Meteoalarm CAP Topics

Import & Export with Common Alerting Protocol

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Meteoalarm

Eumetnet Mandate

1. Make NHMS warnings visible in an understandable way
2. Cooperation with users from Civil Protection – media – ERCC
3. See harmonisation as permanent task, not precondition
4. Start simple and upgrade later (multi hazard and integrating new partners)
5. Offer other partners access to a highly visible platform (Hydro . . .)
6. Clear datapolicy for the re-use of data

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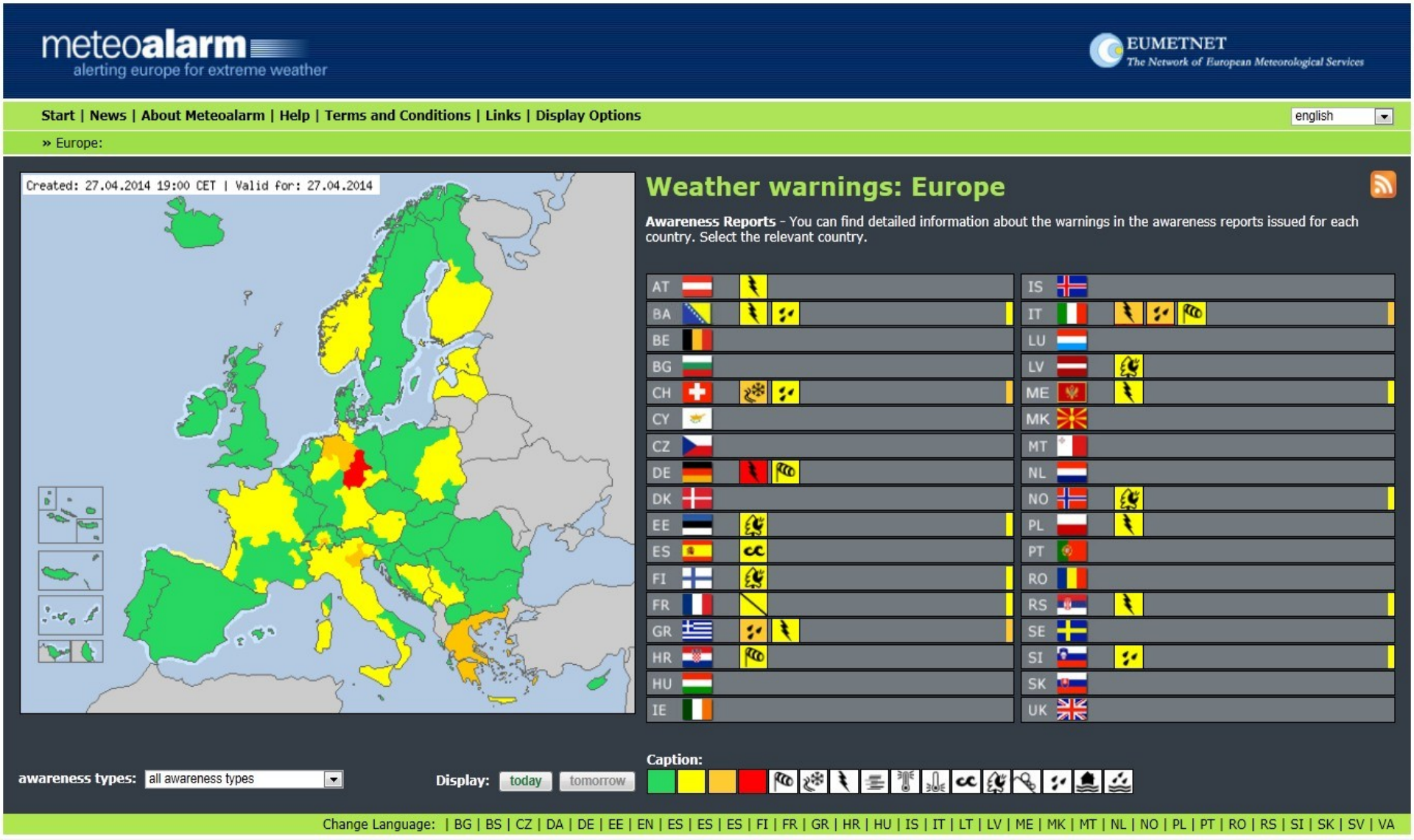
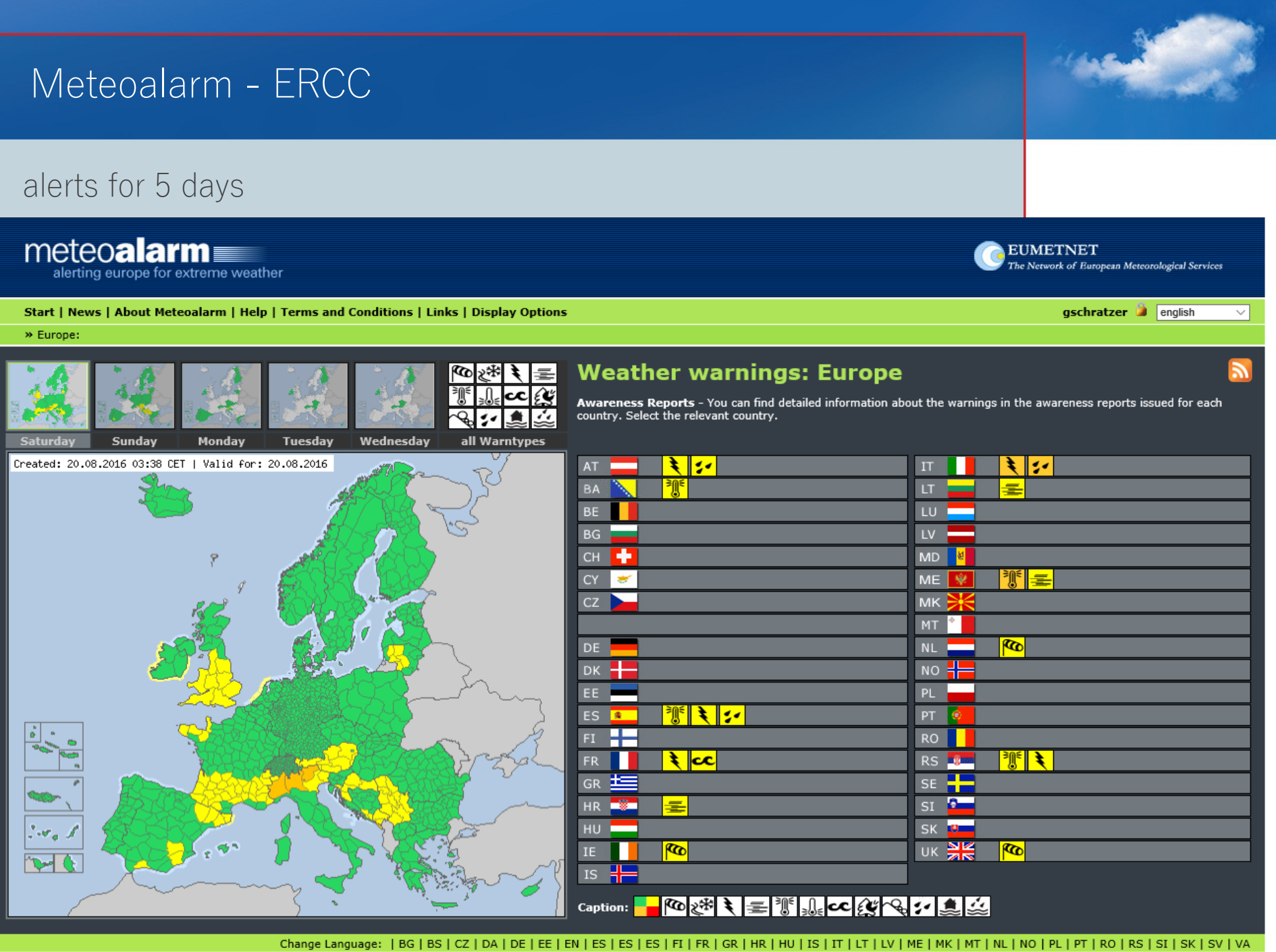
EUMETNET: European Plattform for Alerts



