

Aviation Meteorological Forecaster Competency 2

Forecast Aeronautical Meteorological Phenomena and Parameters

High-Level Significant weather chart Tropopause Heights AMF AC 2.1.1 and 2.2

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AIM OF THIS PRESENTATION

At the end of this presentation, you will be able to:

- Compile high significant weather chart and determine tropopause heights and use it to demonstrate competency in AMF AC 2.1.1 and AMF AC 2.2
- Complete weekly quizzes related to Significant weather charts using this presentation as an example.
- Use the Aviation Software to construct low- and high-level significant weather charts.
- Display Tropopause height using the Wingrids weather display system software.



Tropopause height

Calculation:

Consult latest available Tephigrams/AMDAR data – normally 00Z: these will be sufficient to use at 12Z if there has been no airmass change.

Consider your Tephigrams/Skew-T and place all tropopause heights on your high-level significant weather chart rounded to the nearest 1000 ft.

Placement:

-FACT, FAPE, FALE, FABL, FAUP, FAIR
-For areas where there are no Tephigram/Skew-T grams/, use the NWP model tropopause heights to fill the gaps, especially over Namibia, Botswana, Zimbabwe and Mozambique

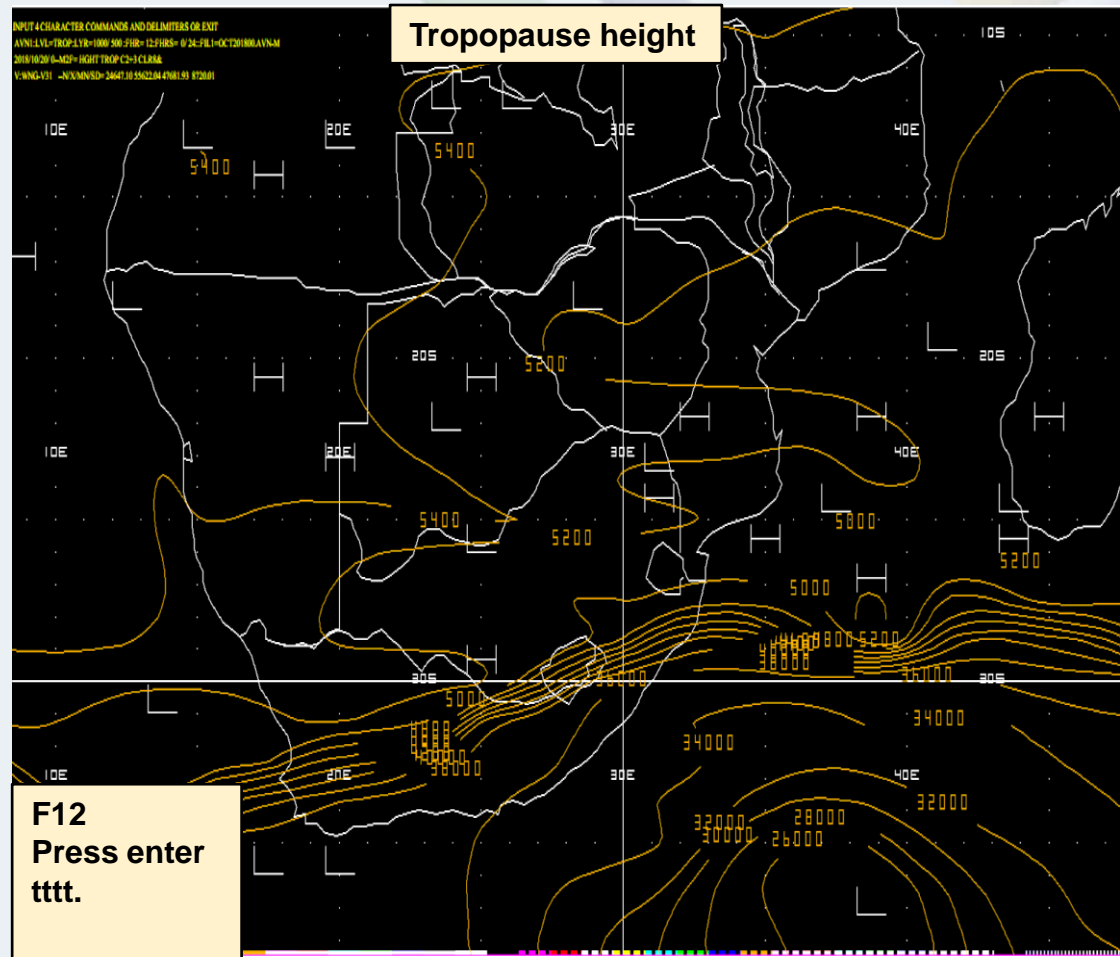
Calculating Tropopause height from NWP

Use NWP to obtain tropopause prognostic heights at 12h00Z

The tropopause height increases the further north one moves towards the equator because it is warmer and decreases as one moves towards the south-pole where it is colder.

