

# WMO Perspectives on CAP Implementation Worldwide



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World Meteorological Organization  
Organisation météorologique mondiale

# Weather risks are the top economic risks

World Economic Forum, Davos - Global Risk Landscape 2018



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Source: World Economic Forum (2018)

# 17th Session of WMO Congress (Cg-17, 2015)



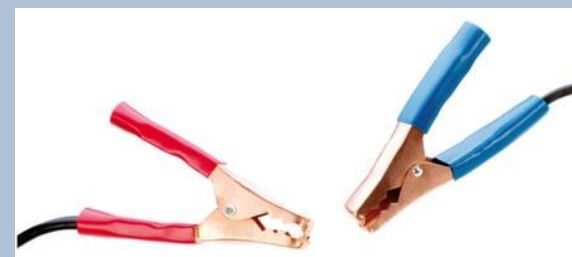
- Requested WMO Secretary-General to provide further guidance to Members on converting weather warnings into the Common Alerting Protocol (CAP) standard format

# Next CAP decision?

- WMO Technical Regulations
  - CAP as a recommended (or mandatory?) standard

# Implementation of CAP

- WMO through PWS programme assists Members through the «CAP Jump-start» arrangement
  - Experts visit NMHSs and provide training and freeware
  - LDCs and developing countries are supported
- There is a need for resources for advancing implementation of CAP



WMO CAP Jump-start  
([Link to more information](#))





## CAP Jump-Start Workshop, Vacoas, Mauritius



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# Training

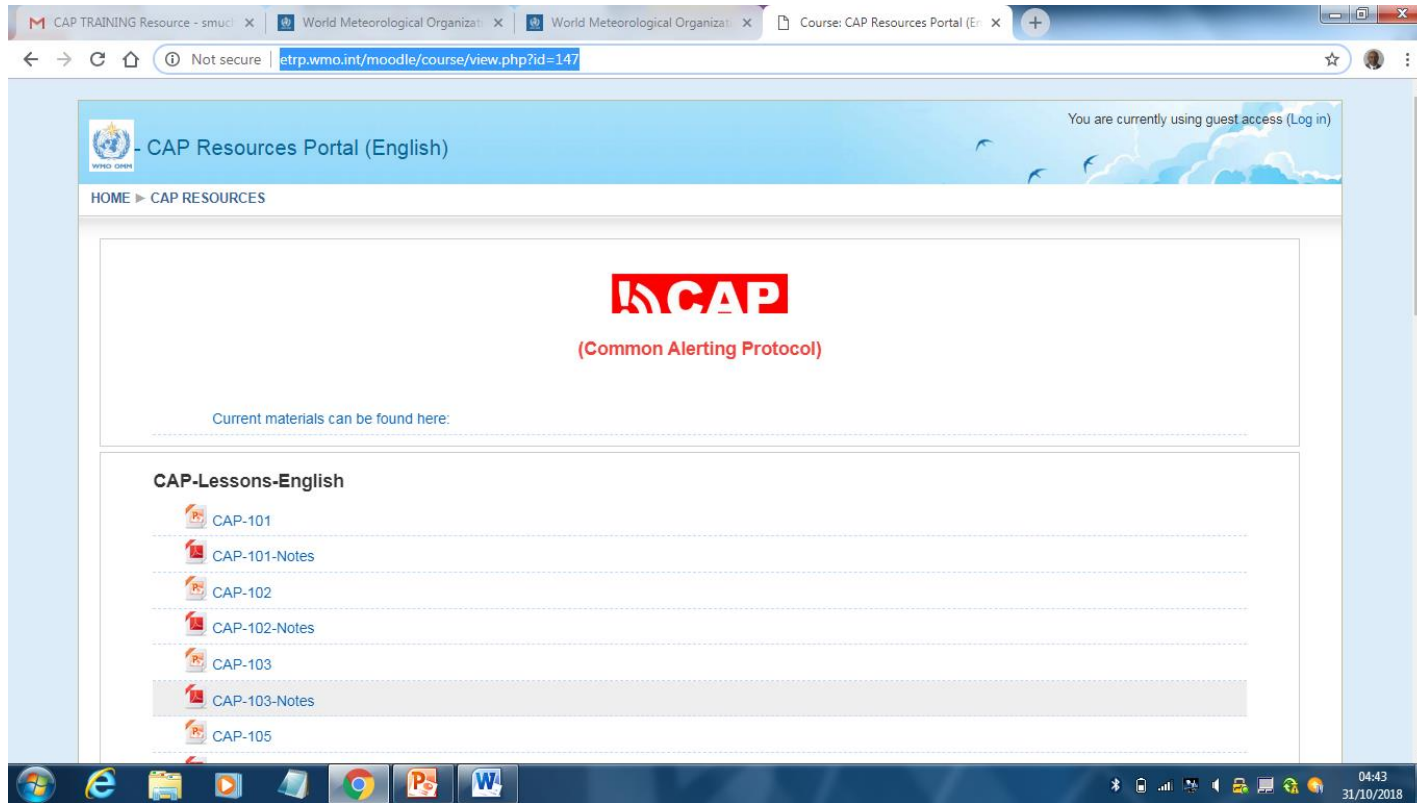
- Saudi Arabia and Middle Eastern Region (Under discussion)
- CAP Workshop, Lao and Vietnam (Oct 2018)
- RA III IBFWS and CAP Workshop 10-14 Sept 2018
- CAP Jump-Start Workshops Curaçao, Grenada, St. Lucia, Dominica, St. Kitts and Nevis & Sint Maarten (18 Feb to 14 March 2018)
- Common Alerting Protocol (CAP) Jump-Start Workshop SIDS, Pacific (Palau, Federated States of Micronesia, Fiji, Tuvalu, Niue, and Nauru) July-August 2017

