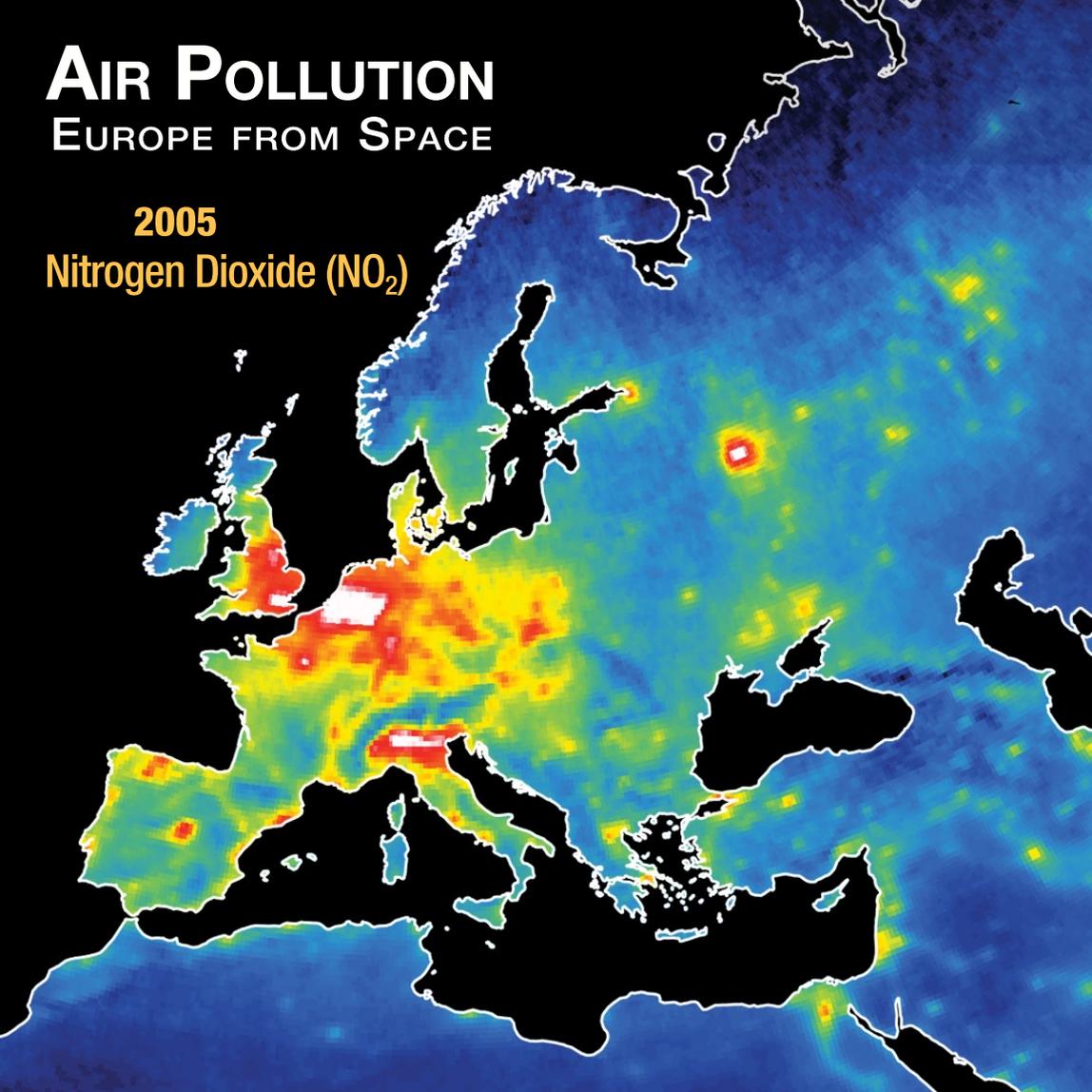


# AIR POLLUTION

## EUROPE FROM SPACE

2005

Nitrogen Dioxide (NO<sub>2</sub>)

