

# COPS Weather Summary

21 August 2007

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## Synoptic Overview

A cut-off low covers most of central and western Europe. At the surface several low pressure systems are circling anti-clockwise around the centre of the upper low. Whereas cool air is present to the west, moist and warm airmasses from the Mediterranean Sea are involved in the circulation from the southeast. While strengthening a surface low travels from northeastern Germany to the west and the southwest and will be located over eastern France on Wednesday becoming quasi-stationary thereafter. On Friday the northeastern half of the cut-off low is expected to join the zonal westerly flow which is directed from the North Atlantic Ocean into Russia. Remnants of the southwestern portion of the cut-off low will affect the Iberian Peninsula quite a long time. As a result the geopotential at all levels increases at least over the southern parts of Central Europe generating much more stable conditions on the weekend and during the first half of the next week.

## Analysis and Forecast of Synoptic Controls in the COPS Region

### Today, Tuesday, 21 August

A surface low pressure system is expected to travel from northeastern Germany towards the southwest on Tuesday. Its huge rain area with some embedded thunderstorms will not affect the COPS area, however forces slightly more unstable air into southern Germany. Some CAPE may develop in the course of the day but will be greatest over Bavaria. Stratiform clouds are present at first but rain will cease. Even the sun gets some portions of the sky. During the afternoon hours/towards evening cumulus clouds are likely to form, too, and with the help of an upper-level short wave trough some showers of partly embedded character are expected to develop. Though most likely over southeastern Baden-Württemberg and western Bavaria a thunderstorm or two cannot be ruled out over the COPS region.

### Wednesday, 22 August

Ahead of the aforementioned low pressure system cold air advection from the southwest will dominate the weather pattern in the COPS area on Wednesday. As the COPS area is situated between an area of pretty strong stratiform precipitation over eastern France and an area with some weak convective activity over Bavaria not much is to be expected until the afternoon. Mainly stratiform clouds at the mid level will be present. Chances of sun are best in the late afternoon/evening, showers or even a thunderstorm might develop preferably in the southeastern portion of the COPS area. However, models show some differences concerning the track of the low pressure system. Both scenarios are possible: Either stratiform rain could prevail or convective activity could be more pronounced.

### Thursday, 23 August

On Thursday the COPS area is located at the edge of the back-bent occlusion of the persisting low pressure system over eastern France. Cloudy but mainly dry conditions are expected at first, followed by sunnier afternoon hours. Given some CAPE and insolation few showers are expected to develop. Though not very likely, even a thunderstorm might occur.

### Friday, 24 August

Both the surface and the upper low weaken on Friday leading to a quite friendly day with lots of sun. Mostly shallow cumulus clouds will develop with surface heating but a last shower cannot be excluded.

### Saturday, 25 August

Under high pressure influence Saturday will be a sunny and dry day.

## Extended Outlook

High pressure influence and stable conditions are likely to dominate during the first half of the next week.

**Today, Tuesday 21 August**

Time/location of first convective cloud development	Convective cloud development starting around noon.
Time/location of convective storm initiation	Showers or even a thunderstorm in the afternoon/evening preferably in the southeastern half of the COPS area.
Mode/coverage/evolution	Showers/thunderstorms of mainly embedded character.
Convective cloud base	Around 1400 m.
Storm motion	From the southwest at about 5 m/s.
Maximum temperature	Up to 23 °C in the Rhine Valley with insolation.
Precipitation	Up to 15 mm possible.
Severe weather threat	Low.

**Tomorrow, Wednesday 22 August**

Time/location of first convective cloud development	Still uncertain; showers/thunderstorms most likely in the afternoon/evening and mainly over the southeastern parts of the COPS area.
Time/location of convective storm initiation	
Mode/coverage/evolution	
Cloud base	Around 1300 m.
Storm motion	At about 5-10 m/s from the southwest.
Maximum temperature	19-23 °C, depending on insolation.
Precipitation	Up to 10 mm.
Severe weather threat	Low.

**Thursday 23 August**

Time/location of first convective cloud development	Showers of weak to moderate intensity and most likely in the southern and eastern parts of the COPS region during the afternoon.
Time/location of convective storm initiation	
Mode/coverage/evolution	
Cloud base	Around 1300 m in the afternoon, but low-level clouds in the morning hours possible.
Storm motion	At about 10 m/s from the southwest.
Maximum temperature	21-24 °C.
Precipitation	Up to 10 mm.
Severe weather threat	Low.

**Friday 24 August**

Time/location of convective storm initiation, Mode/coverage, Evolution	Very few and light showers possible mainly in the afternoon.
Maximum temperature	Up to 27 °C in the Rhine Valley.
Precipitation	Up to 10 mm possible.
Severe weather threat	Low.

### **Saturday 25 August**

Time/location of convective storm initiation, Mode/coverage, Evolution	Mainly shallow and non-precipitating cumulus clouds are to be expected.
Maximum temperature	Near 30 °C in the Rhine Valley.
Precipitation	-
Severe weather threat	-

### **Suggestions for IOP's and down days**

As showers and a thunderstorm or two are possible in the COPS area in the course of today, IOP 17 is ongoing.

On Wednesday and Thursday showers/thunderstorms cannot be excluded. Regarding that the BAe aircraft is available on Wednesday, an IOP is planned and could also take place on Thursday.

On Friday still weak convective activity. Saturday looks like swimming pool weather without very interesting developments for COPS purposes.