



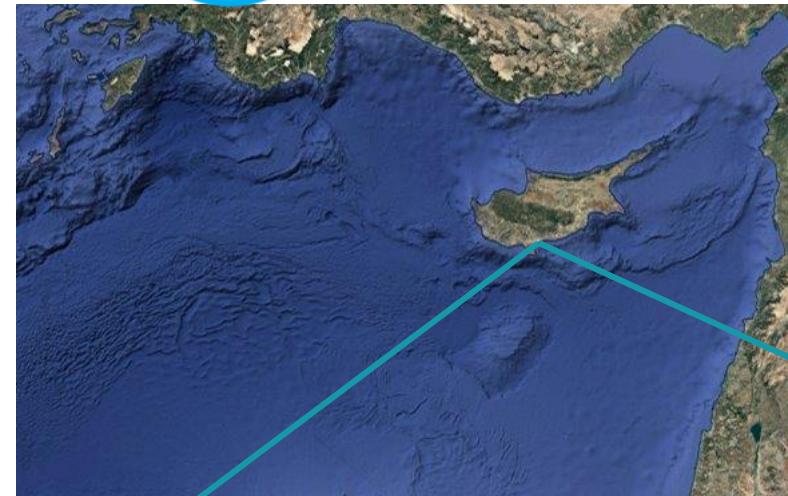
Cyprus Atmospheric Remote-Sensing Observatory (CARO) National Facility

Progress, Challenges, and Lessons Learned

Presenter: Konstantinos Chrysostomou, PhD student

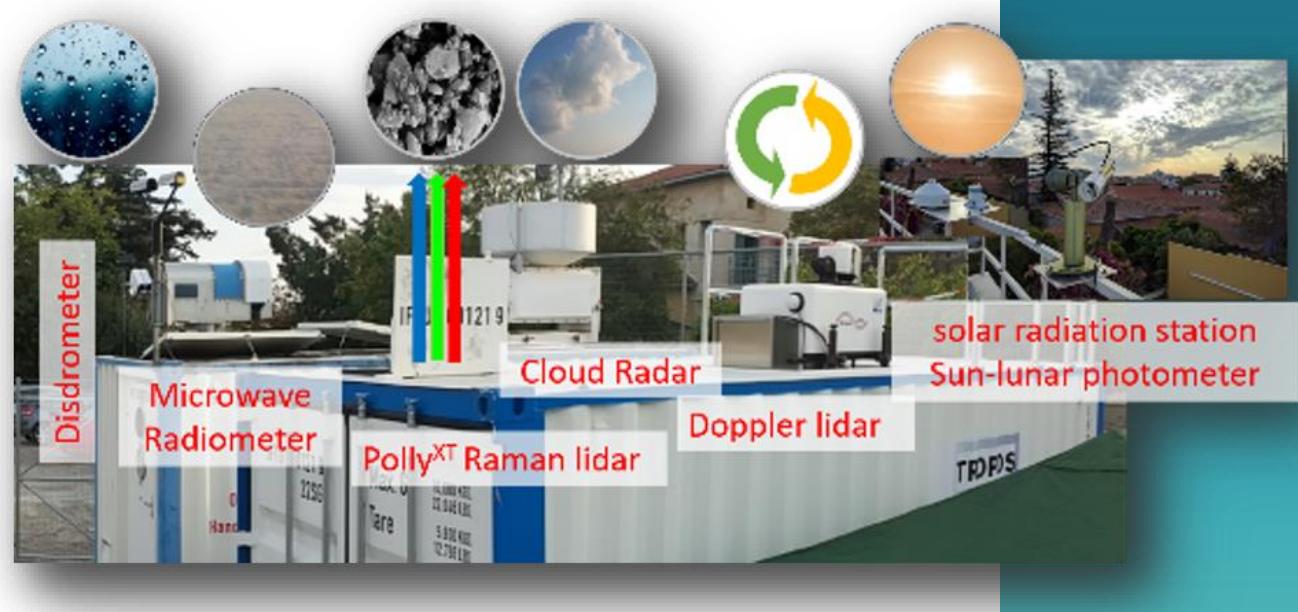
CCRES/CLU Autumn Workshop, Evora, 22 October 2025

