

COPS Weather Summary

25 August 2007

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Synoptic overview

A weak elongated trough stretching from the Baltic States to Spain, has its axis over the COPS domain. It is expected to move eastward out of the COPS area, which should induce slight subsidence on Saturday afternoon and Sunday. A weak frontal zone should approach on Monday before stalling over the COPS region. As a closed upper-level low over the Iberian Peninsula and an active trough moving southeastward over the North Sea interact on Tuesday, this may cause the frontal zone to activate and start moving northward a little, possibly causing rain over the COPS mainly late on Tuesday into Wednesday and possibly even into Thursday.

Analysis and forecast of synoptic controls in the COPS region

Today, Saturday 25 August

Scattered convective clouds are expected to develop during the morning, especially over the mountains. There is a small chance that a few of them grow tall enough to produce some rain from the late morning onward. The balance between an increasing tendency for subsidence in the mid-troposphere and solar heating at the surface will determine whether precipitation will form.

Tomorrow, Sunday 26 August

Small convective clouds and some high cirrus clouds are expected. Otherwise, the day should be friendly and relatively sunny.

Monday 27 August

An inactive front should approach from the north during the morning and become more or less stationary over the COPS region. The presence of the front will only cause a number of stratiform low clouds, most likely during the morning. It should remain dry in most places, although a few drops of rain, especially across eastern parts of the COPS region cannot be excluded.

Tuesday 28 August

Some high clouds and a few low-level cloud fields will likely be present on Tuesday morning. During the day the coverage of mid- and high clouds should increase as a result of enhanced warm air advection south of the front, that might return a little bit northward. From Tuesday evening into Wednesday and Thursday, a chance exists that especially the southern parts of the COPS area will be affected by periods of rain. However, the numerical models are still rather inconsistent and it may just as well stay dry.

Extended outlook

The extended outlook for Wednesday and thereafter is particularly challenging because of the uncertainty of the location of the frontal zone. The two possibilities are that prolonged periods of stratiform and embedded convective rain will occur on Wednesday and Thursday or that the rain will remain south, leaving the COPS area dry and under some mid- and high-level clouds fields. The chance of surface-based convective development is in any case low.

Today, Saturday 25 August

Time/location of first convective cloud development	Cu hum to Cu con from around noon on.
Time/location of convective storm initiation	Chance of a few showers in the afternoon tied to the mountains.
Mode/coverage/evolution	Few and isolated cells, dissolving in the evening.
Convective cloud base	Around 1800 m.
Storm motion	From the southwest at about 5 m/s.
Maximum temperature	Up to 30 °C in the Rhine Valley.
Precipitation	Up to 10 mm with local showers.
Severe weather threat	Low.

Tomorrow, Sunday 26 August

Time/location of first convective cloud development	Only small and non-precipitating cumulus clouds in the afternoon.
Time/location of convective storm initiation	
Mode/coverage/evolution	
Cloud base	Around 1800 m.
Storm motion	-
Maximum temperature	Up to 28 °C in the Rhine Valley.
Precipitation	-
Severe weather threat	-

Monday 27 August

Time/location of first convective cloud development	Some low-level stratiform clouds at first, maybe lingering around until noon. Only shallow cumulus clouds thereafter.
Time/location of convective storm initiation	
Mode/coverage/evolution	
Cloud base	800-1000 m in the morning, rising to about 1300 m in the afternoon.
Storm motion	-
Maximum temperature	22-24 °C.
Precipitation	Dry, apart from a few possible rain drops in the morning.
Severe weather threat	-

Tuesday 28 August

Time/location of convective storm initiation, Mode/coverage, Evolution	Unlikely; embedded convective precipitation possible in the southern parts of COPS area in the late evening.
Maximum temperature	21-23 °C.
Precipitation	Up to 10 mm with mostly stratiform rain in the evening possible.
Severe weather threat	Low.

Wednesday 29 August

Time/location of convective storm initiation, Mode/coverage, Evolution	Mainly stratiform precipitation is to be expected.
Maximum temperature	16-22 °C, depending on precipitation/insolation.
Precipitation	Up to 50 mm possible with continuing rain preferably on the western edge of the Black Forest.
Severe weather threat	Low to medium. Local flooding problems in the mountains cannot be ruled out.

Suggestions for IOP's and down days

Today a few local showers are possible over the mountains and IOP 18 is ongoing. Sunday and Monday do not look interesting for COPS. Tuesday and Wednesday are somewhat uncertain at the moment. From the current point of view, mainly stratiform precipitation with only embedded convection will occur, especially on Wednesday. Final decision on IOP should be made later.