# Training: Leveraging PWS funded projects

- Severe Weather Forecasting Demonstration Project (SWFDP) (Norway, Korea etc)
- Climate Risk & Early Warning Systems (CREWS) (Pacific, S.E Asia, Caribbean, Africa)
- HIGH impact Weather Lake System (known as HighWAY (Kenya, Uganda, Tanzania, Rwanda, Burundi)

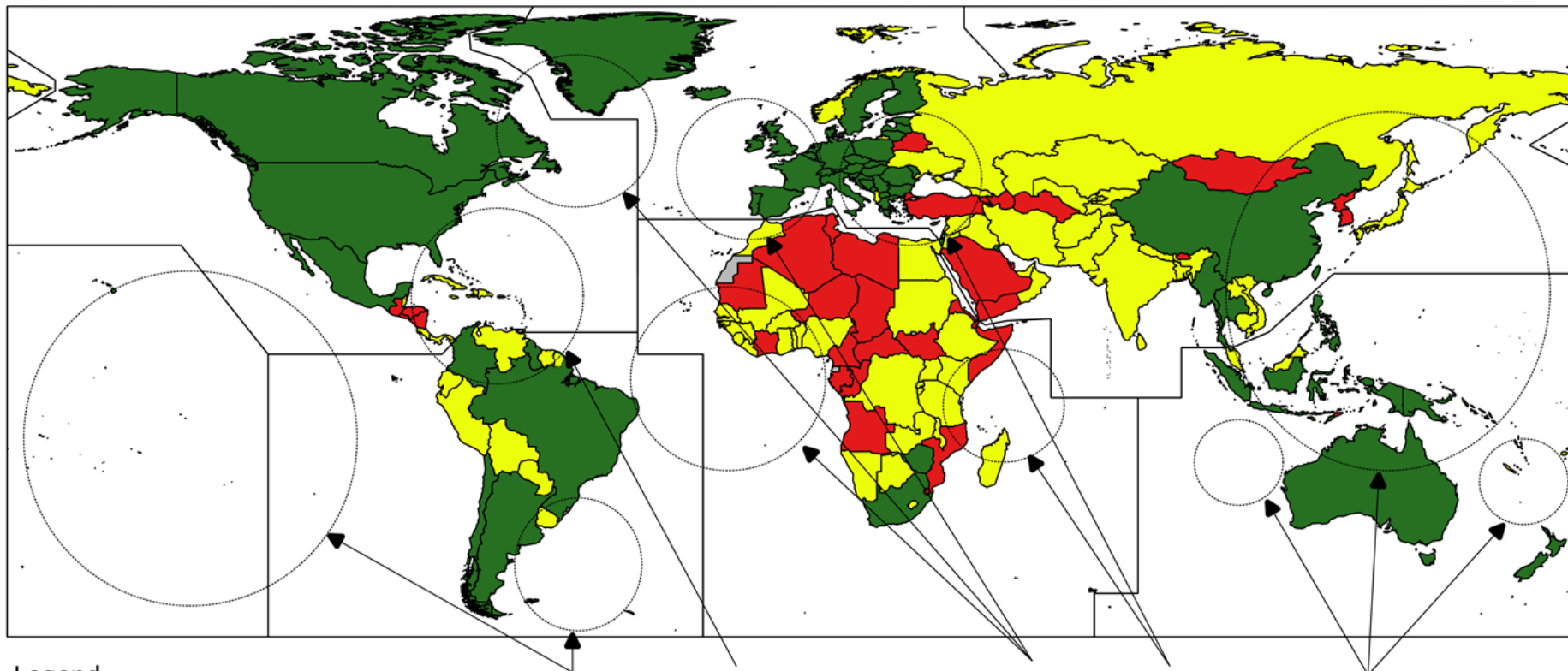


# Online Training Platform



cap.wmo.int

# Implementation Of The Common Alerting Protocol (CAP)



## Legend

- Have Implemented Operational CAP System
- CAP Implementation Process Initiated
- Status Unknown
- Not WMO Member

