Difficulties implementing CAP 1.2 in AEMET

Javier Rodríguez (Head of the Operational Forecasting Area)
Javier Méndez (Head of Operations and Data Management Area)
Jesús Montero (Head of Operations Department)

CAP / IBF Technical Meeting, 3-4 th December 2018, WMO, Geneva

Contents

- Status of CAP 1.2 in AEMET
- Difficulties implementing CAP 1.2 in AEMET
- Conclusions and suggestions

Status of CAP 1.2 in AEMET

GOBIERNO DE ESPAÑA · MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA · AEMet Agencia Estatal de Meteorología

http://www.aemet.es/es/eltiempo/prediccion/avisos

Official website

Warnings Software (SIGA)

Mobile App

Data Processing Unit

External delivery (ftp/email)

CP/other end-users

- Operational bulletins/products
- CAP 1.2 operational since 18th June 2018

Meteoalarm

- "Old" XML operational
- CAP 1.2 still in Test

Slightly different implementation

RSS ATOM

CAP 1.2 Pushing feeds operational since 18th June 2018

publish

RabbitMQ

Pub/sub

subscribe

Infotweet Server

Warnings tables in emails

Tweets with warnings maps and tables

Warnings Database (BDAV)

Status of CAP 1.2 in AEMET

WMO Register of Alerting Authorities [home]

OID: 2.49.0.0.724.0 WMO Member: Spain ISO 3166: ES ESP 724

Issuing Organization: Agencia Estatal de Meteorología

Hazard Categories: Met

Authorization Basis: The Statute of the State Meteorological Agency of Spain (AEMET) provides a detailed description of the functions and duties to be performed. Specifically, it establishes that AEMET is the organisation responsible for "the development, provision and dissemination of weather information and forecasts of general interest to citizens throughout the country, and issuing warnings and forecasts of weather phenomena that may affect the safety of persons and properties."

CAP Feed URL(s):
Language: Spanish, Castilian URL: http://www.aemet.es/documentos_d/eltiempo/prediccion/avisos/rss/CAP_AFAE_ATOM.xml

Forecasts URL: http://worldweather.wmo.int/083/m083.htm

Alerting Area (NWSE): 44.0 -10 34.7 5

The plan is to put Meteoalarm RSS and ATOM links when CAP 1.2 becomes operational there. In that sense, is there any recommendation by WMO?

Difficulties implementig CAP 1.2

- **<identifier>**
  - In the Meteoalarm CAP Profile there was a limit of 50 characters. We had to ask them to increase the identifier maximum length and they kindly increased it from 50 to 60.
  - A maximum character length must exist, but it should not be very limiting. What is important is that the identifier is unique for each CAP message and that the originator is easily identified inside it.

Difficulties implementig CAP 1.2

- **<sender>**
  - We put the AEMET website URL, that does not contradict OASIS CAP 1.2, but an email address is recommended by Meteoalarm CAP 1.2 Profile.
  - The problem of the email is its management.
  - What is done in that sense by other NMHSs? Do they have a lot of questions through this email address?

Difficulties implementig CAP 1.2

- **<sent>**
  - We put it in UTC time, that does not contradict OASIS CAP 1.2, but local time is mandatory in Meteoalarm CAP 1.2 Profile.
  - More flexibility should exist to put UTC, local, CET, CEST, etc. The important thing is that all NMHSs follow the same format and put the offset to UTC, but not more restrictions.

Difficulties implementig CAP 1.2

- **<msgType>**
  - We use an “update” “yellow” message with [<expires> = <sent> = <effective>] and [<onset> = <sent> - 1 second] in order to cancel yellow/orange/red warnings, as Meteoalarm does not permit to use green warnings to cancel them (references are not permitted in green warnings) and only permits to use “cancel” messages in case of mistakes in the referenced messages. All that is not specified in OASIS CAP 1.2 but gave us a lot of headaches.
  - **Clear guidelines on how to implement the process of updating and canceling (= updating to no warning) CAP messages would be necessary.**

Difficulties implementig CAP 1.2

- **<info>**
  - Following the Meteoalarm CAP 1.2 Profile, we put as many <info> segments as languages we use in each <alert> segment (two <info> segments in our case: “es-ES” and “en-GB”).
  - After reading “Policy and technical issues in systems of emergency alerting” (Elliot Christian), only one <info> segment in each <alert> (only one language) is recommended?

Difficulties implementig CAP 1.2

- **<area>**
  - We put only one <area> segment in each <info> segment, with the exception of green warnings.
  - Following Meteoalarm CAP 1.2 Profile, we only use <geocode> in the implementation for Meteoalarm.
  - We use <geocode> and <polygon> in the implementation for Spanish end-users.
  - It seems that the use of <polygon> will be promoted in the future.

Difficulties implementig CAP 1.2

- **<urgency>**
  - We fill in it according to <sent> and <onset> elements:
    - “Immediate”: observed warnings (as a result of the watch)
    - “Expected”: <onset> < 1 hour later than <sent>
    - “Future”: <onset> > 1 hour later than <sent>
    - “Past” and “Unknown” are not implemented
  - But it might depend also on CPA protocols and actions. What is done in other NMHSs?

