

Fostering the cooperation between  
Meteorological Services and  
Civil protections at a European Scale

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**ZAMG**  
Zentralanstalt für  
Meteorologie und  
Geodynamik

# A warning situation– who needs to know what?



source: BH Landeck

time, location, severity, certainty . . . .

# A warning situation– who needs to know what?

## Severe thunderstorms



source: Fabian Lackner, meteopics

Are subtropical conditions to be expected in Central Europe?



**What is a warning?**

**ISDR:**

**Tangible and understandable description of an expected damage scenario**

**+**

**a clear advice what to do**



**How to communicate within the chain of information?**

**Meteorology - Civil Protection:**

**Well prepared conversation:**

**Evaluating the infos on upcoming damage scenarios**

# Standardised European Warnings - public



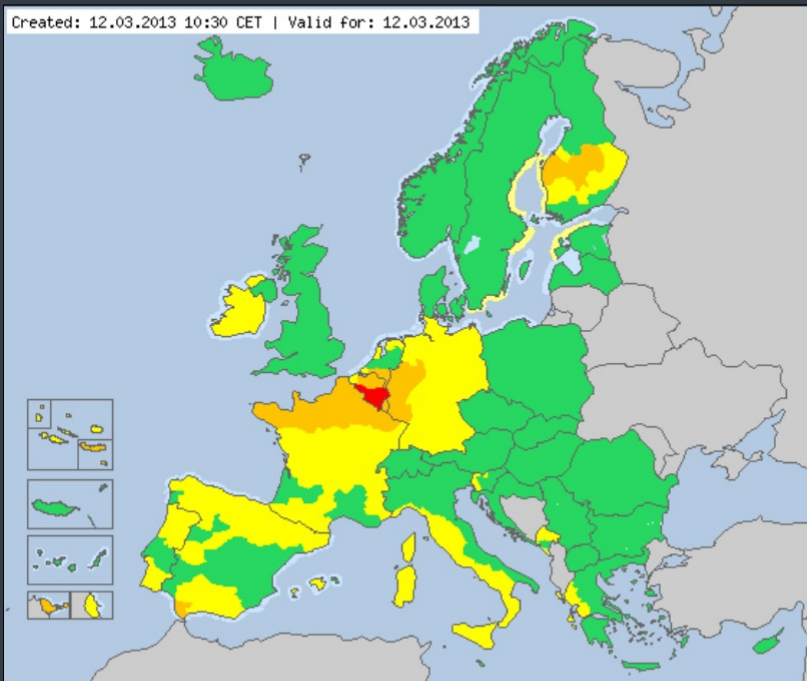
**meteoalarm**  
alerting europe for extreme weather

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english

» Europe:

Created: 12.03.2013 10:30 CET | Valid for: 12.03.2013



## Weather warnings: Europe

**Awareness Reports** - You can find detailed information about the warnings in the awareness reports issued for each country. Select the relevant country.

AT		
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PL		
PT		
RO		
RS		
SE		
SI		
SK		
UK		

Caption:

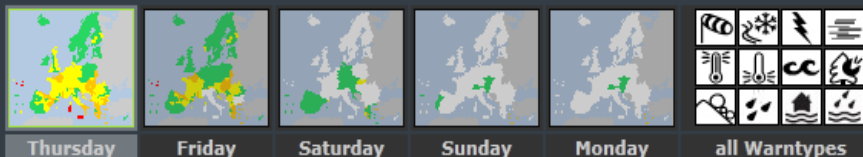


awareness types:

