

17 March, 2009

**Global Monitoring Division Hot Items**

## **NOAA Scientists Document New Rural, Rapid, Cold Temperature Ozone Production Phe**

**Global Monitoring Division - ESRL-GMD**

This story entered on 16th Jan, 2009 08:29:23 PM PST

In a paper published in Nature GeoSciences, Monday, January 19, NOAA ESRL scientists document a new photochemical ozone production phenomenon that occurs under cold, wintertime conditions in rural Wyoming. From ambient ozone background concentrations of around 20 ppb at sunrise, hourly average ozone has been observed to rise to 120 ppb in 3-4 hours near the Jonah-Pinedale Antidine (JPA) natural gas fields western Wyoming. Between January and March 2008, the area was in exceedance of USEPA 8 hour average ozone concentrations of 75 ppb, on 14 days.

Background: Ozone is an air pollutant that can cause severe respiratory health effects, especially in children and the elderly. Photochemical ozone production is considered a summertime, urban phenomenon, and as such the USEPA only requires ozone to be monitored from April to October. High levels of photochemical ozone production was not thought to be possible in winter.

Significance: The JPA field produces enough natural gas to heat 17 million US homes annually and valued at ~\$4 billion /year. The output of the field is expected to be \$12 billion by 2020. The State of Wyoming receives in the region of \$100 million/year in tax revenue from the field. Production in the field may be curtailed in winter if the EPA ozone exceedances continue. This could cost the US economy up to \$30 million per day

**More information:** <http://www.esrl.noaa.gov/gmd>**Contact information****Name:** Russ C Schnell**Tel:** (303) 497-6733**[Russell.C.Schnell@noaa.gov](mailto:Russell.C.Schnell@noaa.gov)****National Oceanic and Atmospheric Administration****U.S. Department of Commerce****[Admin login](#) | [Privacy Policy](#) | [DISCLAIMER](#)****[Contact Us](#)**<http://www.oar.noaa.gov>