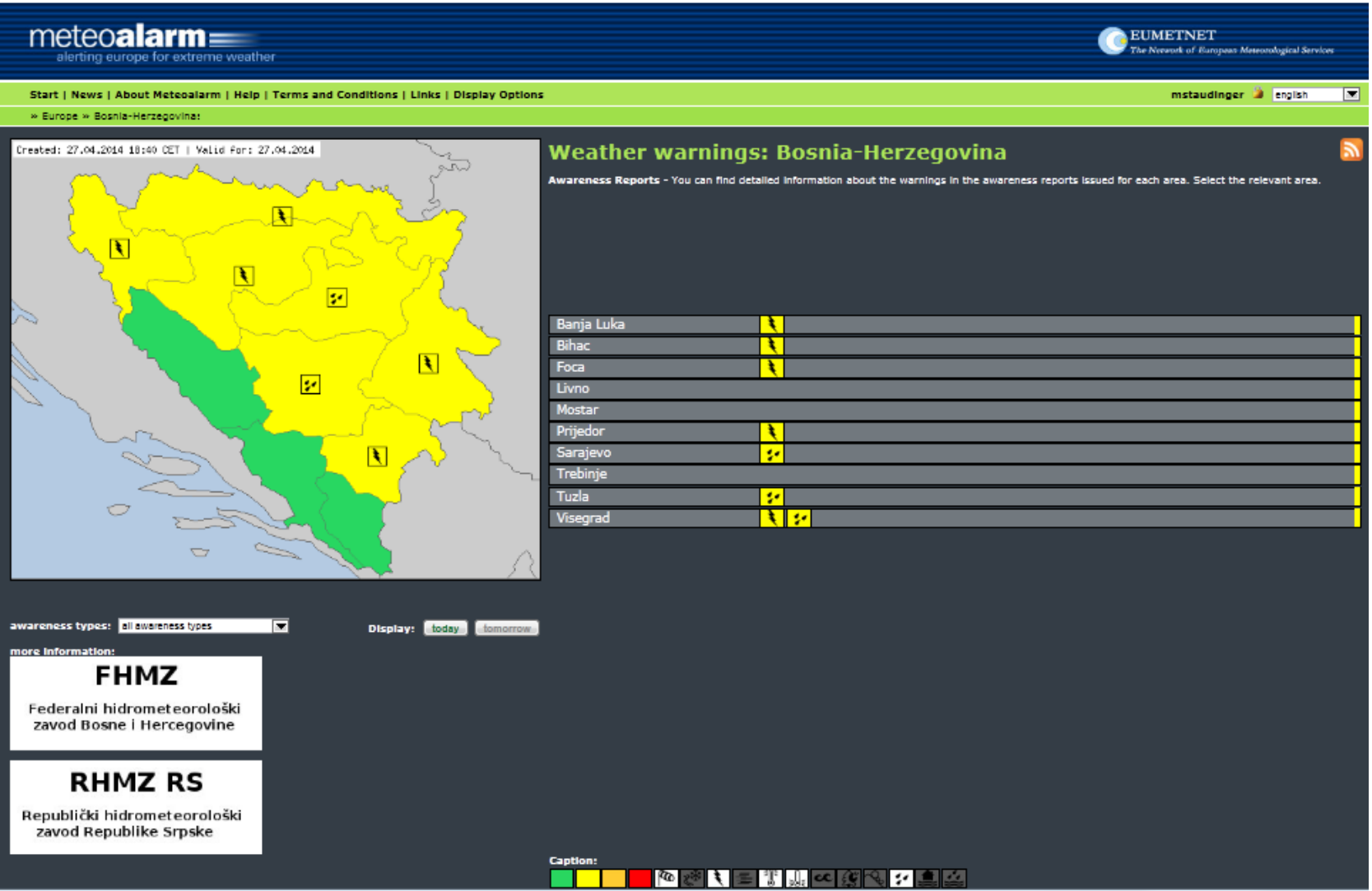
Meteoalarm - ERCC

alerts for 5 days



Meteoalarm

National level



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Meteoalarm

Subnational level

meteoalarm
alerting europe for extreme weather

EUMETNET
The Network of European Meteorological Services

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english

» Europe » Serbia » Срем:

Weather warnings: Срем

valid from 05.09.2015 00:00 CET **Until** 05.09.2015 23:59 CET
Thunderstorms
Awareness Level: **Orange**

en: Local thunderstorms with hail
IMPACT: The risk of thunder stroke, endangered lives of people and animals, operation problems for all electrical devices, the risk of fire initiation and flash flooding, telecommunication problems, possible major damage to the property and in agriculture, especially in combination with strong wind and intensive rainfall.