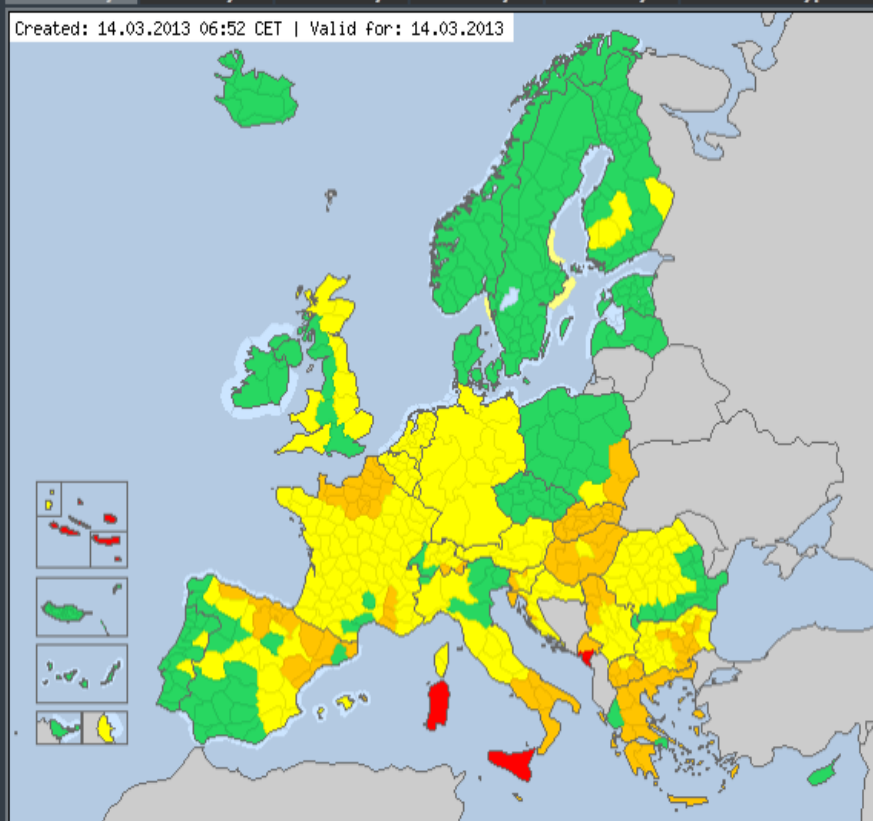
Display:

# European Warnings – Civil Protection : 5 days

» Europe:



Created: 14.03.2013 06:52 CET | Valid for: 14.03.2013



## Weather warnings: Europe

**Awareness Reports** - You can find detailed information about the warnings in the awareness reports issued for each country. Select the relevant country.

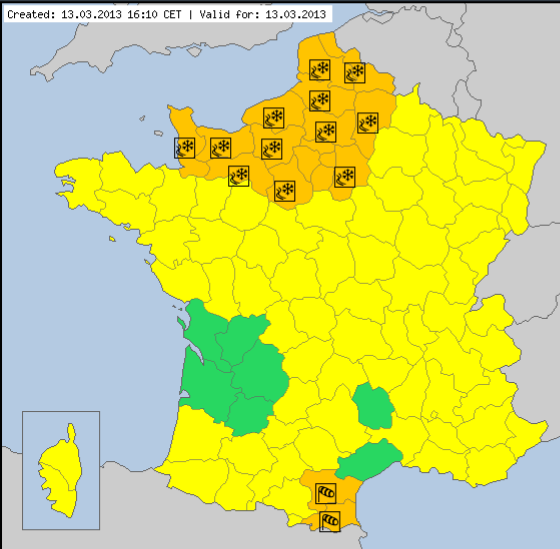
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Caption:

# Standardised European Warnings



Created: 13.03.2013 16:10 CET | Valid for: 13.03.2013



## Weather warnings: France

more information:



**Awareness Reports** - You can find detailed information about the warnings in the awareness reports issued for each area. Select the relevant area.

Ain		Deux Sèvres		Indre et Loire		Pas de Calais	
Aisne		Dordogne		Isère		Puy de Dôme	
Allier		Doubs		Jura		Pyrénées Atlantiques	
Alpes de Haute Provence		Drôme		Landes		Pyrénées Orientales	
Alpes Maritimes		Essonne		Loir et Cher		Rhône	
Andorre		Eure		Loire		Saône et Loire	
Ardèche		Eure et Loir		Loire Atlantique		Sarthe	
Ardennes		Finistère		Loiret		Savoie	
Ariège		Gard		Lot		Seine et Marne	
Aube		Gers		Lot et Garonne		Seine Maritime	
Aude		Gironde		Lozère		Somme	
Aveyron		Haut Rhin		Maine et Loire		Tarn	
Bas Rhin		Haute Corse		Manche		Tarn et Garonne	
Bouches du Rhône		Haute Garonne		Marne		Territoire de Belfort	
Calvados		Haute Loire		Mayenne		Val d'Oise	
Cantal		Haute Marne		Meurthe et Moselle		Var	
Charente		Haute Saône		Meuse		Vaucluse	
Charente Maritime		Haute Savoie		Morbihan		Vendée	
Cher		Haute Vienne		Moselle		Vienne	
Corrèze		Hautes Alpes		Nièvre		Vosges	
Corse du Sud		Hautes Pyrénées		Nord		Yonne	
Côte d'Or		Hérault		Oise		Yvelines	
Côtes d'Armor		Ille et Vilaine		Orne			

awareness types:

