

## **Fifty years of dust sources detection from satellite data**

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Since the first use of aerosol optical depth retrieved from space over ocean to infer dust sources by Usar, Prospero and Stowe in 1997 to the first hyperspectral instrument (Earth Surface Mineral Dust Source Investigation or EMIT) retrieving soil mineralogy since July 2022 considerable progress has been made to characterize dust sources. However each new step forward was bringing its own load of additional uncertainties.

This presentation will provide an overview of the key results of 50 years of dust sources detection from space, and their continual questioning by in-situ observations and model simulations. I have no intention to be exhaustive but will show how some milestones in this field of research have been achieved following such questioning. Although the latest generation of satellite instruments is offering high quality at high resolution aerosol products, new challenges lie ahead.