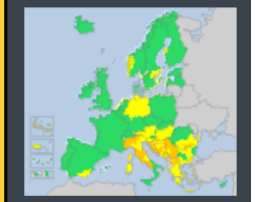
sr: Lokalna pojava grmljavine sa gradom
UTICAJ: Rizik od udara groma, opasnost poživot ljudi i životinja, problemi u radu svih uređaja koja koriste električnu energiju, rizik od izazivanja požara, problemi u telekomunikacijama, moguće veće štete na pokretnoj i nepokretnoj imovini i u poljoprivredi, naročito u kombinaciji sa jakim vetrom i intezivnim pljuskovima.

valid from 05.09.2015 00:00 CET **Until** 05.09.2015 23:59 CET
Rain
Awareness Level: **Yellow**

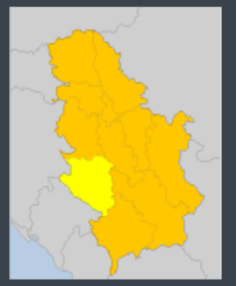
en: Rain - at least 20 mm (l/m²) within a 12-hour period
IMPACT: Causing flooding, problems in all agricultural production activities, traffic problems, possible risk of landslides and mudslides. Indirect impact on the safety of people and animals.

sr: Kiša sa količinom padavina većom od 20 l/m² za 12 h
UTICAJ: Izazivanje poplava, i prouzrokovanješteta u vezi sa poplavama, problemi u svim aktivnostima poljoprivredne proizvodnje, problemi u saobraćaju, moguća pojava odrona i klizišta. Indirektni uticaj na bezbednost ljudi i životinja.

Back to Europe:



Back to Serbia:



Display: today | tomorrow

Change Language: | BG | BS | CZ | DA | DE | EE | EN | ES | ES | ES | FI | FR | GR | HR | HU | IS | IT | LT | LV | ME | MK | MT | NL | NO | PL | PT | RO | RS | SI | SK | SV | VA

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Meteoalarm: 33 Partners

How to harmonize?

Colour	One word	What to do?	Damage / Impact	Used how often? (Area approx. 300 000 km²)	Meteo Treshholds e.g. Rain (area + impact related)
Green	**Weather report**	usual phenomena	- - -	usual phenomena	Examples
yellow	**Be aware!**	caution with exposed activities	exposed objects (avoidable)	> 30 per year	> 54 mm/12h
orange	**Be prepared!**	keep informed in detail, follow advice of authorities	general damages (not avoidable)	2 to 30 per year	> 80 mm/12h
red	**Take action!**	**follow order of authorities under all circumstances!** **be prepared for extraordinary measures!**	extreme damage and / or casualties extreme damage (mostly) on large areas, threatening life and properties (not avoidable, even in otherwise safe places)	less then 1/ year + large (5000km²) scale phenomena	> 140 mm/12h

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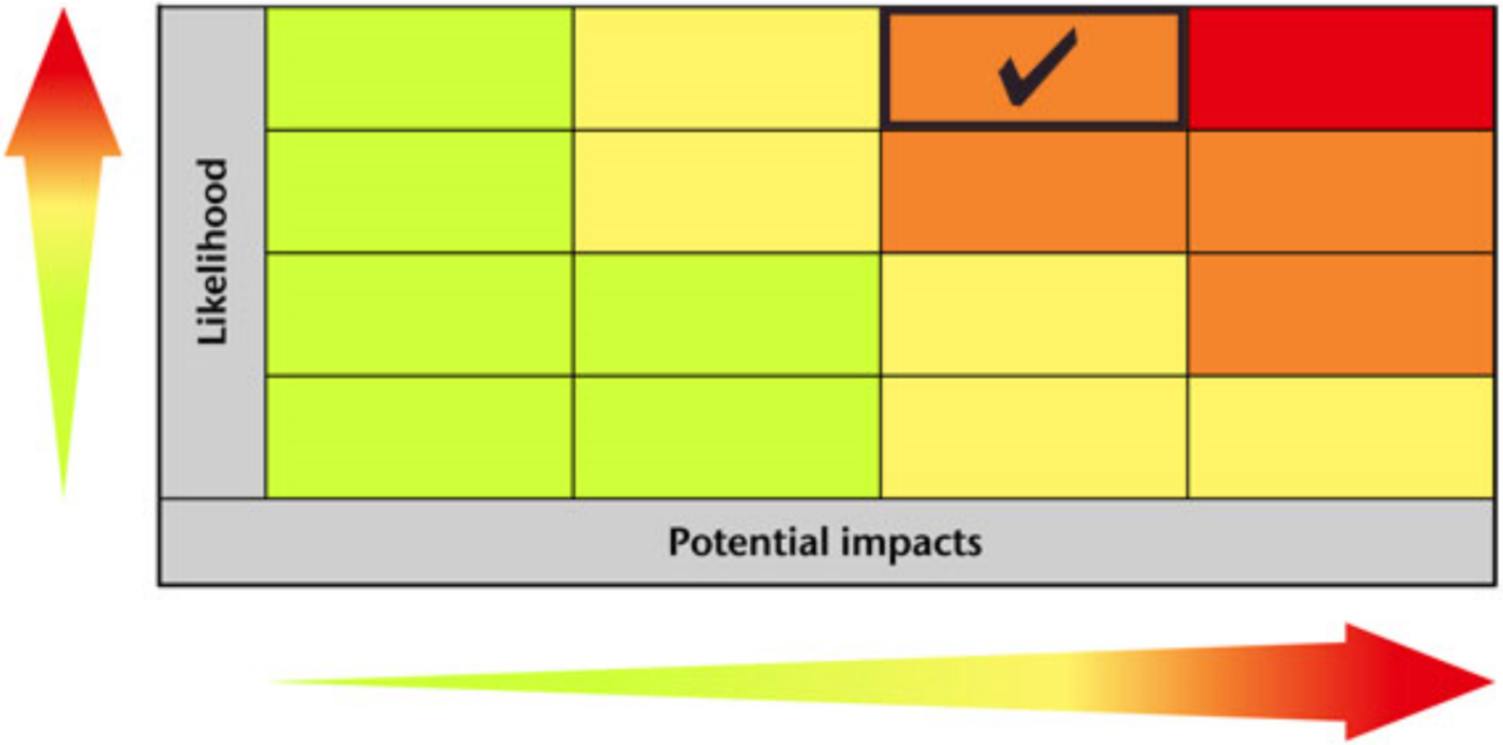
e.g. 36h ahead: how much certainty do we have?