American Samoa (U.S.)  
 Samoa Tonga  
 Niue  
 Falkland Islands (U.K., Claimed by Argentina)  
 Tokelau (New Zealand)  
 Wallis and Futuna Islands (France)  
 Pitcairn Islands  
 French Polynesia Kiribati  
 Cook Islands (New Zealand)  
 Falklands/Malvinas

Anguilla (U.K.) Puerto Rico (U.S.)  
 Virgin Islands (U.S.)  
 Aruba (Netherlands) Antigua and Barbuda  
 Barbados Bahamas Bonaire (Netherlands)  
 Curaçao Dominica Dominica Republic  
 Jamaica Montserrat Saba (Netherlands)  
 Saint Lucia Sint Eustatius (Netherlands)  
 Sint Maarten (Netherlands) French Guiana  
 Cayman Islands (U.K.) British Caribbean Territories  
 Guadeloupe (France) Curaçao and Sint Maarten  
 Martinique (France) Haiti Virgin Islands (U.K.)  
 Saint Barthélemy (France) Trinidad and Tobago

Republic of Cabo Verde  
 Greenland (Denmark)  
 Faroe Islands (Denmark)  
 Sao Tome and Principe

Maldives  
 Comoros Mauritius  
 Palestine  
 Gibraltar (U.K.)  
 Kosovo  
 Mayotte (France)  
 Reunion Island (France)  
 Saint Pierre and Miquelon (France)  
 Seychelles  
 Vatican City State (Holy See)

Guam (U.S.) Taiwan (China)  
 Solomon Islands  
 Hong Kong, China Fiji  
 Macao, China  
 Micronesia, Federated States of  
 New Caledonia Singapore  
 Tuvalu Vanuatu  
 Brunei Darussalam  
 Christmas Island (Australia)  
 Cocos (Keeling) Islands (Australia)  
 Northern Mariana Islands (U.S.)  
 Tibet (China) Timor-Leste

# CAP Implementation

- [https://www.preparecenter.org/sites/default/files/cap\\_implementations\\_28.pdf](https://www.preparecenter.org/sites/default/files/cap_implementations_28.pdf)