Difficulties implementig CAP 1.2

- **<severity>**
  - Following Meteoalarm CAP 1.2 Profile, we make nowadays an equivalence between the <awareness_level> (“colour”) and <severity>:
    - “Green” → “Minor”
    - “Yellow” → “Moderate”
    - “Orange” → “Severe”
    - “Red” → “Extreme”
  - After reading “Compatibility with the CAP” (Elliot Christian) and “Some thoughts…” (Gerald Fleming) I guess that <severity> does not concern the final risk but the degree of impact (“x” axis in the risk matrix).
  - In any case, an element called <colour>, <awareness_level>, <risk> or similar would be needed in Meteoalarm CAP 2.0, as a result of combining <severity>/<impact> and <certainty>. <colour> is easily understood by end-users and it does not depend on the level of implementation of the risk matrix in each NMHS.

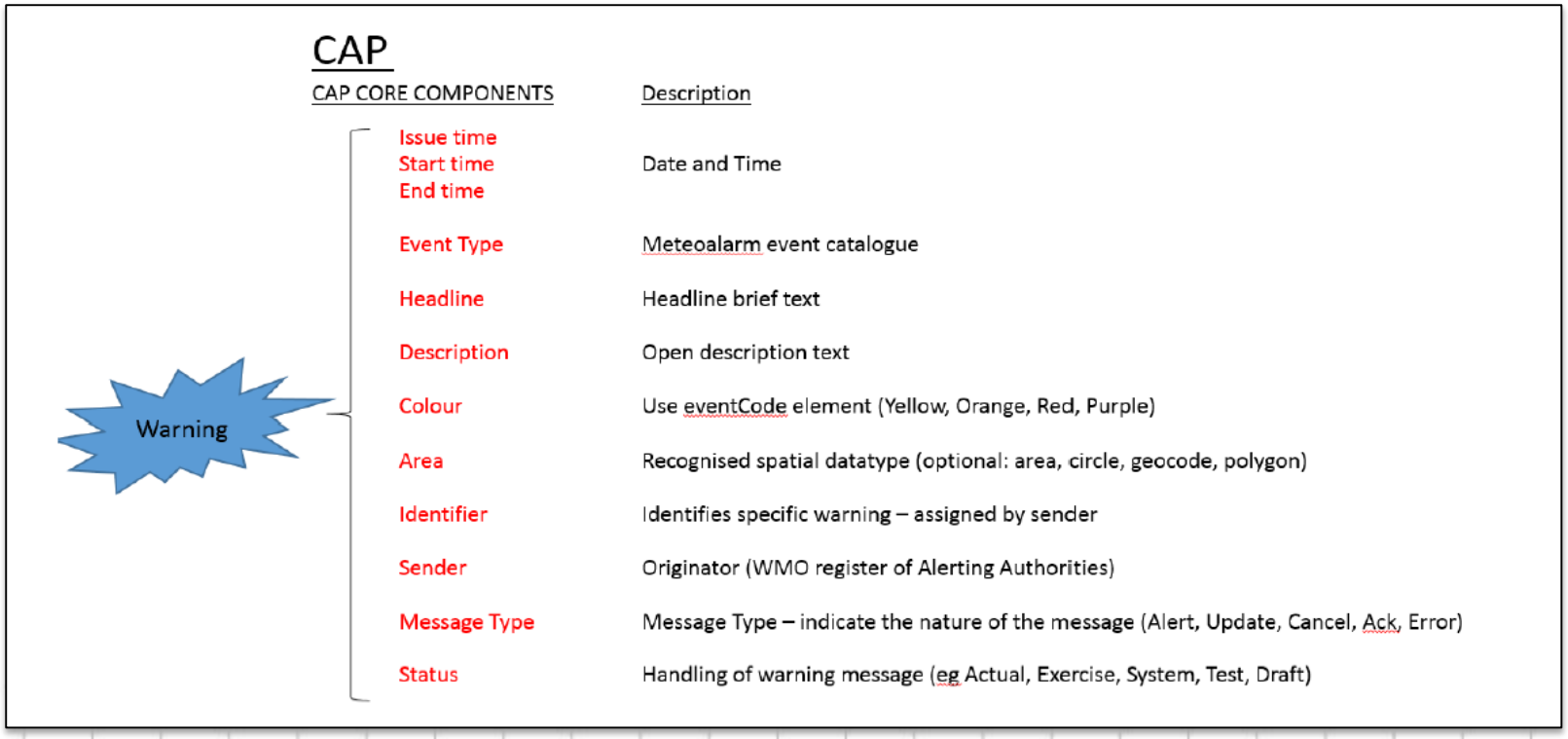
Difficulties implementig CAP 1.2

- **<certainty>**
  - We make this equivalence between Meteoalarm CAP 1.2 Profile categories and the probabilities that are defined in our warnings system:

METEOALARM	→	AEMET
“Observed”	→	“Observed”
“Likely” (p >~ 50 %)	→	> 70 % and 40-70 %
“Possible” (p <~ 50 %)	→	10-40 %
“Unlikely” (p < 5 %)	→	Not implemented
Unknown	→	Not implemented

Conclusions and suggestions

- Future specification by OASIS (and Meteoalarm CAP 2.0 Profile) should require the use of a small subset of the current CAP 1.2 mandatory parameters, leaving other elements as optional, following the principles of preservation of the content of NMHS's warnings and their different IBF approaches:



Summary: Task Team on CAP in Meteoalarm

Conclusions and suggestions

- Meteoalarm should not place additional restrictions on those specified by OASIS.
- Clear guidelines on how to implement the process of updating and canceling CAP messages would be necessary in order not to lose the content and temporal sequence of warnings, despite correct syntax of the different separate CAP messages.
- The logic of visualization is an important issue too, again in order not to lose the content and temporal sequence of original warnings.

THANK YOU FOR YOUR ATTENTION
ANY QUESTIONS AND ANSWERS ?

frodriguezm@aemet.es