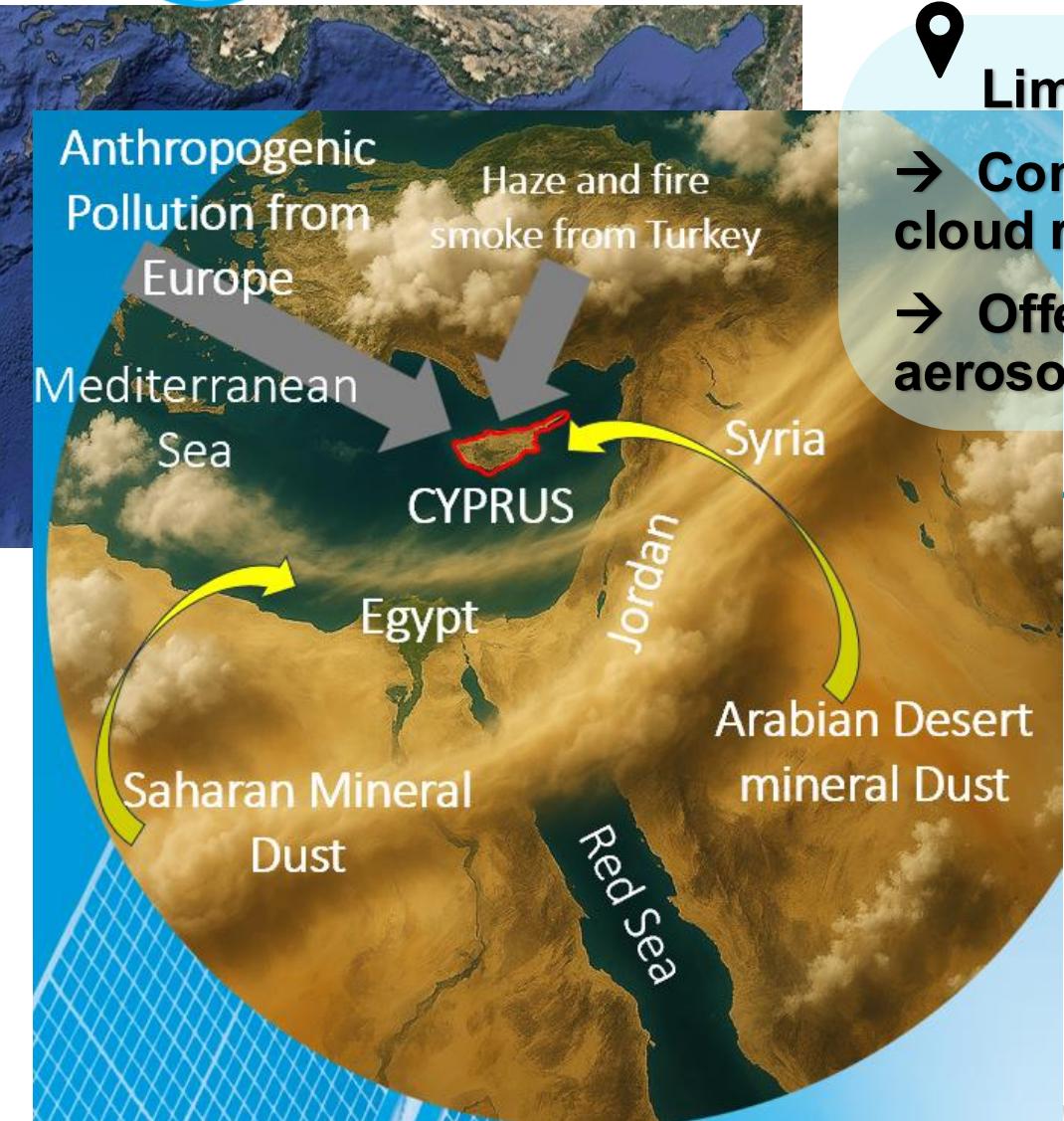
CARO-ECoE National Facility | Limassol, CY