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Meteoalarm cap

CAP Standard 1.2 (Version 2010)

YES!!

The Common Alerting Protocol (CAP) is an XML-based data format for exchanging public warnings and emergencies between alerting technologies.

BUT!!

Due to the open nature of the oasis CAP standard 1.2 the different Warningprovider developed different implementations.

These implementations comply with the Oasis CAP Standard but are incompatible with each other

Because of this fact for further processing the

- software companies and
- Internet service providers

have with this format use a huge development effort !

Meteoalarm cap

Problem 1: Altitude and ceiling

A solution for the global various units is not defined

i.E. FEED vs METER

A unit tag is important in:

- **Altitude**
- **Ceiling**

Sorry Inventor ;-)
For a international standard it is indispensable to define it.

Topic on our List since 2012

Meteoalarm cap

CAP Standard 1.2 Problems with different CAP implementations

Different ways of specifying the type of an event			
	DWD	meteoalarm	Canada
tag	eventCode	parameter	eventCode
valueName	GROUP	awereness_type	profile:CAP-CP:Event:0.3
value	THUNDERSTORM	3; Thunderstorm	thunderstorm

Meteoalarm cap

CAP Standard 1.2 Problems with different CAP implementations

Different ways of specifying the severity of an event			
	DWD	meteoalarm	Canada
tag	eventCode	parameter	severity
valueName	AWARENESS_COLOR	awareness_level	-
value	255 255 0 (RGB)	2; yellow; Moderate	Moderate

Meteoalarm cap

CAP Standard 1.2 Problems with different CAP implementations

Different ways of specifying the location of an event			
	DWD	meteoalarm	Canada
tag	geocode	geocode	geocode
valueName	WARNCELLID	NUTS1/2/3	PostalCode
value	108426000	AT333	M4R2S8

Meteoalarm cap

CAP Standard 1.3 Solutions

Possible solution			
	event type	event level	area
tag	eventCode	eventCode	geocode
valueName	event_type	event_level	UN/LOCODE
value	1; wind 2; snow etc.	1 - F (HEX) 1 - 16 etc.	FI AAN AT ABS CA HOS

