

COPS Weather Summary

3 August 2007

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Synoptic overview

In a westerly flow, a short-wave trough stretches from Norway into Corsica across COPS area in the morning hours. A ridge builds up over the eastern Atlantic Ocean while the trough moves away to the east. On Saturday, a plume of warm air in the mid-troposphere is advected aloft that increases the stability. The axis of the strong ridge from the Atlantic passes the COPS area on Sunday. On Monday, a trough upstream of the ridge amplifies and becomes stretched from Ireland to Portugal. On its eastern flank and increasing Sly low level flow is expected to develop over western France that advects warm air northwards.

Analysis and forecast of synoptic controls in the COPS region

Today, Friday 3 August

In the morning hours, mid-level and low-level clouds producing some scarce stratiform rain. With both diurnal evolution and the on-coming ridge, this cloud cover will turn into Cu clouds in the afternoon. In bright intervals, mediocris or even congestus Cu are likely. A few light showers can be expected in the afternoon dying out in the evening. Thunderstorms are not likely as the convective storms should remain rather shallow.

Saturday 4 August

Some high-level clouds in the early morning. Otherwise, development of some shallow convective clouds, that may disappear during the day.

Sunday 5 August

Similar weather is expected on Sunday. Renewed warm air advection from the southwest should commence during the day, that will likely turn out to be warm. The sky should remain mostly cloud-free.

Monday 6 August

A warm day with a few convective clouds over the mountains is forecast. A quite remarkable consensus exists among the numerical models about the approach of a new trough on Monday and Tuesday. It appears most likely that no convective storms will affect the COPS region before the night of Monday to Tuesday. However, various ensemble forecast systems suggest that a chance of about 25% exists that rain affects the COPS area earlier.

Tuesday 7 August

Convective storms, that may be more or less embedded within frontal cloudiness, are expected to affect the COPS area during the day.

Extended outlook

Since the cut-off low does not move after reaching Brittany, eastern France and the COPS area will continue to be affected by a SWly unstable airstream. Behind the frontal wave that crosses COPS area on Tuesday, unorganised convection is more likely in the course of Wednesday. According to both GFS and ECMWF, another frontal thundery wave is expected in the night of Wednesday and on Thursday.

Today, Friday 3 August

Time/location of first convective cloud development	Embedded Cu already before noon. Isolated medium-sized cumulus convection in the afternoon.
Time/location of convective storm initiation	Some showers mainly on the mountains dying out in the evening. Thunderstorms are unlikely.
Mode/coverage/evolution	-
Convective cloud base	Around 900 m in the early afternoon, rising to 1200 m in the afternoon
Storm motion	Between 5-10 m/s from the northwest.
Maximum temperature	Up to 23 °C in the Rhine Valley.
Precipitation	Locally 5 mm from showers.
Severe weather threat	-

Tomorrow, Saturday 4 August

Time/location of first convective cloud development	Few small Cu developments from 08 UTC onwards rapidly stopped by an inversion layer, disappearing in the late afternoon.
Time/location of convective storm initiation, Mode/coverage, Evolution	-
Convective cloud base	Initially 1000 m, rising to about 2000 m.
Storm motion	-
Maximum temperature	Up to 28°C in the Rhine Valley.
Precipitation	-
Severe weather threat	-

Sunday 5 August

Time/location of first convective cloud development	At the most, a few shallow Cu in the late morning over the mountains, vanishing during the afternoon. Mainly blue convection in the afternoon.
Time/location of convective storm initiation, Mode/coverage, Evolution	-
Convective cloud base	Around 2000 m
Storm motion	-
Maximum temperature	Up to 32°C in Breisgau and the Rhine Valley.
Precipitation	-
Severe weather threat	-

Monday 6 August

Time/location of first convective cloud development	Some Cu developing over the mountains ridge in the late afternoon with a small chance to grow into a shower at the end of the day.
Time/location of convective storm initiation, Mode/coverage, Evolution	The likelihood of thundery showers is somewhat higher, but still relatively low (25%).
Convective cloud base	Around 2000 m
Storm motion	Slow storm motion, because storms will be tied to the mountains.

Maximum temperature	Up to 33°C in the Rhine Valley.
Precipitation	Mostly dry, 5-15 mm under a shower.
Severe weather threat	Low.

Tuesday 7 August

Time/location of first convective cloud development	A mixture of stratiform and convective cloudiness associated with the passing frontal zone. More isolated convective clouds later.
Time/location of convective storm initiation, Mode/coverage, Evolution	
Convective cloud base	Rising to 1400 m.
Storm motion	From the south at 10 m/s.
Maximum temperature	Up to 26°C in the Rhine Valley.
Precipitation	10-20 mm.

Suggestions for IOP's and down days

The weekend looks relatively uninteresting as storms are very unlikely. More activity could occur on Monday, but chances are considered to be quite low. Tuesday and the days thereafter look more promising. The COPS region will likely remain within the range of a cut-off low over France for some time, suggesting that unstable conditions may persist for quite a while.