

# Aeolus in Brief

## What?

Aeolus is ESA's youngest Earth Explorer and the first satellite mission to acquire profiles of Earth's winds on a global scale and vertical distribution of aerosol and clouds

## When?

It was launched on a Vega rocket on 22 August 2018, from Europe's Spaceport in Kourou, French Guiana. It orbits at an altitude of 320 km

## Why?

Aeolus's near-real time observations improve the accuracy of numerical weather prediction and advance our understanding of atmosphere dynamics and processes, relevant to climate variability

## Where?

It was built by Airbus in Stevenage, UK, with the ALADIN instrument developed by Airbus engineers in Toulouse, France and its laser transmitters by Leonardo SpA in Florence and Pomezia, Italy

## A helping hand

During the COVID-19 pandemic, Aeolus measurements proved crucial to fill the gap in weather observations created by the grounding of commercial airplane fleets

## Innovation

The satellite carries the unique Atmospheric LASer Doppler Instrument (ALADIN), the first Doppler wind lidar in space

## Tropical success

Aeolus data have made a big difference to weather prediction over parts of the world where there is a lack of other wind observations, such as tropical regions

## Public release

Aeolus data went public in May 2020, and are now being distributed in near real-time through ESA's Aeolus Online Dissemination Centre as well as EUMETCast, and WMO's Global Telecommunication System (GTS)

## Assimilation

Four of Europe's biggest meteorological services have already assimilated Aeolus data into their forecasts: the European Centre for Medium-Range Weather Forecasts, Germany's Deutscher Wetterdienst, Météo-France and the UK's Meteorological Office

## Beyond weather prediction

Aeolus data have proven their wider application in air quality and climate related studies, when they helped scientists track smoke from wildfires in the atmosphere and investigate the Quasi-Biennial Oscillation over the Tropical belt

## For more information visit:

<https://earth.esa.int/eogateway/missions/aeolus>

## Data Access

<https://earth.esa.int/eogateway/missions/aeolus/data>