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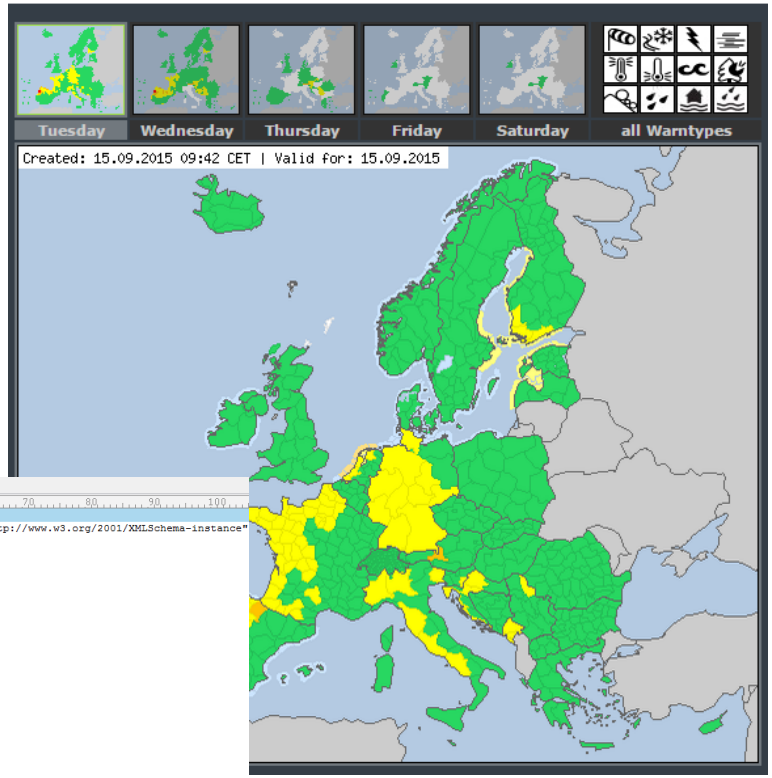
Meteoalarm cap import

What are the most necessary points for CAP further processing

- Uniform consistent file format
- Secure way for data transfer
- Sender verification
- Small data volume



Z_CAP_C_EDZW_20150722094400_PVW_4.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<alert xmlns="urn:oasis:names:tc:emergency:cap:1.2" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
<identifier>2.49.0.1.276.DWD.PVW.1437558240606.4</identifier>
<sender>CAP@dwd.de</sender>
<sent>2015-07-22T09:24:00+00:00</sent>
<status>Actual</status>
<msgType>Alert</msgType>
<source>PVW</source>
<scope>Public</scope>
<info>
<language>de-DE</language>
<category>Met</category>
<event>VORABINFORMATION SCHWERES GEWITTER</event>
<responseType>Prepare</responseType>
<urgency>Future</urgency>
<severity>Severe</severity>
<certainty>Observed</certainty>
<eventCode>
<valueName>PROFILE_VERSION</valueName>
<value>2.1</value>
</eventCode>
<eventCode>
<valueName>LICENSE</valueName>
<value>Geobasisdaten: Copyright Bundesamt für Kartographie und Geodäsie, Frankfurt am Main, 2013</value>
</eventCode>
<eventCode>
<valueName>II</valueName>
<value>40</value>
</eventCode>
<eventCode>
<valueName>GROUP</valueName>
<value>THUNDERSTORM</value>
</eventCode>
<eventCode>
<valueName>AREA_COLOR</valueName>
<value>255 128 128</value>
</eventCode>
<effective>2015-07-22T07:20:00+00:00</effective>
```

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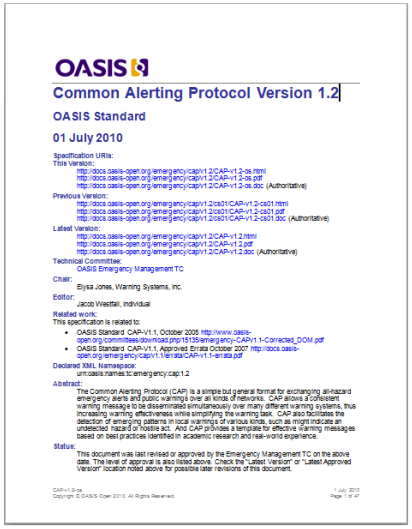
Modified Version of CAP

To use the CAP Standard for meteorology, amendments had to be made



OASIS

Common Alerting Protocol Version 1.2

OASIS Standard

01 July 2010

Specification URIs:
This Version:
http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2-os.html
http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2-os.pdf
http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2-os.doc (Authoritative)
Previous Version:
http://docs.oasis-open.org/emergency/cap/v1.2/cs01/CAP-v1.2-cs01.html
http://docs.oasis-open.org/emergency/cap/v1.2/cs01/CAP-v1.2-cs01.pdf
http://docs.oasis-open.org/emergency/cap/v1.2/cs01/CAP-v1.2-cs01.doc (Authoritative)
Latest Version:
http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2.html
http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2.pdf
http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2.doc (Authoritative)
Technical Committee:
OASIS Emergency Management TC

Chair:
Elysa Jones, Warning Systems, Inc.

Editor:
Jacob Westfall, Individual

Related work:
This specification is related to:

- OASIS Standard CAP-V1.1, October 2005 http://www.oasis-open.org/committees/download.php/15135/emergency-CAPv1.1-Corrected_DOM.pdf
- OASIS Standard CAP-V1.1, Approved Errata October 2007 http://docs.oasis-open.org/emergency/cap/v1.1/errata/CAP-v1.1-errata.pdf

Declared XML Namespace:
urn:oasis:names:tc:emergency:cap:1.2

Abstract:
The Common Alerting Protocol (CAP) is a simple but general format for exchanging all-hazard emergency alerts and public warnings over all kinds of networks. CAP allows a consistent warning message to be disseminated simultaneously over many different warning systems, thus increasing warning effectiveness while simplifying the warning task. CAP also facilitates the detection of emerging patterns in local warnings of various kinds, such as might indicate an undetected hazard or hostile act. And CAP provides a template for effective warning messages based on best practices identified in academic research and real-world experience.

Status:
This document was last revised or approved by the Emergency Management TC on the above date. The level of approval is also listed above. Check the "Latest Version" or "Latest Approved Version" location noted above for possible later revisions of this document.

CAP-v1.2-os
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1 July 2010
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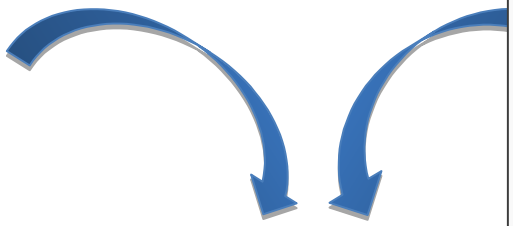

