

## **GHGs may create ozone hole over the Arctic**

Scientists have reported that greenhouse gases (GHGs) could lead to another ozone hole, this time over the Northern Hemisphere, which would complement the present one over the Antarctic. An international team of researchers examined satellite data and determined that Arctic denitrification, i.e. freezing out of nitrogen compounds from the atmosphere, could be initiated by prolonging winter temperatures for periods of less than two weeks. Although GHGs increase the temperature on the earth's surface, they tend to cool the upper atmosphere, which removes the nitrogen compounds, contributing to ozone destruction.

Polar clouds that form in the stratosphere, 9-25 miles above the planet's surface, provide a surface where harmless forms of chlorine can convert to ozone-destroying chemicals. If the temperatures in the stratosphere are lower, more clouds will form and persist, and these conditions will lead to more ozone loss. Frigid polar stratospheric clouds (PSCs) cause airborne vapours of nitrogen-bearing acids, which ordinarily inhibit destruction of ozone, to freeze/denitrify into inactive forms. (Website: <http://www.pollutiononline.com>)