Limassol (34.677°N, 33.038°E) @ 10 m amsl

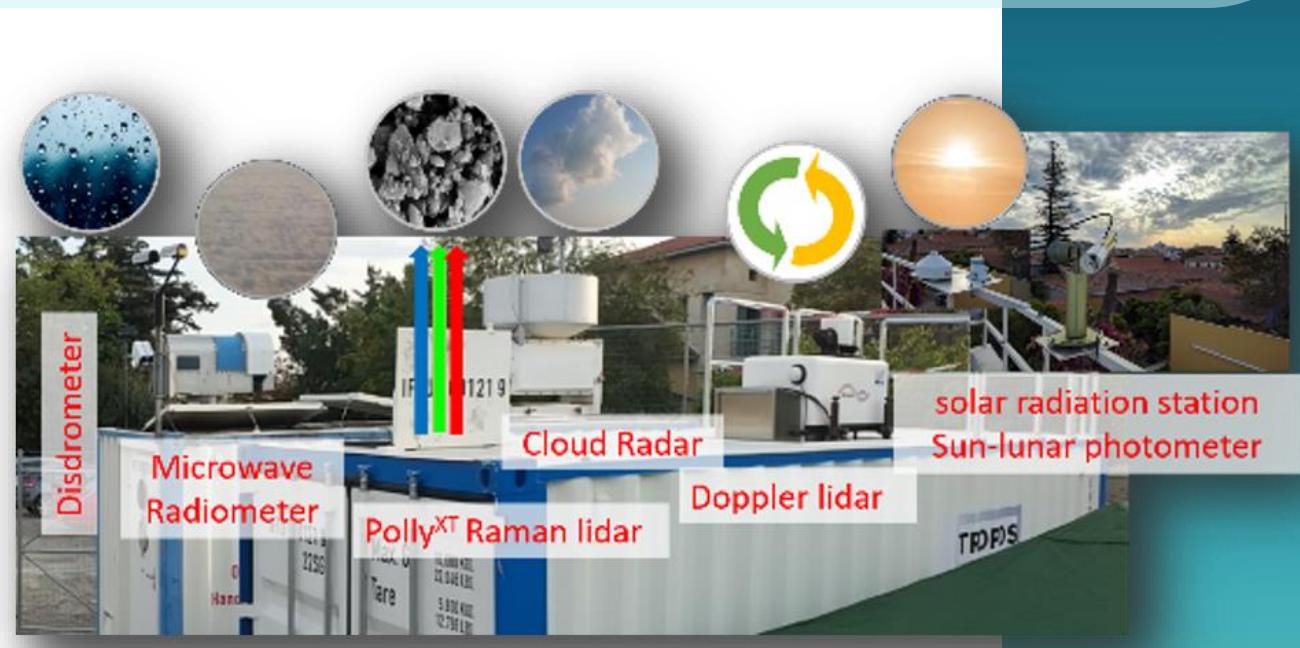
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- **Offers complete insights into atmospheric dynamics, aerosol load, and cloud dynamics.**





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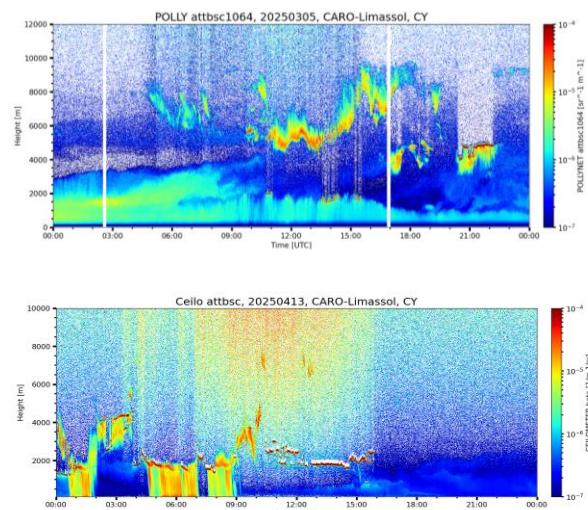
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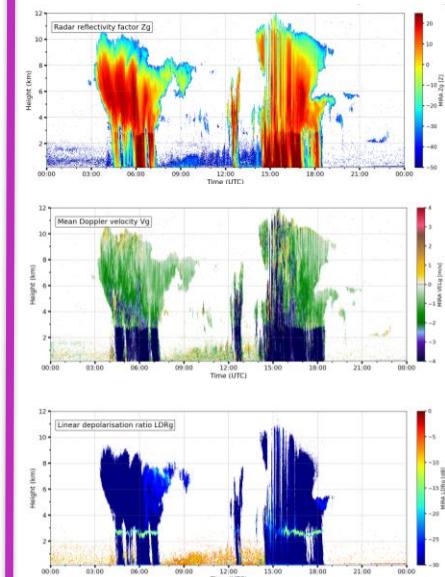
CARO - Instrumentation and Measurements