```
awareness-level
1; green; Minor
2; yellow; Moderate
3; orange; Severe
4; red; Extreme

awareness-type
1; Wind
2; snow-ice
3; Thunderstorm
4; Fog
5; high-temperature
6; low-temperature
7; coastalevent
8; forest-fire
9; avalanches
10; Rain
11; unknown
12; flooding
13; rain-floo
```

Syntax

2.49.0.3.0.AT.150112080000.52550478

blue -> Your WMO Organisation ID
green -> Your Country ISO Code
orange -> Your File Date/Time "YYMMDDHHMMSS" in Syntax Example it is the 12 january 2015 08 o'clock
red -> your warning ID (CHAR max Len: 20 / special characters are not allowed only a-Z 0-9 and "_")

See Also

- Your WMO Organisation ID
- IsoCodes

Info

The identifier is part of the reference, if you update/cancel a warning.

<sender>

Info	Email address of originator of warning.
Definition	Guaranteed by assigner to be unique globally.

CAP Profile Meteoalarm

<parameter>

Used internally for the website meteoalarm.eu.

Info	Meteoalarm specific code indicating awareness type and alert level

Format	`<parameter>`
	`<!--0=white,no_data, 1=green,minor, 2=yellow,Moderate, 3=orange,Severe 4=red,Extreme-->`
	`<valueName>awareness_level</valueName>`
	`<value>1; green; Minor</value>`
	`</parameter>`
	`<parameter>`
	`<valueName>awareness_type</valueName>`
	`<value>5; high-temperature</value>`
	`</parameter>`

{valueName} and {value}	awareness type according to Meteoalarm specifications and alert level (1,2,3,4) according to Meteoalarm specifications
Example:	Level 2 (yellow) wind warning

Import only: This segment is very important and mandatory for the import of CAP messages. It is used for the correct representation of the warning information.

Category CAP

This chapter summarizes the specifications for the adoption of the CAP- Common Alerting Protocol within Meteoalarm

The CAP Standard has been designed to allow a consistent warning message to be communicated simultaneously over different systems. By standardizing on a format, technology developers and vendors in the emergency, incident, and business continuity fields will be able to take a huge step forward in sharing this critical, and potentially life saving, information.

Contents [hide]

Abstract
Status
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  Process
  Terminology
  References
CAP v1.2 Meteoalarm profile
  Import of CAP messages

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Meteoalarm CAP Import

More meteorological definitions in the cap standard

Hazard families & types

Example:

- **WIND (Family)**

Types:

- **WIND GUST**
- **STRONG WIND**
- **STORM**
- **STORM GUST**
- **STRONG STORM GUST**
- **HURRICANE GUST**
- **EXTREME HURRICANE**