Display:

\*In France, the symbol for rain stands for heavy rain and/or floods\*

Caption:





# Standardised European Warnings

## Weather warnings: Lubelskie



**valid from** 13.03.2013 22:00 CET **Until** 15.03.2013 20:00 CET  
**Snow/Ice**

Awareness Level: **Orange**

ENGLISH

**Phenomenon:** Heavy snow.

**Content:**

(Lubelskie) It is expected heavy snowfall. The snow cover in the area: From 22:00 13.03.2013 to 20:00 14.03.2013 - from 13 cm to 26 cm. From 20:00 14.03.2013 to 20:00 15.03.2013 - from 18 cm to 26 cm.

POLSKI

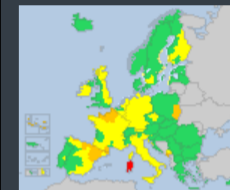
**Zjawisko:** Intensywne opady śniegu.

**Przebieg:**

(Lubelskie) Prognozuje się wystąpienie opadów śniegu o natężeniu umiarkowanym i silnym powodujących przyrost pokrywy śnieżnej: od godziny 22:00 13.03.2013 do 20:00 14.03.2013 - od 13 cm do 16 cm, od godziny 20:00 14.03.2013 do 20:00 15.03.2013 - od 18 cm do 26 cm.



[Back to Europe:](#)



[Back to Poland:](#)



[more information:](#)



Display:

# Meteoalarm Lessons learned (5 years, 4 billion users)



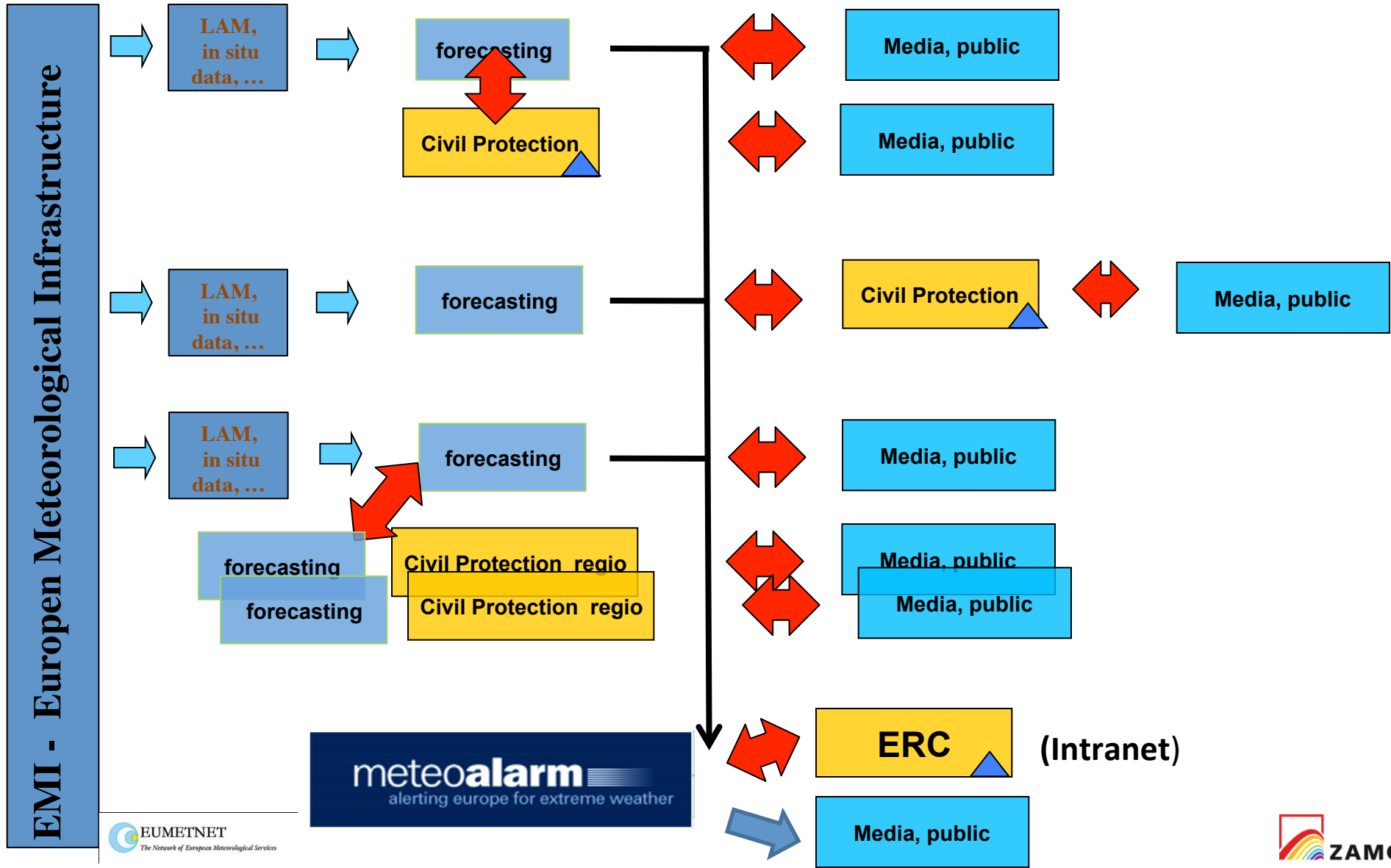
- 4 – level colour code seen as understandable „language“
- Transition from „pure meteorology“ to „impact“ well under way
- Links to [www.meteoalarm](http://www.meteoalarm) from more than 1000 websites
- Approx. 4 Bio hits since start
- High acceptance with public and professional institutions
  - Civil Protection, First responders (national level)
  - „European“ usage by tourists & professionals

