Thank you for your comment, Lance Olsen.

The comment tracking number that has been assigned to your comment is UGPW_S50008.

Comment Date: November 8, 2008 15:28:25PM
Upper Great Plains Wind PEIS
Comment ID: UGPW_S50008

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Comment Submitted:

Current proposed location of wind farms seems based on recent historic trends of atmospheric circulation. That circulation will be subject to at least some change under rising global temperates. For example, see the press release below. and keep in mind that changes of wind direction would not have to be as dramatic as those described there, in order to affect energy production by the proposed wind farms.

----------Key Quote----------
"Dartmouth researchers have learned that the prevailing winds in the mid latitudes of North America, which now blow from the west, once
blew from the east."

Dartmouth News > News Releases > 2007 > January > The winds of change

Dartmouth College Office of Public Affairs * Press Release
Posted 01/23/07 * Susan Knapp *
(603) 646-3661

Dartmouth researchers learn that North America's wind patterns have shifted significantly in the past 30,000 years

Dartmouth researchers have learned that the prevailing winds in themid latitudes of North America, which now blow from the west, once
blew from the east. They reached this conclusion by analyzing 14,000-to 30,000-year-old wood samples from areas in the mid-latitudes of North America (40-50°N), which represents the region north of Denver
and Philadelphia and south of Winnipeg and Vancouver.

The researchers report their findings online on Jan. 23 in the journal Geology, published by the Geological Society of America.

"Today in the mid-latitude zone of North America, marine moisture i transported either from the west coast by westerly winds, or from
both the west and east coasts by storms," says Xiahong Feng, the paper's lead author and a professor of earth sciences. "In this study, we found evidence that during the last glacial period, about 14-36 thousand years ago, the prevailing wind in this zone was easterly, and marine moisture came predominantly from the East Coast."

Feng explains that global climate change is often manifested by changes in general atmospheric circulation, i.e. winds, and this results in changing temperature and precipitation patterns. Clues of past climates usually hint at temperature and precipitation changes, but this is the first time that changing continental wind patterns have been reconstructed.

The researchers gathered their evidence using oxygen and hydrogen isotopic compositions of cellulose extracted from ancient wood. Feng

and her team interpret the historic prevailing easterlies to be a result of a growing and intensifying northern circumpolar vortex, which was influenced by the powerful Laurentide Ice Sheet, an enormous mass of ice that covered a great deal of northern North America. Under this circulation regime, the jet stream shiftedsouthward, and as a result, the Pacific Northwest received much less marine moisture from the Pacific. This is consistent with earlierstudies of vegetation in the Pacific Northwest, indicating that theregion was significantly drier during the last glaciation.

"This study is likely to open up new avenues of research based on oxygen and hydrogen isotopes in old wood," says Feng. "Climate change
involves interactions among temperature, precipitation, and wind, but until now research has rarely been able to observe or confirm prehistoric winds and their continental-scale patterns.