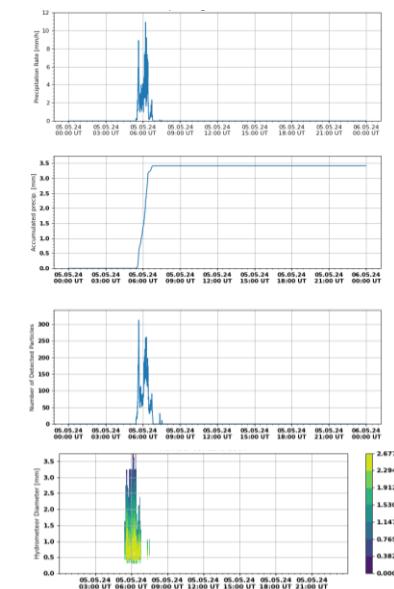
Aerosols



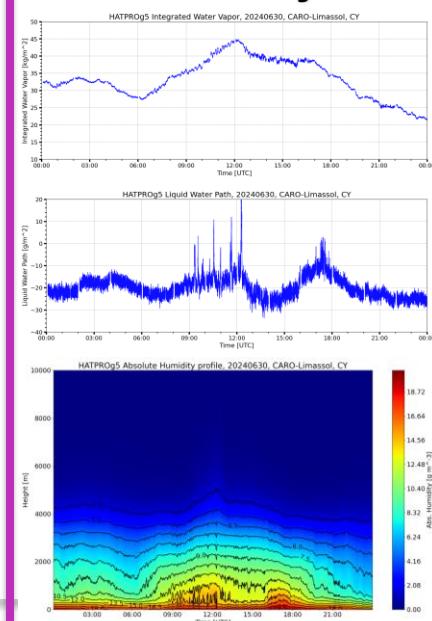
Clouds



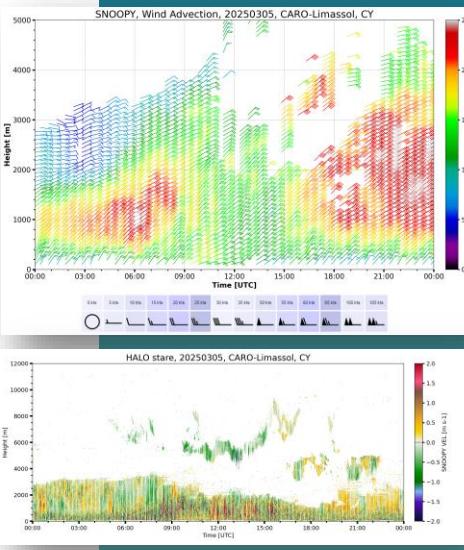
Precipitation



Temperature & Humidity



Dynamics



HATPRO-G5 MWR

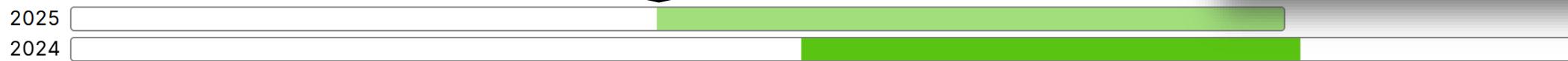
Instrument

PID	https://hdl.handle.net/21.12132/3.33ef1f084a964bff
Owner	ERATOSTHENES Centre of Excellence (ECoE)
Model	RPG-HATPRO-G5
Type	scanning microwave radiometer
Serial number	0030242

Locations

2024-06-26 – now Limassol

Product availability



All products Some products No products

23/05/2025

In operation, but only
in single pointing mode

26/06/2024

Start of operation
at CARO NF

25/10/2024

Out of service due to water leakage
inside the cloud container, causing
short-circuit problems

→ The internal elevation motor for the IR-Radiometer as well as the internal elevation motor for the (internal) mirror were defective.