# Warning matrix



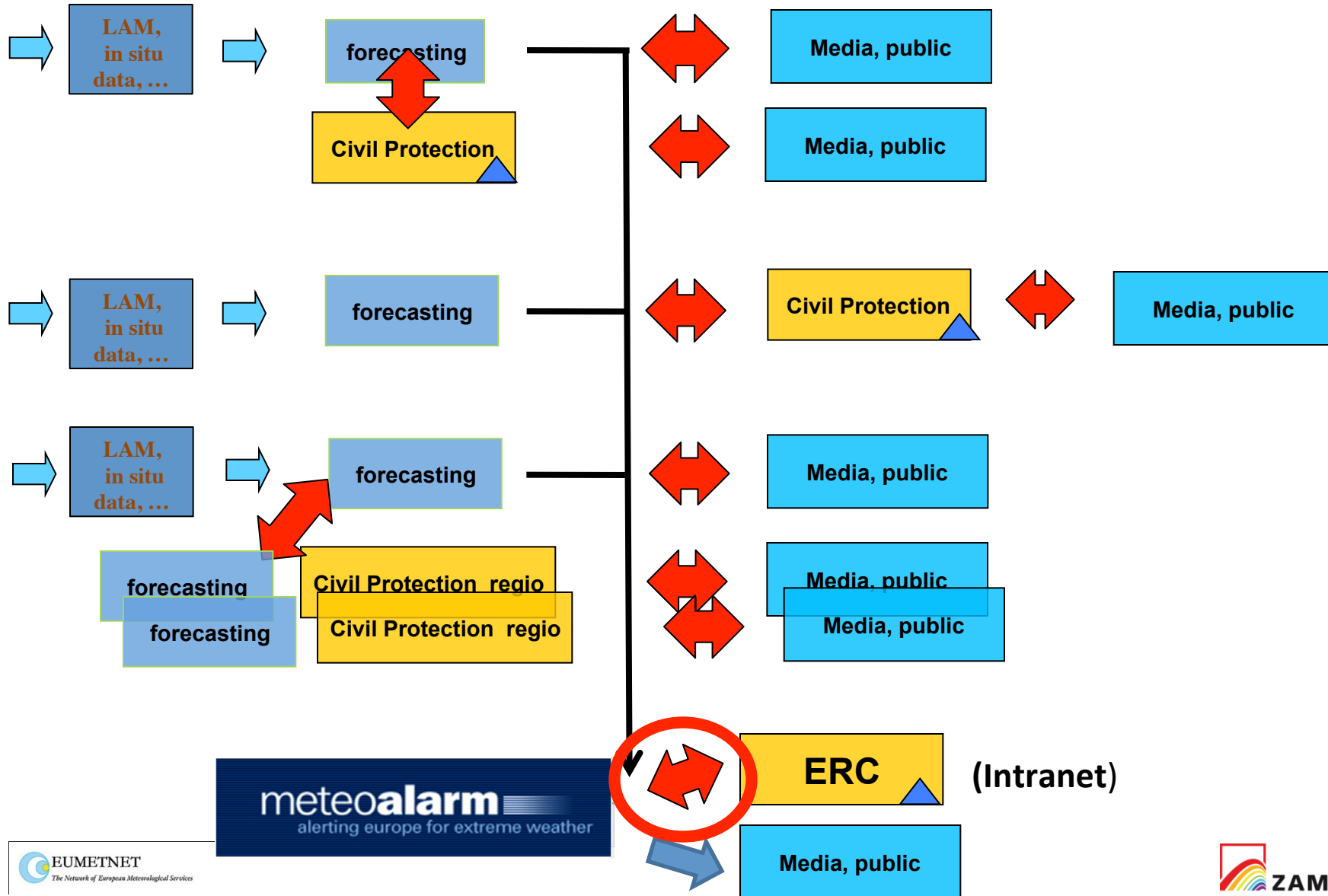
Colour	One word	Damage / Impact	What to do?	Used how often? (Area approx. 300 000 km <sup>2</sup> )	Meteo Treshholds e.g. Rain (area + impact related)
Green	Weather report	- - -	usual phenomena	usual phenomena	Examples
yellow	Be aware!	exposed objects (avoidable)	caution with exposed activities	> 30 per year	> 54 mm/12h
orange	Be prepared!	general damages (not avoidable)	keep informed in detail, follow advice of authorities	1 to 30 per year	> 80 mm/12h
red	Take action!	extreme damage and /or casualties <i>extreme damage (mostly) on large areas, threatning life and properties (not avoidable, even in otherwise safe places)</i>	<b>follow order of authorities under all circumstances be prepared for extraordinary measures</b>	less then 1 year + <i>large (5000km<sup>2</sup>) scale phenomena</i>	> 140 mm/12h

