Overview of the

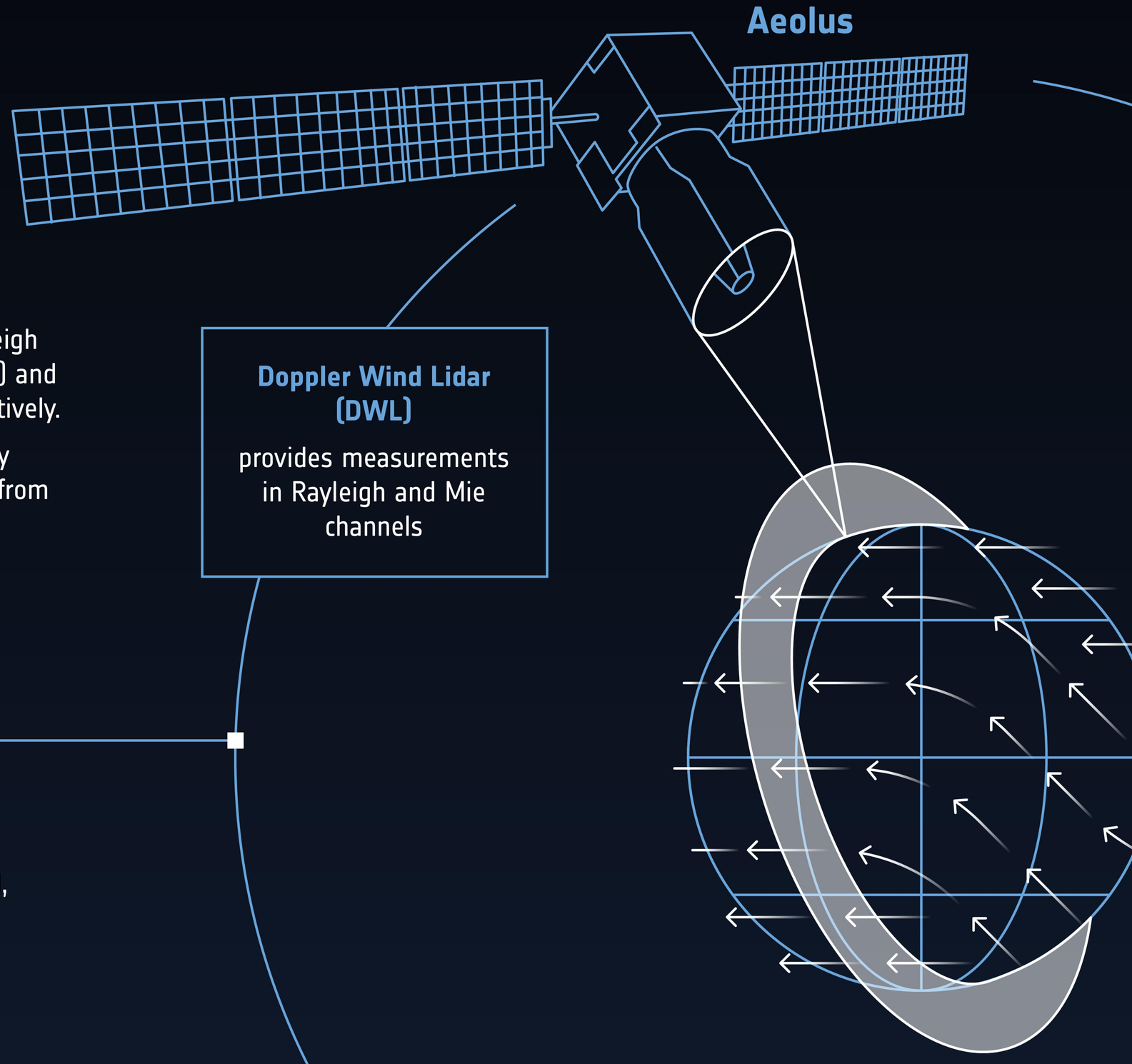
Aeolus Level-1B wind product

The collection

The first space-based Doppler Wind Lidar (DWL) onboard the Aeolus satellite **measures global profiles of horizontal line-of-sight (HLOS) wind speed.**

The lidar provides separate measurements in Rayleigh and Mie channels, representing molecular (clear air) and particulate (aerosol and clouds) backscatter, respectively.

The Level-1B wind product contains the preliminary HLOS (Horizontal Line of Sight) wind observations from the lidar's Rayleigh and Mie receivers, which are generated in near real-time



Products

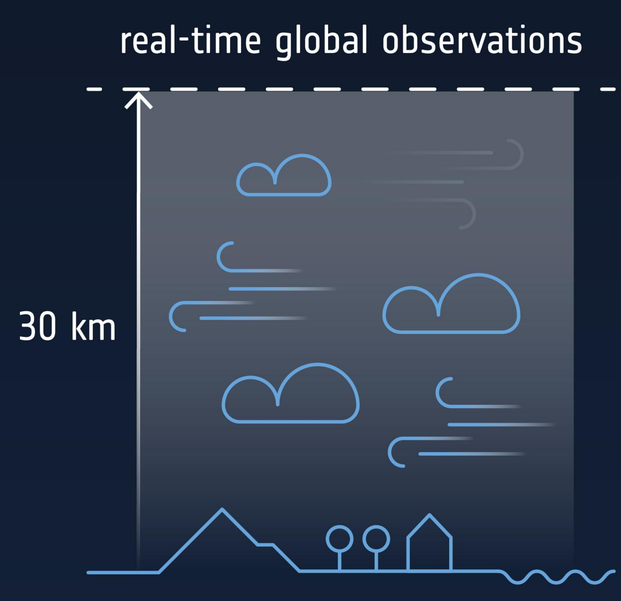
The Level-1B wind product is generated within 3 hours after data acquisition.

Standard atmospheric correction (Rayleigh channel), receiver response and bias correction are applied

Mission and instrument

Mission	The Aeolus mission forms part of ESA's Earth Explorers programme
Instrument	The Atmospheric Laser Doppler Instrument (ALADIN) is a direct detection DWL
Measurements	Near real-time global observations of wind profiles from Earth's surface up to 30 km altitude

real-time global observations



vertical distributions of aerosols and cloud particles

Coverage

Temporal	3 September 2018 to 30 April 2023
Spatial	Global distribution
Resolution	Horizontal resolution at measurement scale: **3 km** Horizontal resolution at observation scale for Rayleigh/Mie: **87/10 km** Vertical resolution: **250-2000 m**
Wavelengths	Ultra violet spectral region (355 nm)

Applications

The data enable research related to:

- **Weather forecasting**
- **Atmospheric processes**
- **Climate research**

Data access type

Access to the collection is free and open:
earth.esa.int/eogateway/catalog/aeolus-preliminary-hlos-horizontal-line-of-sight-wind-observations-for-rayleigh-and-mie-receivers