→ Changes were made at the power supply of the IR motor to prevent defects

→ Replacement of a fuse



DCR Mira-35

PID	https://hdl.handle.net/21.12132/3.9af43f93e39649f5
Owner	ERATOSTHENES Centre of Excellence (ECoE)
Model	METEK MIRA-35
Type	Doppler non-scanning cloud radar
Serial number	MBR8

Locations

2024-06-26 – now Limassol

Back in
operation

Product quality / **21/02/2025** radar



Pass Info Warning Error Legacy Missing QC report No data

26/06/2024

Start of operation
at CARO NF

05/11/2024

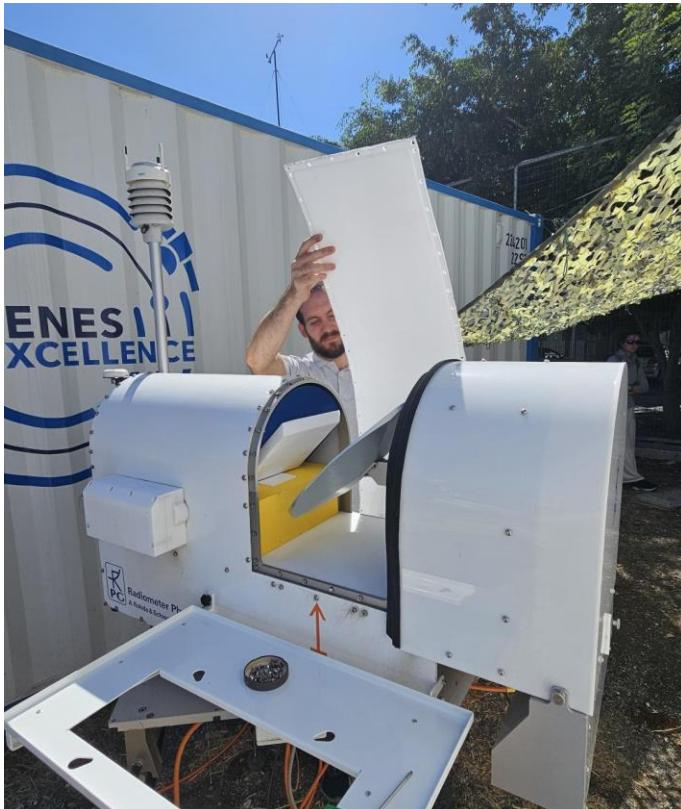
Transmitter
stopped working

- The radar was still under guarantee by the METEK company
- The transmitter was sent for repairment
- We lost the opportunity to record the radar's first rainy/cloudy season