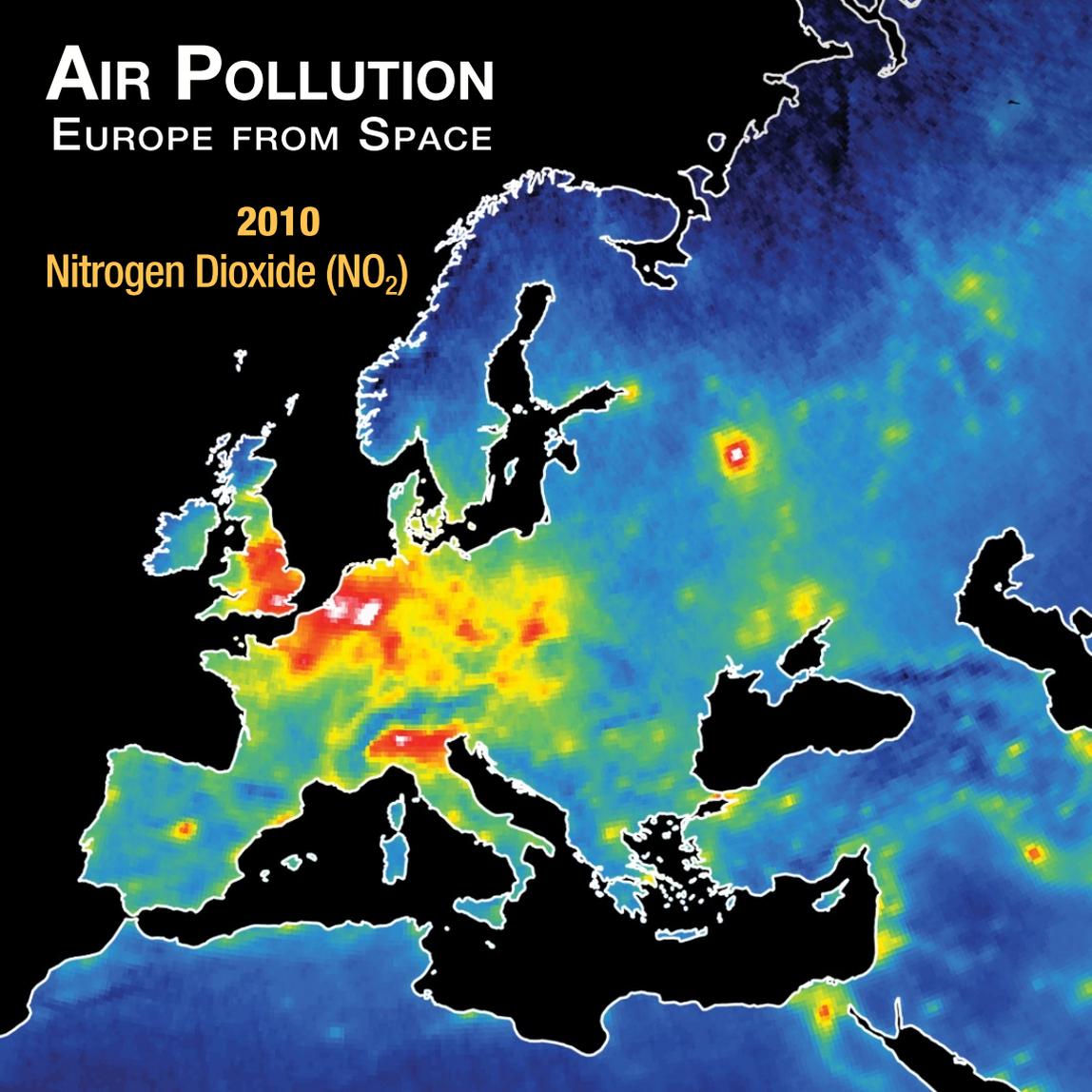


# AIR POLLUTION

## EUROPE FROM SPACE

2010

Nitrogen Dioxide (NO<sub>2</sub>)



# AIR POLLUTION

## EUROPE FROM SPACE

Population Density

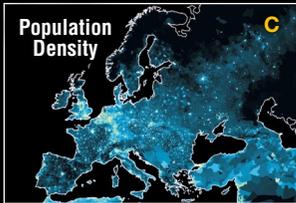
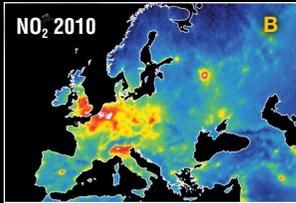
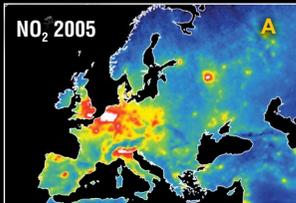


# AIR POLLUTION

## EUROPE FROM SPACE

City Lights at Night





## Assessing Air Quality from Space: Population and Air Pollution

The Ozone Monitoring Instrument (OMI), onboard NASA's Earth-observing satellite, Aura, measures the air pollutant nitrogen dioxide (NO<sub>2</sub>) from high above Earth's surface. NO<sub>2</sub> is released into the air by burning coal, gasoline, and other fossil fuels. It is unhealthy to breathe and reacts with other gases to produce ozone, which is also unhealthy to breathe. Notice the large decrease in NO<sub>2</sub> between 2005 and 2010 (Maps **A** & **B**) as a result of regulations of NO<sub>x</sub> (NO<sub>x</sub> = NO + NO<sub>2</sub>) emissions.

In Europe, population density (Map **C**) is an excellent indicator of air pollution levels. The highest levels of NO<sub>2</sub> are found in heavily populated areas, such as the Netherlands, while the lowest levels are found in lightly populated areas, such as Scandinavia.

The intensity of city lights (Map **D**), measured by the Defense Meteorological Satellite Program Operational Linescan System, shows a strong correlation with pollution, where the brightest lights coincide with the highest pollution.

More information about NASA's Aura satellite and OMI, a Dutch/Finnish collaboration, is available at:

[aura.gsfc.nasa.gov](http://aura.gsfc.nasa.gov)  
and  
[www.knmi.nl/omi](http://www.knmi.nl/omi)