

# New forecast organization of Meteo France

## Introduction

The forecast organization of Meteo France will change in the coming years from a system based on three levels of forecasting centre (with national, regional and local centres) to a new system with only two levels of centre with forecasting responsibilities : one national centre and seven regional centres.

The aims of this reorganization are to improve the quality of forecast especially at very short range for dangerous phenomena, and to offer services more fitted to consumer needs with forecasting advice and help with decision-making. Of course, an improvement in efficiency is expected and also a significant reduction of cost.

## Concepts in forecasting process : upstream and advice forecast

In the forecasting process, two different concepts can be distinguished, the upstream forecast and the advice forecast.

### Upstream forecast

This is mainly the forecasting tasks done without focusing on a particular use. For general forecasts these are: running the models, observations analysis, forecast creation, filling databases, conference calls etc. For marine and aviation forecasts the tasks also include, wave modelling, and use of post-processing tools for icing and turbulence forecasts etc.

### Forecast advice

Definition : activities derived from the upstream forecast in order to help external customers make decisions that depend on meteorological conditions, including meteorological bulletins, phone calls, assistances (example : road icing), participation in crisis cells, etc. This is not a new notion but it is an important motivating factor for use of forecasters.

## Current forecast organization at Meteo France

### Upstream forecast

There are three levels of forecasting centre, all of which do upstream forecasts.

The national centre gives a daily synoptic reference track from short range to medium range, consisting of the models that should be followed at different ranges and the guidance for the expected weather at these different ranges.

The regional centres focus on nowcasting and short range forecasts, and they fill the database of forecast weather over France.

The local centres also have an input into this database for their own area of responsibility (typically a French Department).

## Advice forecast

The regional centres enter the initial input to the vigilance chart. Then the national centre coordinates the regions in order to get a vigilance chart in good agreement with synoptic guidance and possible meteorological impacts of the situation. Finally the national centre dispatches the vigilance chart to the authorities and customers. The advice forecast is the main task in local centres.

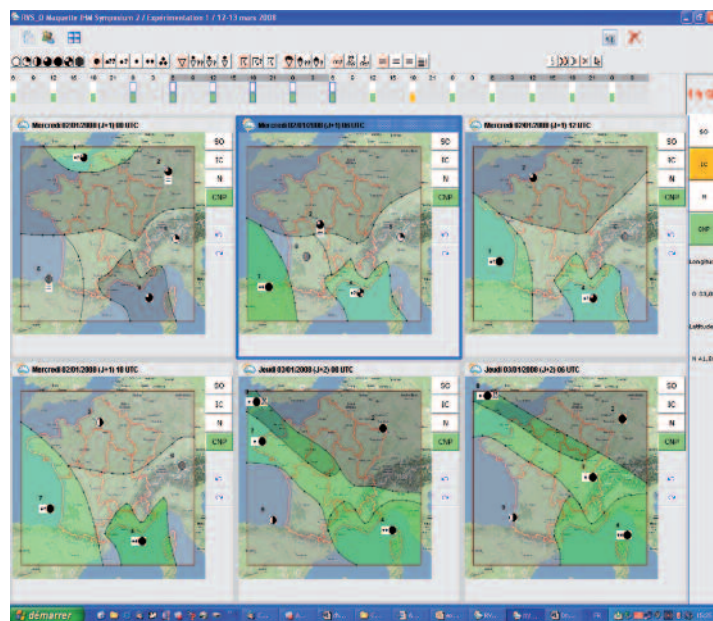
This workflow, between the three levels of forecast centres, has the advantages of good interactivity, but there is also a risk of inconsistency. Furthermore the reactivity of the system to customer needs is relatively weak. Good knowledge of local climatology has been developed in local centres to improve the forecasts, but with very fine mesh models already arriving in operational work, this advantage is less and less notable.

## New organization principles

The upstream forecast will no longer be done in local centres (the number of which will be progressively reduced) and will be organized between the national centre and the regional centres.

No fundamental change will occur in advice forecast organization but all tasks will be optimized with an increase in automated and supervised production. Forecaster expertise will remain critical in crisis situations and for intelligent customers. Interactivity between upstream and advice forecasts should be maintained.

Figure 1: example of graphical guidance charts giving areas of similar significant weather over France every 6 hours.



## Upstream forecast chain

Upstream forecast tasks in regional centres will be the supervision of the automated nowcasting database and the filling up of the new database for production, SYMPOSIUM 2, following guidance given by the chief forecaster in Toulouse with graphical and interactive tools.