HATPRO-G5 MWR – Absolute Calibration

09 Oct.2025 → Change of radome



- 1st radome change
- Faced some problems with the stability of the platform

HATPRO-G5 MWR – Absolute Calibration

10 Oct.2025  LN2 Calibration



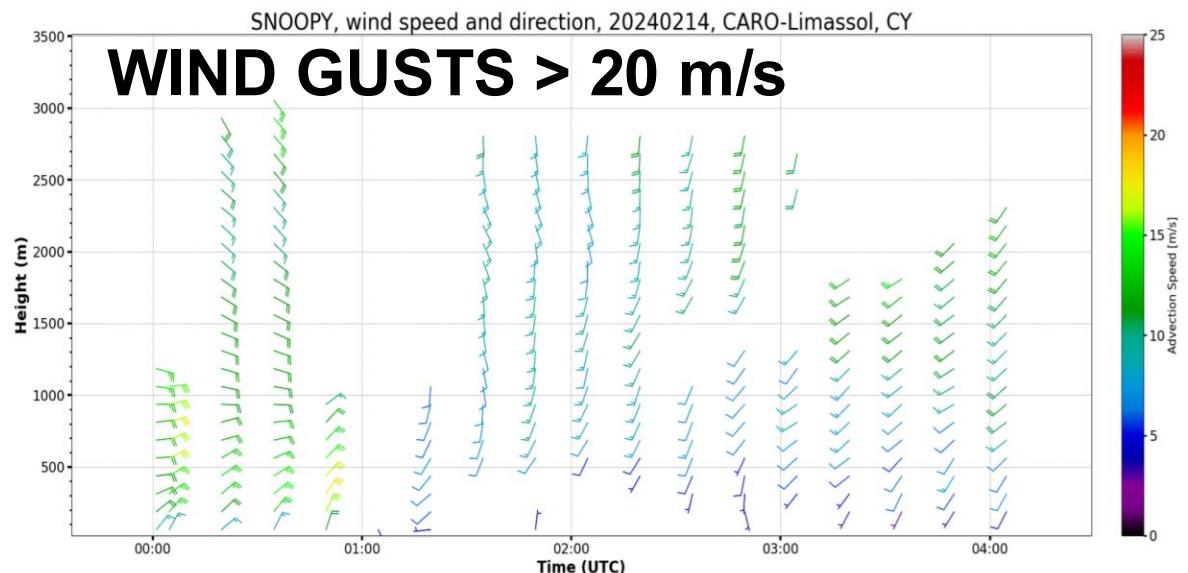
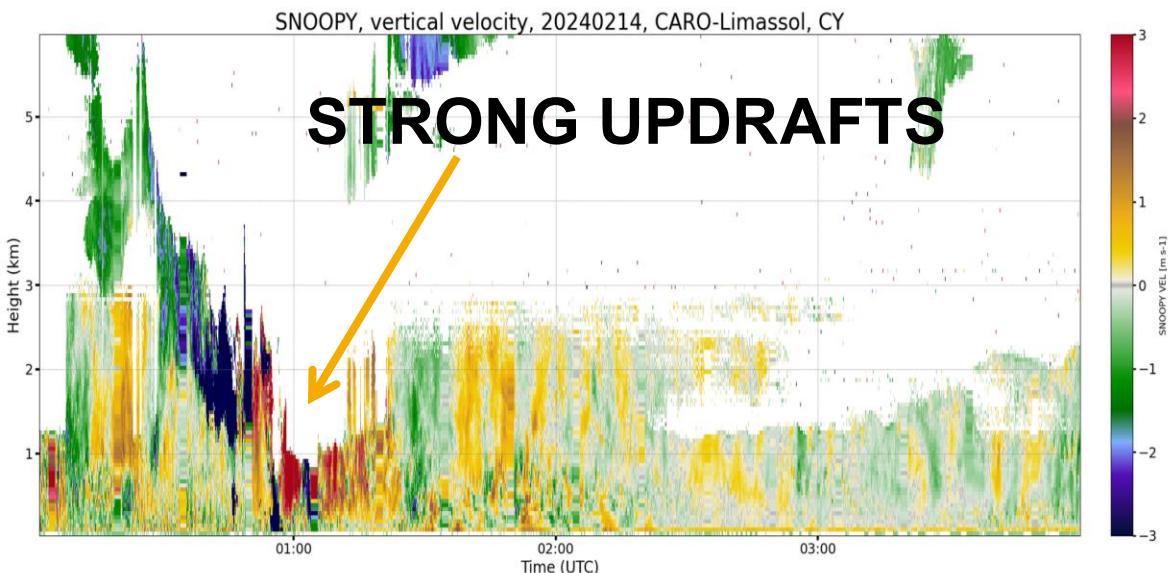
