

The logo for ACTRIS CCRES. It features a blue arc at the top. Below the arc, the word "ACTRIS" is written in a teal, sans-serif font, with a teal circle replacing the letter 'O'. Below "ACTRIS", the word "CCRES" is written in a dark blue, sans-serif font. To the right of the arc, there are three teal circles of increasing size, connected by a thin teal vertical line.

ACTRIS CCRES

Summary Breakout session Wind profiles from DCR and DL

CCRES Workshop Palaiseau 14-15 Nov 2022



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Wind profiles in ACTRIS

- 3D wind vector can be derived from DCR + DWL at ACTRIS stations



- **Doppler lidar VAD scan**
 - zenith angle 15° , every 15 minutes
 - 10 degrees angular resolution, spatial resolution 30 m
- **Cloud radar VAD scan**
 - zenith angle 8° , every 30 minutes
 - ~ 5 degrees angular resolution, spatial resolution 30 m
- **combined product based on both datasets at JOYCE continuously since 2020**

Discussion / Next steps

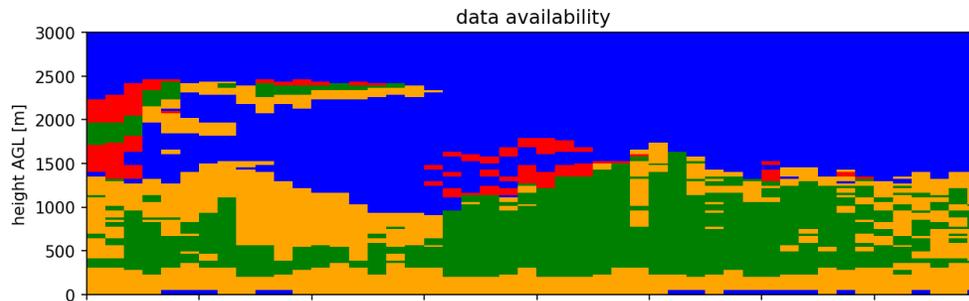
- Which stations can/want to implement that? Need a scanning DCR + DWL
- Which scan strategies? Which scan frequency? Every 15/30/60 min?
- Guidelines for scans will be developed (scan angles, scan types – VAD vs. 3 beams?)
SOPs for DCR and DWL need to be adapted
- More data analysis – how good is the method in rain?
- Currently code is only available for JOYCE (mix between IDL / Python), needs to be adapted for general applicability
- Add Radar Wind Profiler (not an ACTRIS instrument)?
- Dual wavelength radar scans for insect detection?



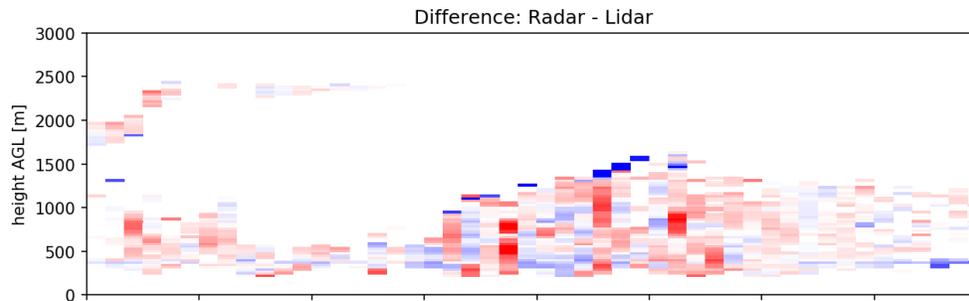
Example day – wind speed boundary layer

data overview 2022-08-28

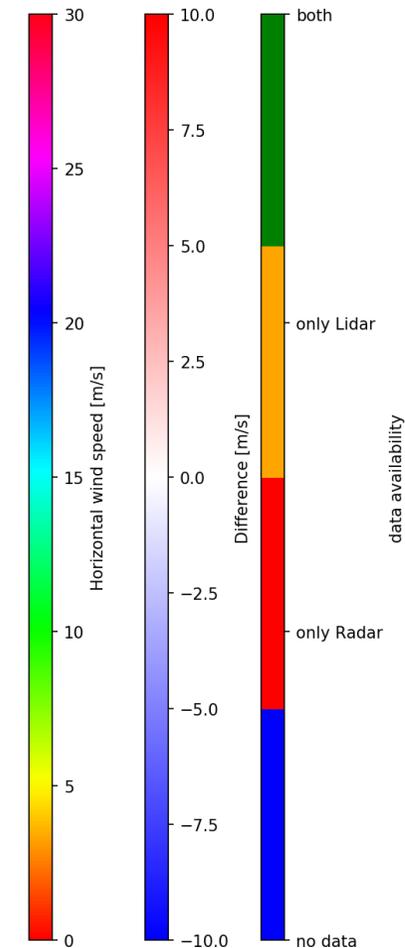
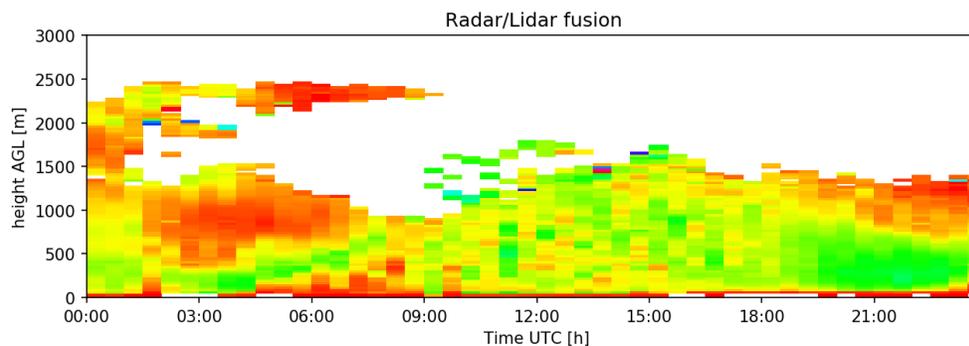
availability



difference
radar-lidar



fusion



The logo features the word "ACTRIS" in a teal, sans-serif font with a white circle inside the letter 'C'. Below it, "CCRES" is written in a dark blue, sans-serif font. A dark blue arc curves over the text, and a vertical teal line descends from the top center to the 'C' in "ACTRIS". Three teal circles of varying sizes are positioned above the arc.

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Thank you