In this case, there is a jet stream in the upper atmosphere, there is a clear discontinuity in tropopause heights on either side of the jet (lower values to the south of the jet and higher values to the north of the jet).

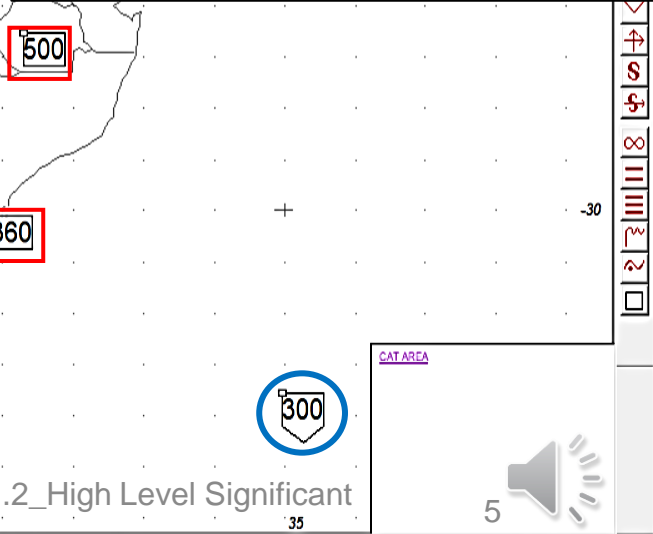
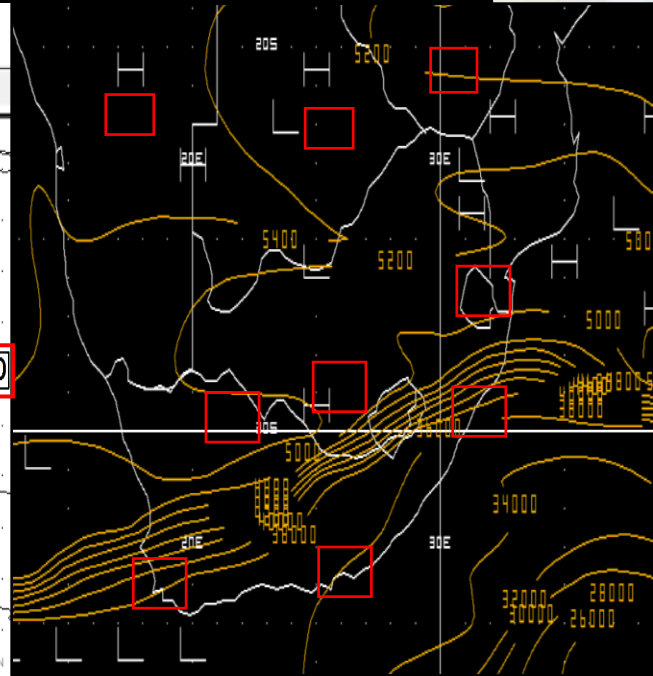
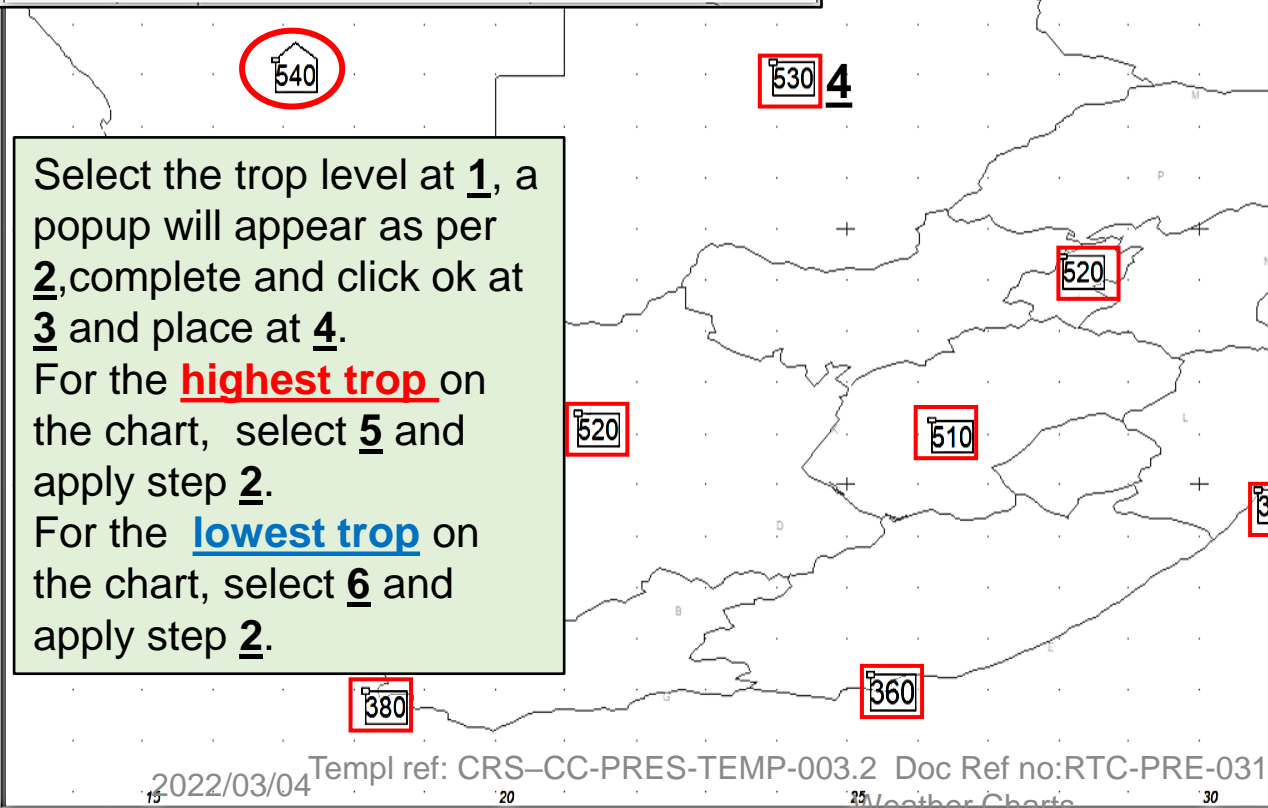
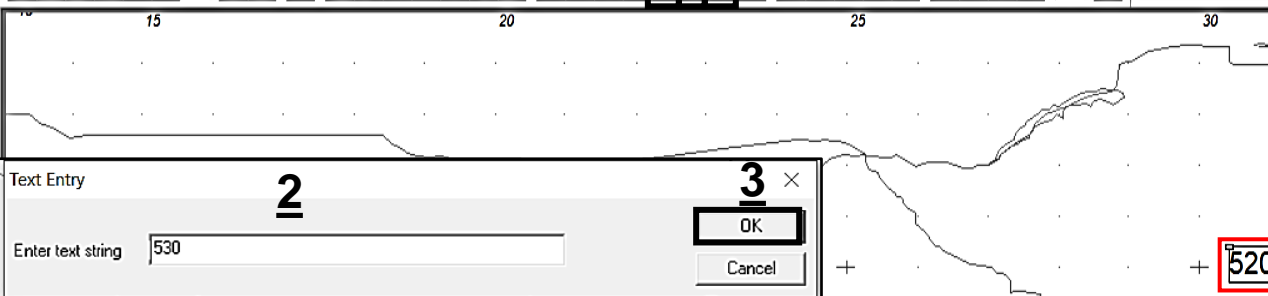
Similarly, with the passage of a cold front, lower values occur behind the cold front and higher values ahead of the cold front.



Depicting Tropopause heights on the high level significant weather chart

South African Weather Service - Computer Aided Aviation - avian

File Edit Administration Product Import



Select the trop level at 1, a popup will appear as per 2, complete and click ok at 3 and place at 4.
For the **highest trop** on the chart, select 5 and apply step 2.
For the **lowest trop** on the chart, select 6 and apply step 2.

References

- Latest edition of RTC-CN-020_Aviation Practical Course Notes