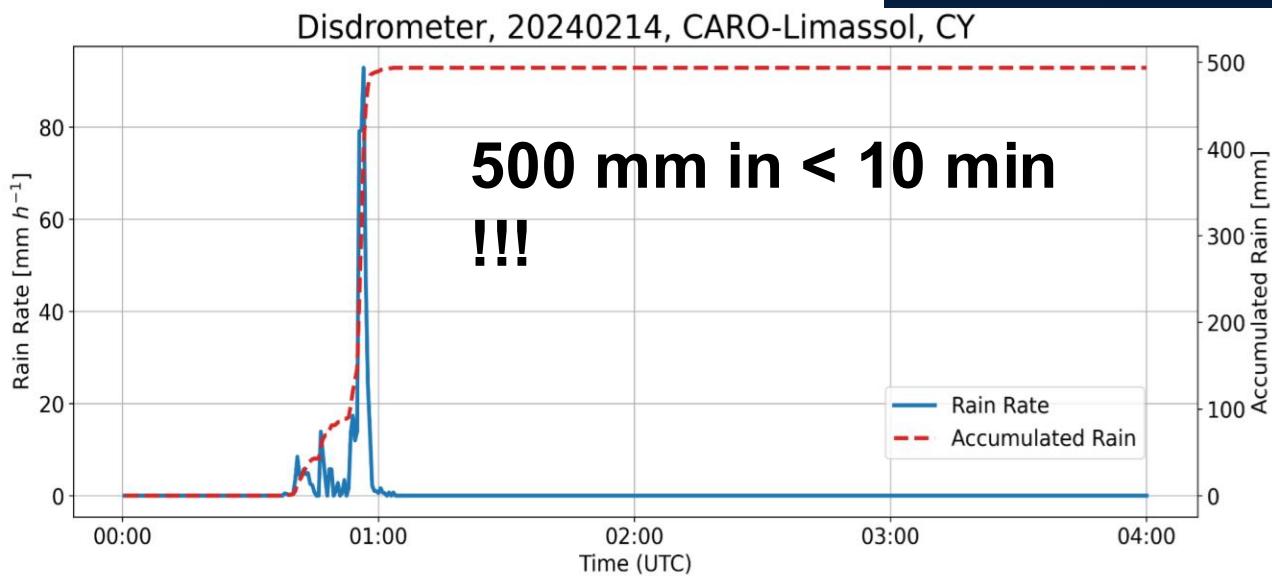
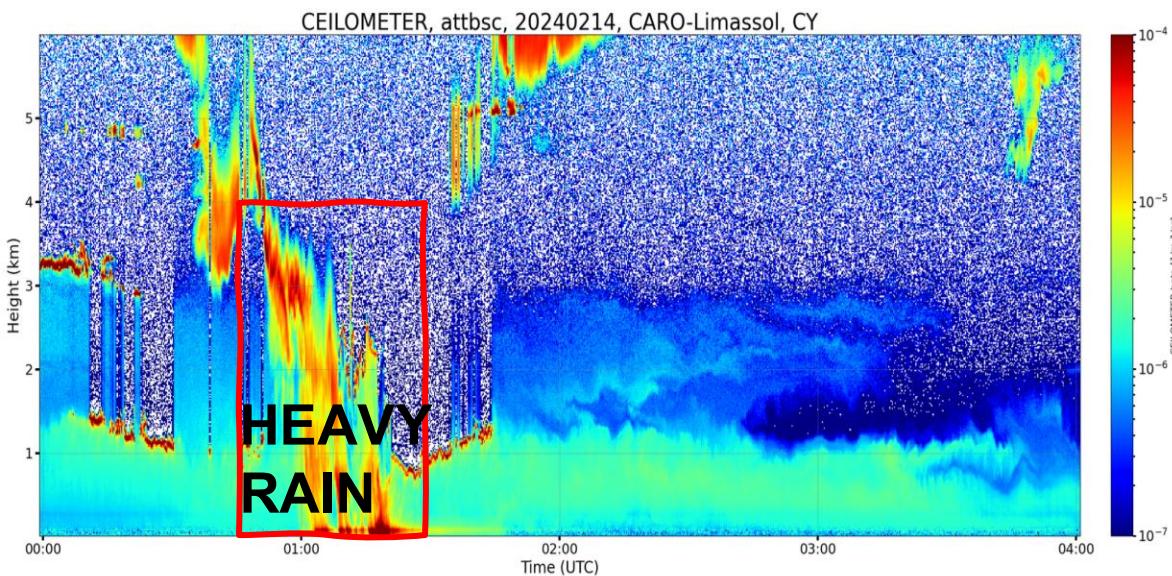
- ✓ Successful calibration
- ✓ Difference between the old and new System Noise Temperatures < 3 K



EXTREME WEATHER EVENT
T O R N A D O
1 4 . 0 2 . 2 0 2 4

TORNADO

14.02.2024





Thank you !