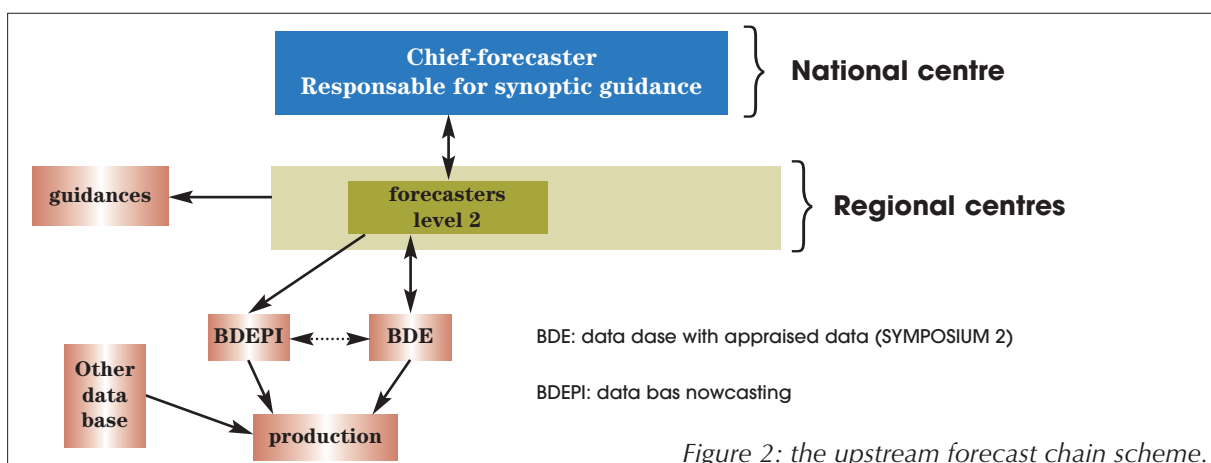
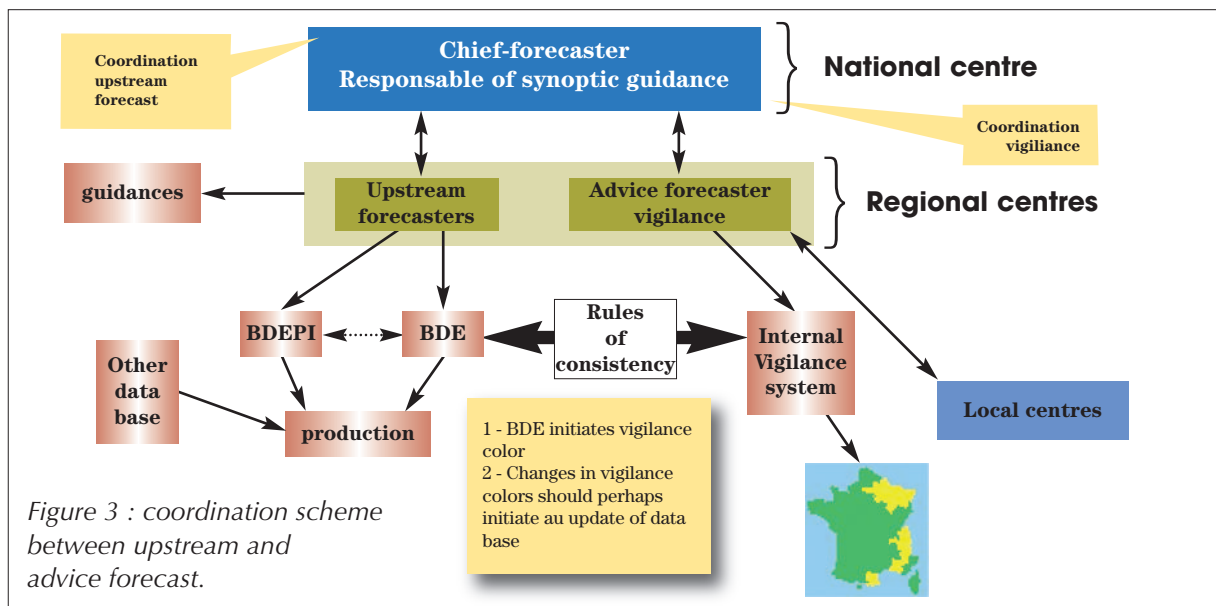


Figure 2: the upstream forecast chain scheme.

## Advice forecasts and assistance to authorities

The advice forecaster in regional centres will have an important leading role. His main tasks will be assistance to authorities (civil protection, etc....) - through the vigilance procedure - in environmental emergencies. And in potentially dangerous situations, he must keep close contact with customers such as motorway management and electricity companies who are relevant to civil protection.

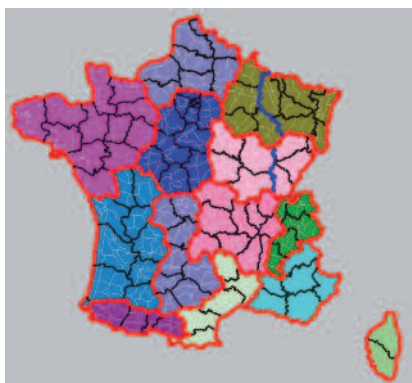
He also has to coordinate the upstream forecasters because the vigilance system should be in close agreement with the database of forecast weather.



## Conclusion

The reorganization of forecast of Météo-France will be based on the concept of separation between basic forecast activities made independently of users and customers, and forecast production activities for end-user products and services (especially advice to customers).

Basic forecasts will be made on a limited number of geographic domains taking into account climate characteristics (mountainous areas, etc.) and will include all time ranges from nowcasting to medium range forecasting. This should allow more efficiency and reactivity especially in crisis situations.



Due to this new organizational structure, the number of Météo-France territorial offices should be reduced to 40. A significant reduction of cost is expected.

Figure 4: map of geographic domains for upstream forecasters.