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AEOLUS TROPICAL CAMPAIGN 2021

Understanding Aeolus in the Tropics



Contraction

OBJECTIVES

- Aeolus wind, aerosol and cloud product validation
- Understanding dynamics, clouds and aerosols in the Tropics
- Investigation of the Saharan air layer, African Easterly waves and jets and convection in the Intertropical Convergence Zone (ITCZ)
- Investigation of tropical cyclogenesis
- Support EarthCARE algorithm development

AEOLUS

- Launched on 22 August 2018
- First Doppler Wind Lidar in space
- Global wind observations
- Aerosol and cloud information
- For improving quality of weather forecasts
- Understanding atmospheric dynamics and climate processes





WHAT AND WHEN?

 Aeolus underflights will be performed by a German, American, French, Slovenian and Cypriot aircraft. These will be complemented by ground-based instruments from international teams, including novel lidar instrument tailored for Aeolus

validation. The main campaign will be in July 2021, with some teams starting in June 2021 and finishing in August 2021.

Cape Verde is an island country located in the Tropics in the Central Atlantic around 570 km off the coast of West Africa. Strong winds frequently transport desert dust and smoke from wildfires on the continent to the islands, which make the location a hot spot for investigations of cloudaerosol interaction and atmospheric dynamics. Supporting Aeolus product validation and calibration is particularly important in the tropics, where Aeolus observations are expected to have a very high impact for numerical weather prediction. In synergy with an impressive collection of airborne and ground-based instrumentation, Aeolus will help to understand these processes.



The Aeolus Tropical Campaign is organized by ESA in collaboration with European and US Partners, namely the German Aerospace Center (*DLR*), the National Aeronautics and Space Administration (*NASA*), Météo-France, Atmospheres Laboratory, Backgrounds, Space Observations (*LATMOS*), the Cyprus Institute (*CYI*), National Observatory of Athens (*NOA*), Leibniz Institute for Tropospheric Research (*TROPOS*), University of Nova Gorica (*UNG*), the Ocean Science Centre Mindelo (*OSCM*), and many more.



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