

# OMPS

## Ozone Mapping and Profiler Suite

### Mission

Measures the concentration of ozone in the Earth's atmosphere and tracks the health of the ozone layer

### Instrument Contractor

Ball Aerospace & Technology Corporation, Boulder, Colorado

### Spectral Coverage

Mapper 0.3–0.38  $\mu\text{m}$   
Profiler 0.25–0.31  $\mu\text{m}$

### Resolution

Mapper 50 km  
Profiler 250 km

### Swath

Mapper 2800 km

### Mass

56 kilograms

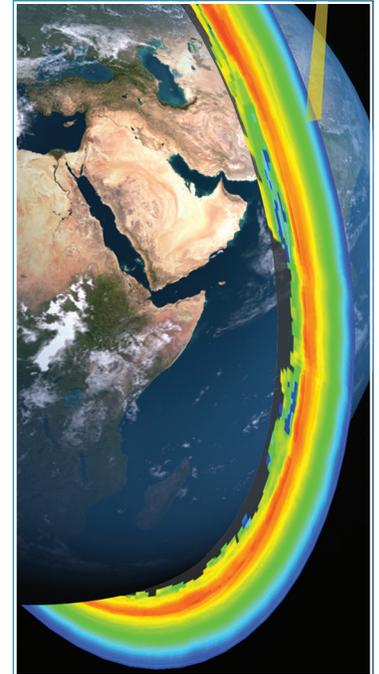
## What is OMPS?

The advanced Ozone Mapping and Profiler Suite (OMPS) tracks the health of the ozone layer and measures the concentration of ozone in the Earth's atmosphere.

OMPS consists of three spectrometers: a downward-looking nadir mapper, nadir profiler and limb profiler. The entire OMPS suite, OMPS-Nadir (OMPS-N) and OMPS-Limb (OMPS-L), currently fly on board the Suomi NPP spacecraft and are scheduled to fly on the JPSS-2 satellite mission.

OMPS-N will fly on the JPSS-1 satellite mission and will be used to generate total column ozone measurements.

OMPS collects total column and vertical profile ozone data and continues the daily global data produced by current ozone monitoring systems—the Solar Backscatter Ultraviolet Radiometer (SBUV/2) and Total Ozone Mapping Spectrometer (TOMS)—but with higher fidelity and larger swaths.



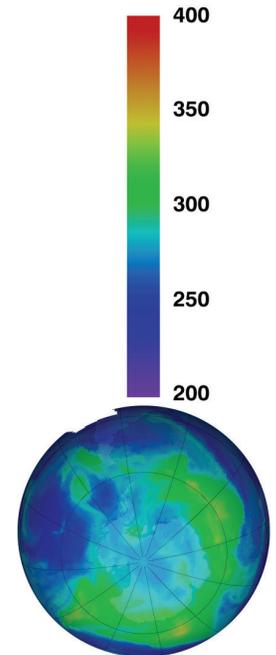
Cross-section of the Earth's ozone layer as measured by the OMPS - Credit: NOAA/NASA

## Benefits

Data from OMPS-N will continue three decades of total ozone and ozone profile records. This important data is used by ozone-assessment researchers and policy makers to create global climate models. Understanding ozone in the atmosphere is critical as it partially blocks harmful ultraviolet light from the sun from striking the Earth's surface.

OMPS-N measurements also fulfill the U.S. treaty obligation to monitor global ozone concentrations for the Montreal Protocol to ensure there are no gaps in coverage.

OMPS-N data is useful, when combined with cloud predictions, to produce better ultraviolet index forecasts, which help the public stay aware of the harms of UV damage. Though ozone measurement is the primary purpose of OMPS, it will also be able to measure other atmospheric particles like sulfur dioxide and ash that result from volcanic eruptions. These measurements will be helpful in providing aircraft safety warnings.



The thickness of the Earth's ozone layer on January 27th, 2012 - Credit: NASA/NOAA

# SAFE

