# Product quality monitoring and evolution of the EarthCARE's A-LAY processor
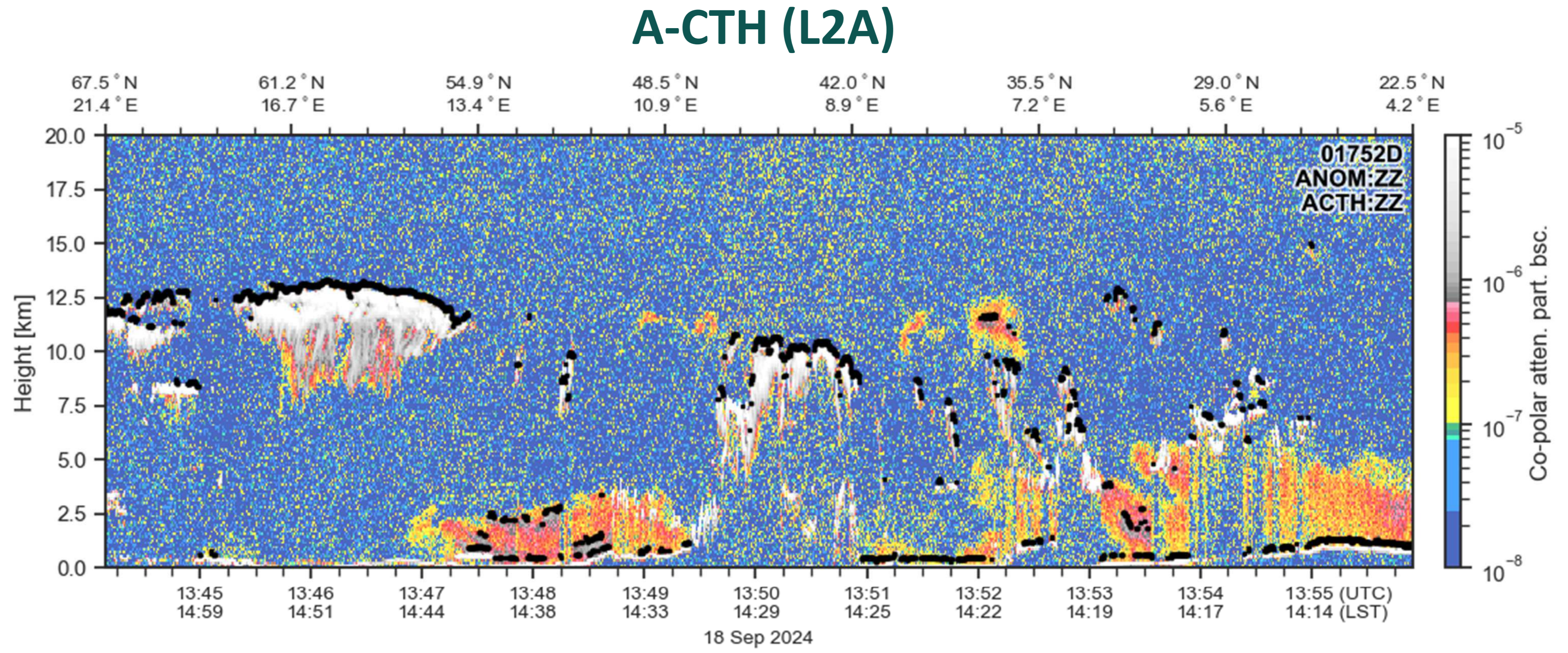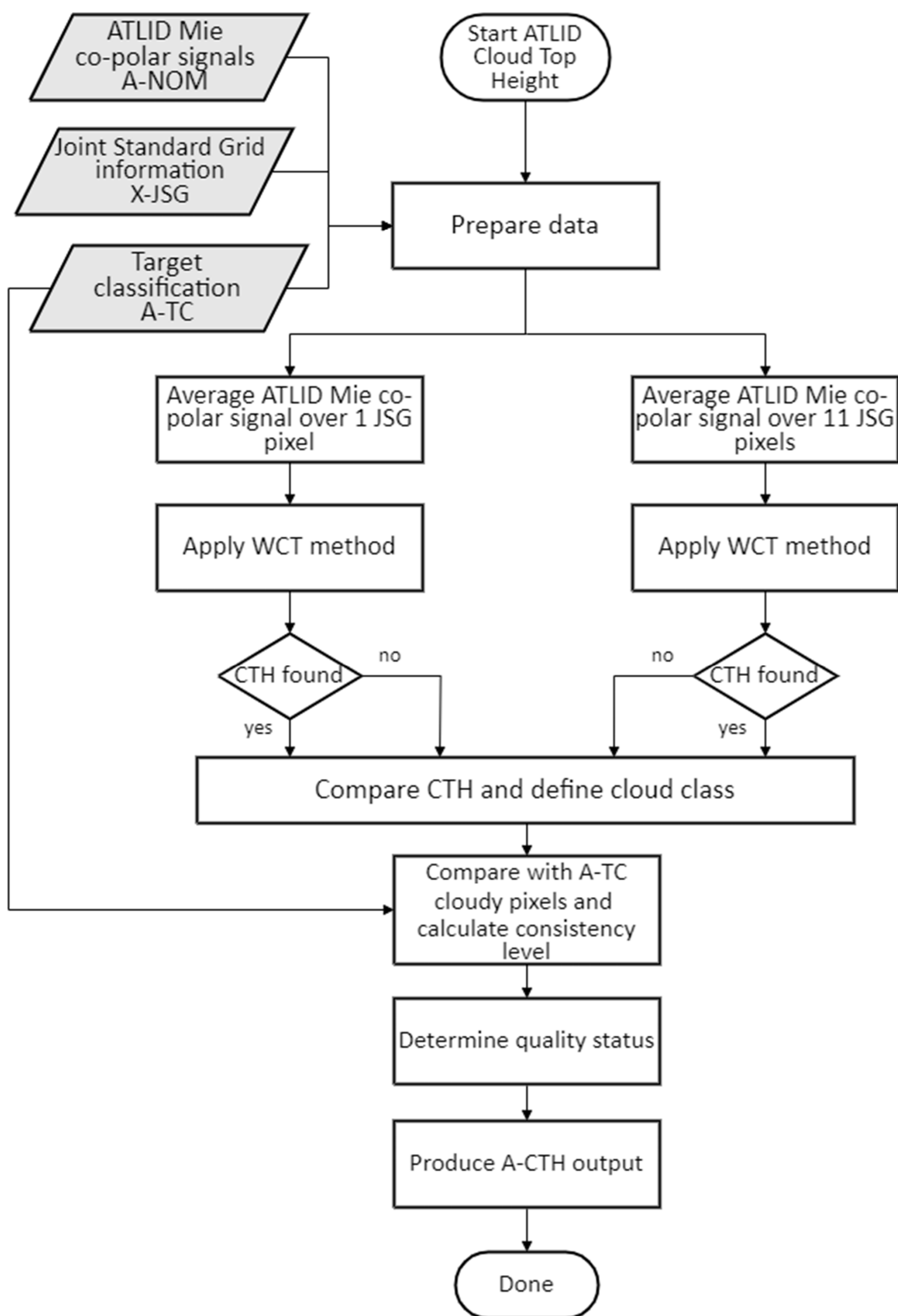
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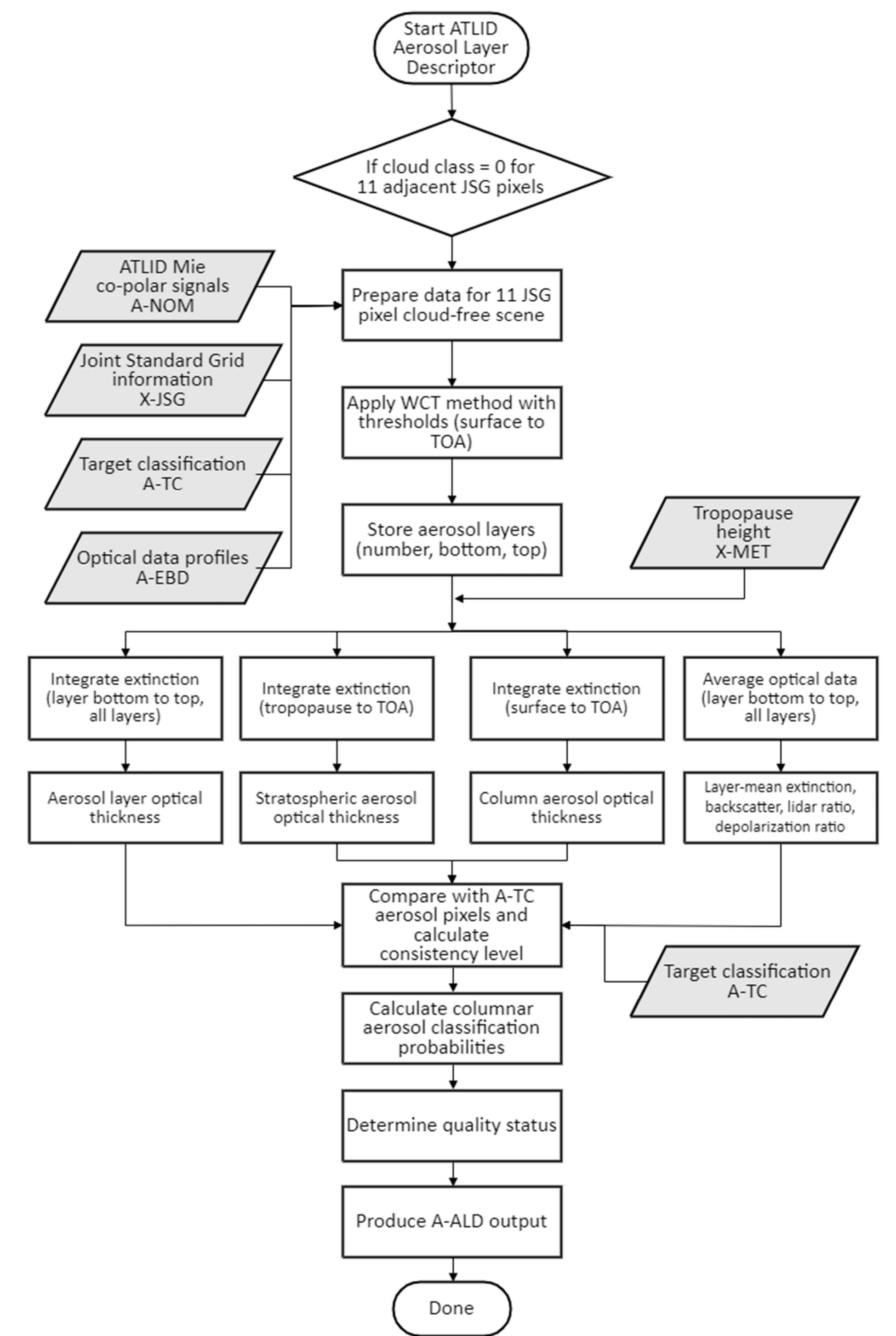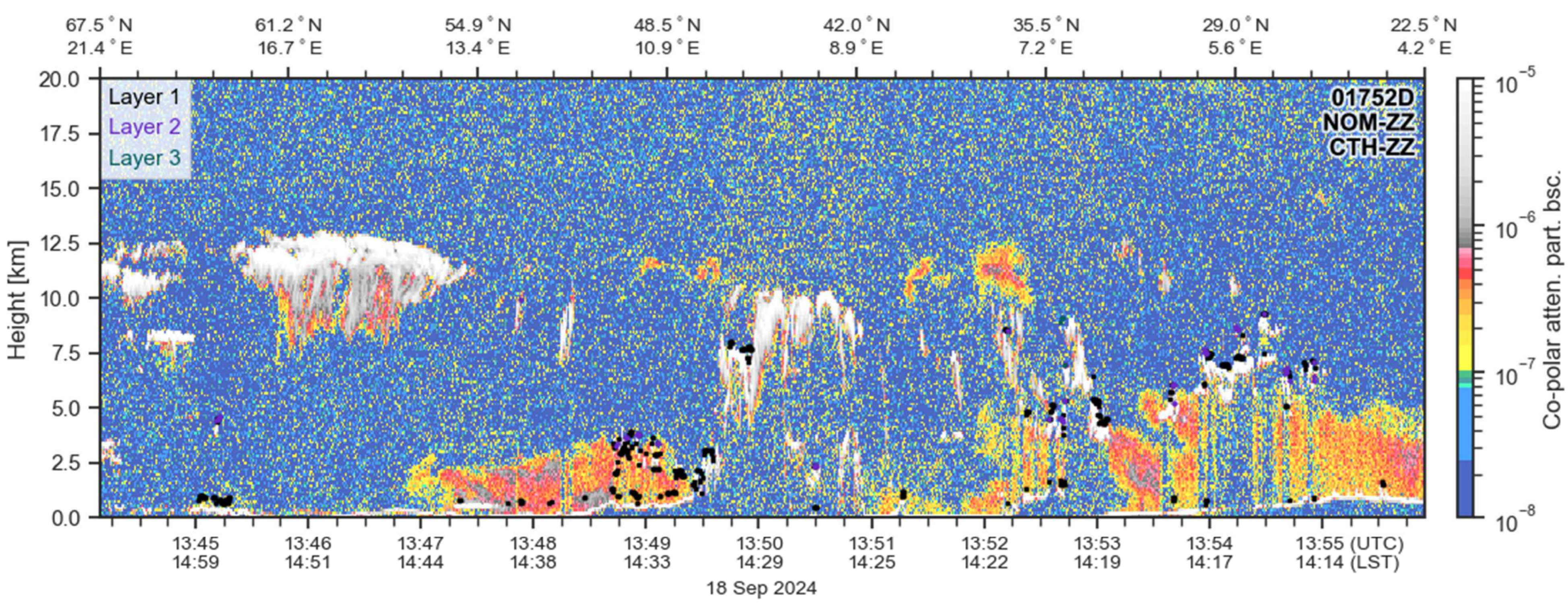
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## Cloud top heights (A-CTH) and