
Los Angeles	5,477	11

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