# Different pathes towards the public and CP

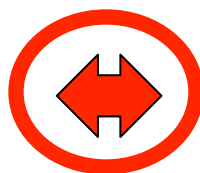


# Different pathes towards the public and CP

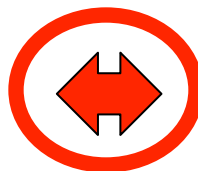
EMI - European Meteorological Infrastructure



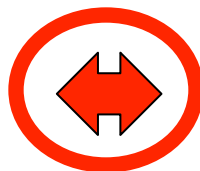
# All about communication



# All about communication

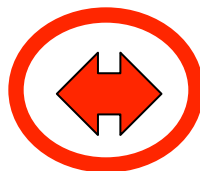


# All about communication

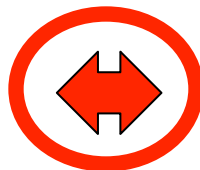




# All about communication



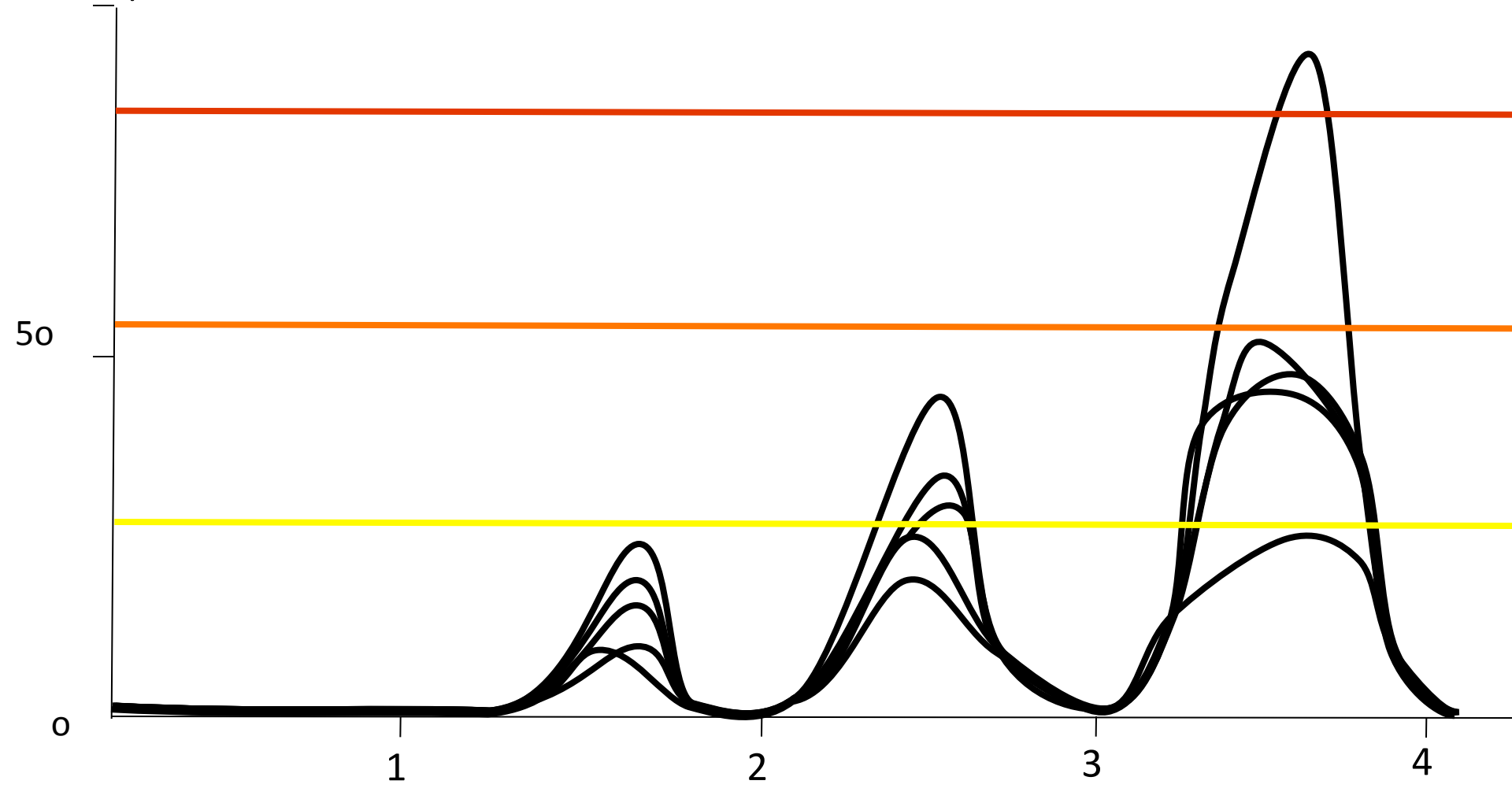
# All about communication



# EPS 4 days



100 mm/d

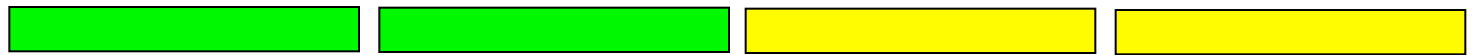


# EPS 4 days

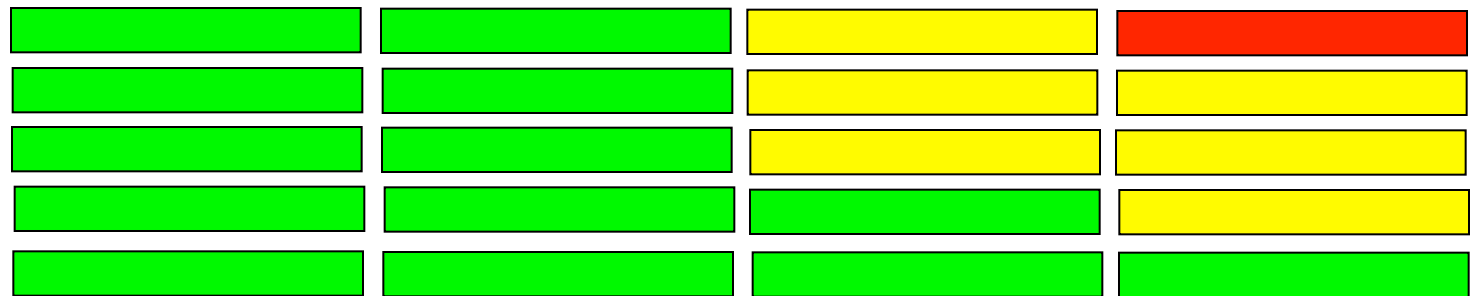


e.g. rain forecasts

resulting  
level



ensembles



Tue

Wed

Thurs

Fri

# Probability matrix - meteoalarm



Ensembles alert level Level of confidence based on ensembles and forecasters experience)	Green	Yellow	Orange	Red
0 – 5%	Green	Green	Green	Red
5 - 30%	Green	Green	Green	Yellow
30 – 60%	Green	Green	Yellow	Orange
>60%	Green	Yellow	Orange	Red
>90%	Green	Yellow	Orange	Red

# Meteorological rareness vs impact



Is the rareness of an event recognized under multi parameter conditions?

Meteorological rareness



impact

# Two way communication



## What ought to be communicated?

- **Certainties/ probabilities**
- **Scenarios**
- **Local and regional impact conditions**

Two way communication



**Thank you very much!!!**