layer-mean aerosol properties (A-ALD) from the ATLID Aerosol Product processor (A-LAY)
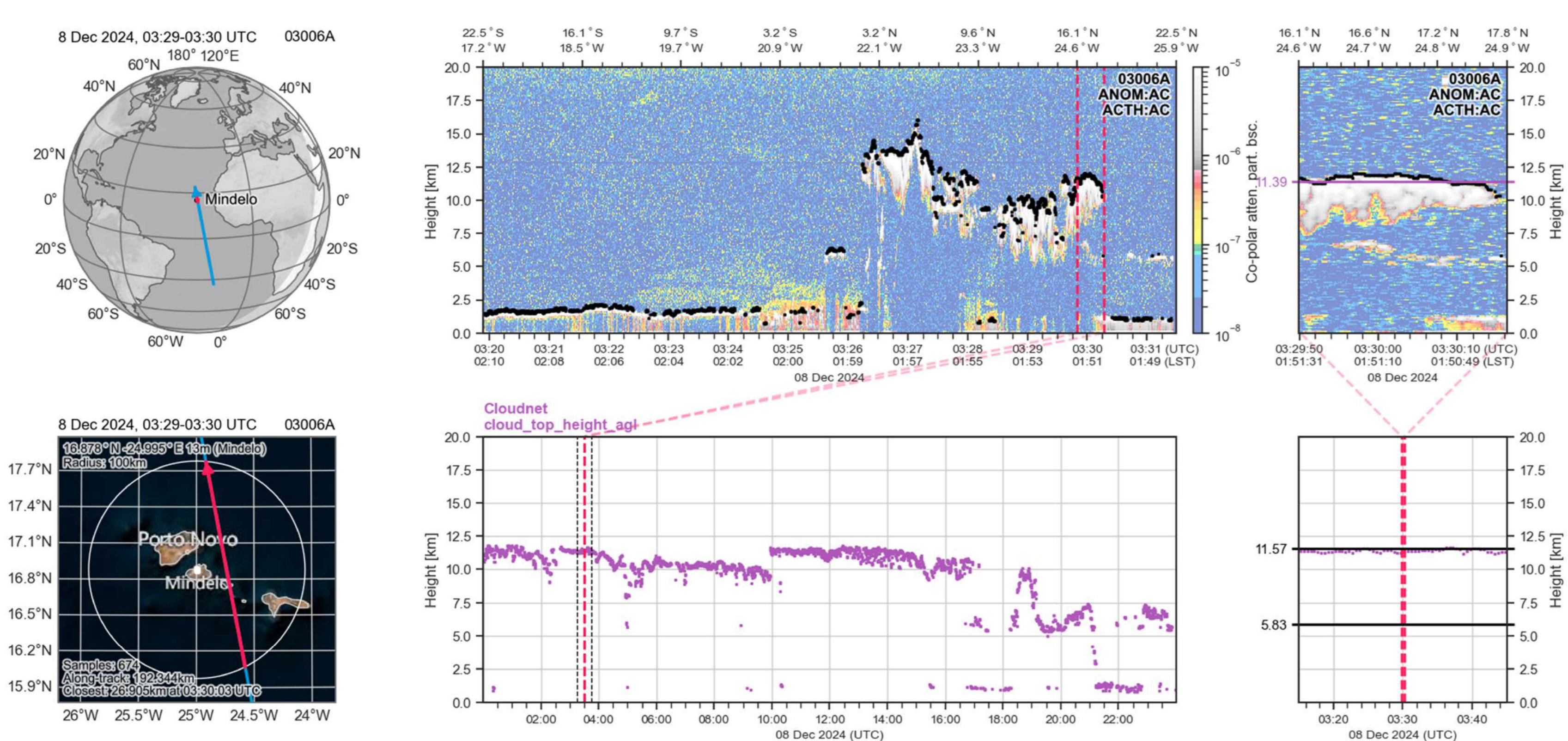
### A-CTH (L2A)



- Overall good discrimination of clouds, including multilayer clouds
- Increased identification of low level liquid clouds, to be verified against airborne campaign data
- Occasionally, false identification in high backscattering layers (since baseline AA)

### A-ALD (L2A)



- Allows for identification of several aerosol layers
- Layer-mean optical data are calculated from the profiles of extinction, backscatter, lidar ratio, and depolarization ratio at 355 nm (A-EBD)
- Occasional misidentification in cloudy pixels that were missed by A-CTH (since baseline AA)

### Processor verification against Cloudnet



### A-LAY status and summary

A-CTH and A-ALD products serve as input for the synergistic AM-COL processor, which combines data from ATLID and MSI to extend information from the ATLID track to the MSI swath (poster 36).

Latest baseline (AE) ensures compatibility within the L2 chain, contains bug fixes and improvements triggered by the cal/val community.

References:
[1] Wandinger, U., et al., (2023), Cloud top heights and aerosol layer properties from EarthCARE lidar observations: the A-CTH and A-ALD products, Atmos. Meas. Tech.
[2] Seifert, P., Skupin, A., O'Connor, E., & Fomba, K. (2024). Classification data from Mindelo on 8 December 2024. ACTRIS Cloud remote sensing data centre unit (CLU). https://hdl.handle.net/21.12132/1.d533036460854c0d