```
<category>met</category>
<event>wind</event> // family i.E. wind

or

<category>met</category>
<event>STORM GUST</event>
```

With precisely defined hazard families and types (only in english)
the automated processing of CAP Import would be easier if the contents is submitted from different data providers.

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Meteoalarm CAP Import

SOAP-Webservice (Simple Object Access Protocol)

Reasons:

- No Fix IP – addresses
- Authentification with username / password / security key
- User Permissions for each Soap-Function
- Direct warning calculation
- Error Debugging and Logging
- Software Interface (integration into various applications)
- Direct Response
- Faster Error debugging and warnings-import
- Secure Syntax / Transmittion
- Open Standard
- No Limits for Future Functions

More Infos:

http://www.w3.org/TR/soap/

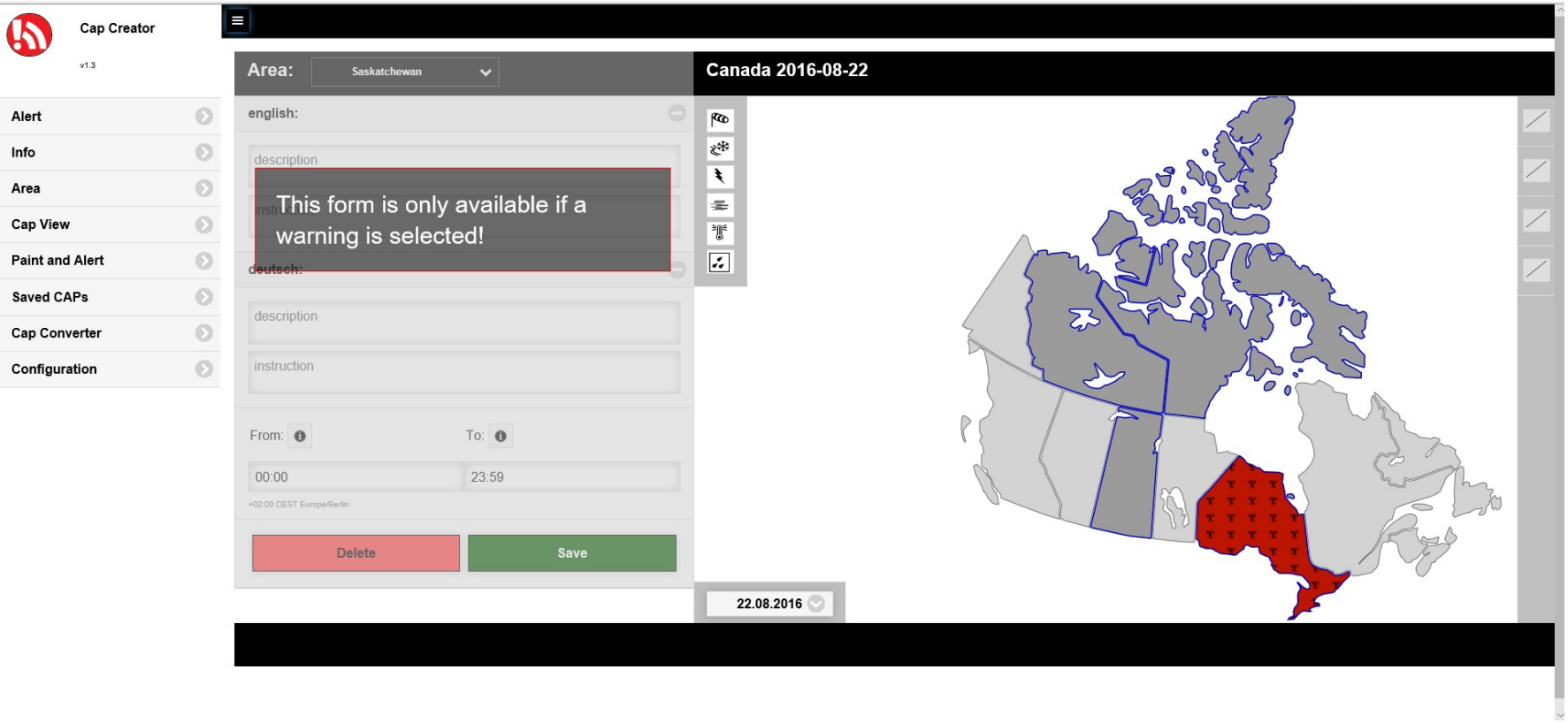
https://en.wikipedia.org/wiki/SOAP

http://sourceforge.net/projects/nusoap/

http://www.codeproject.com/Articles/140189/PHP-NuSOAP-Tutorial

Meteoalarm CAP Import

Open Source Software CAP



Download & Help:

https://github.com/AT-backbone/Cap-PHP-library

https://dolibarr-demo.companyweb.at/public/webservices/cap1.3/

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CAP changes for producers and users

Thanks for your attention

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