CAP Implementation by Country/Territory

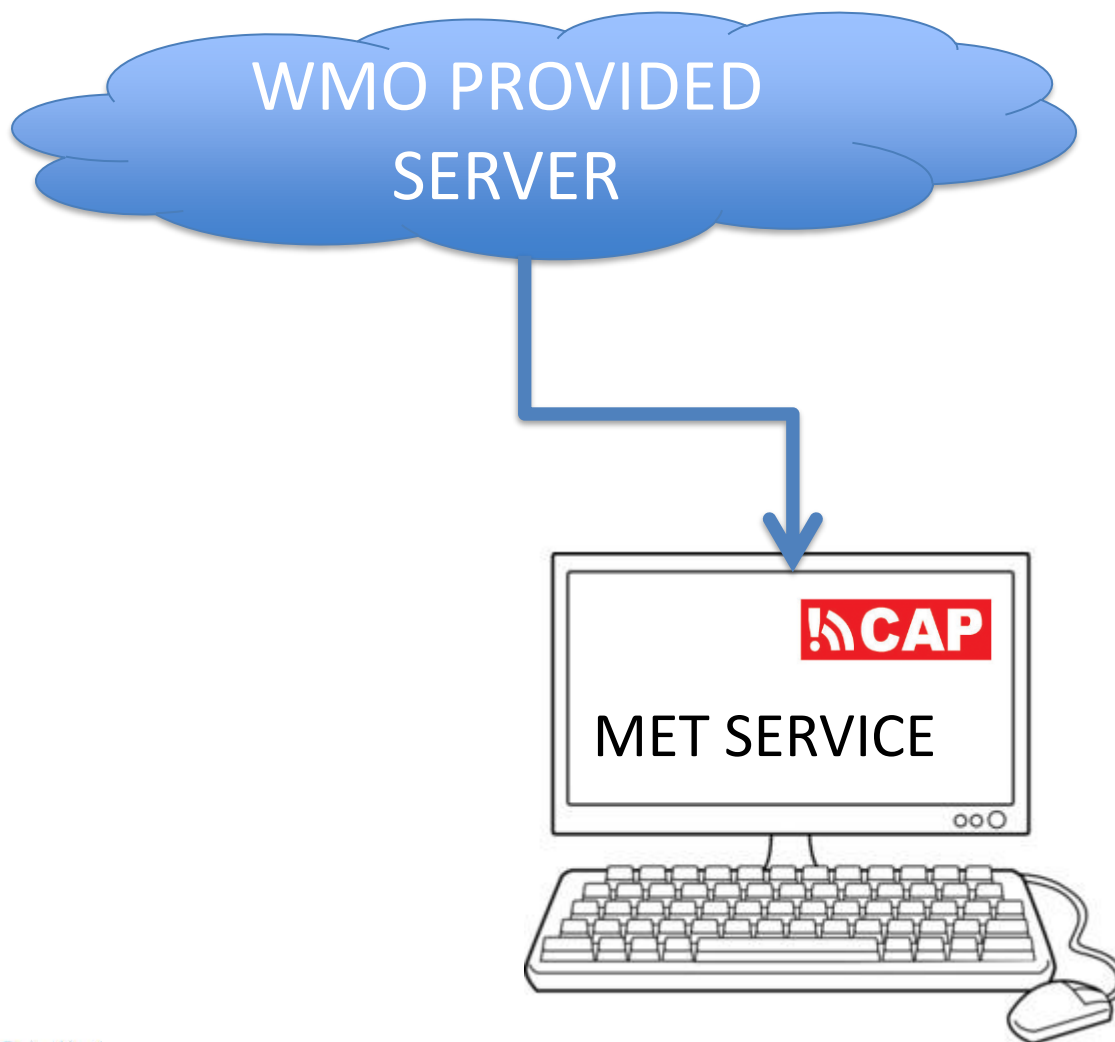
**Key to Notes**

- 1 Has an operational CAP system (most of these have CAP feed URLs, e.g., see "sources" at <http://alert-hub.org> )
- 2 In the process of implementing CAP system
- 3 Hosted an in-country CAP Jump Start
- 4 Requested, but has not yet hosted, an in-country CAP Jump Start
- 5 Partner in MeteoAlarm or MeteoAlert, which provides national CAP feeds
- 6 Implementing CAP via "Smart Alert" freeware from Finish Meteorological Institute
- 7 Uses CAP-enabled MeteoFactory from MeteoFrance International (version upgrade may be required)
- 8 Implemented or implementing Hazards App (can use and issue CAP alerts) via [IFRC Universal App](#) program
- 9 Installed [MetcapPlus](#) (freeware for meteorological forecasting, includes facility for publishing CAP alerts)

Place	Notes
Afghanistan	2, 4, 9
Albania	
Algeria	
American Samoa (U.S.)	1
Andorra	
Angola	
Anguilla (U.S.)	
Antigua and Barbuda	
Cocos (Keeling) Islands (Australia)	
Colombia	1, 3, 8
Comoros	4
Congo, Republic of	
Cook Islands (New Zealand)	
Costa Rica	8
Croatia	1
Download from site: preparecenter.org.	6



# WMO Online CAP Editing Platform



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# WMO Online CAP Editing Platform

- Now working to have an on-line CAP editor on WMO Web
- Targeting NMHSs where Web server access is an issue

# Online Web CAP Editor

The screenshot shows a web browser window with the address bar displaying `www.wmo.int/org.cap.editor.en/login.php`. The page title is "CAP Alert Editor, Initial Setup". Below the title, there is a paragraph explaining the tool's purpose and user roles. A bold note states: "NOTE: If an alert must be issued in less than one minute, please use your simplified warning method instead of this editor tool." Below the note, there are four instructions with corresponding input fields: "Language" (ISO 639 code) with a text box containing "en"; "Status" (Actual, Exercise, or Test) with a dropdown menu set to "Test"; "Scope" (Public, Private, or Restricted) with a dropdown menu set to "Restricted"; and "MsgType" (new Alert, Update, Cancel, or Error) with a dropdown menu set to "Alert". A "Compose CAP alert" button is located below these fields. At the bottom of the browser window, there is a taskbar with various application icons and a system tray showing the date and time as 04:21 on 31/10/2018.

**CAP Alert Editor, Initial Setup**

This tool is for composing alerts in CAP format. If you are in the role 'approver-cap' you are authorized to publish CAP alerts. If your role is 'composer-cap' you can create draft CAP alerts but you cannot approve and publish a CAP alert. If you are not in either of the two roles, you cannot use the CAP Editor tool.

**NOTE: If an alert must be issued in less than one minute, please use your simplified warning method instead of this editor tool.**

Language - [ISO 639 code](#) (lower-case letters) for text in this alert and news feed.  
Note: Use the 3-letter code only if the language does not have a 2-letter code.

Status - Is the alert to be posted as an Actual alert, or as an Exercise or Test alert?

Scope - Is the alert to be posted as a Public alert, or posted as a Private or Restricted alert?

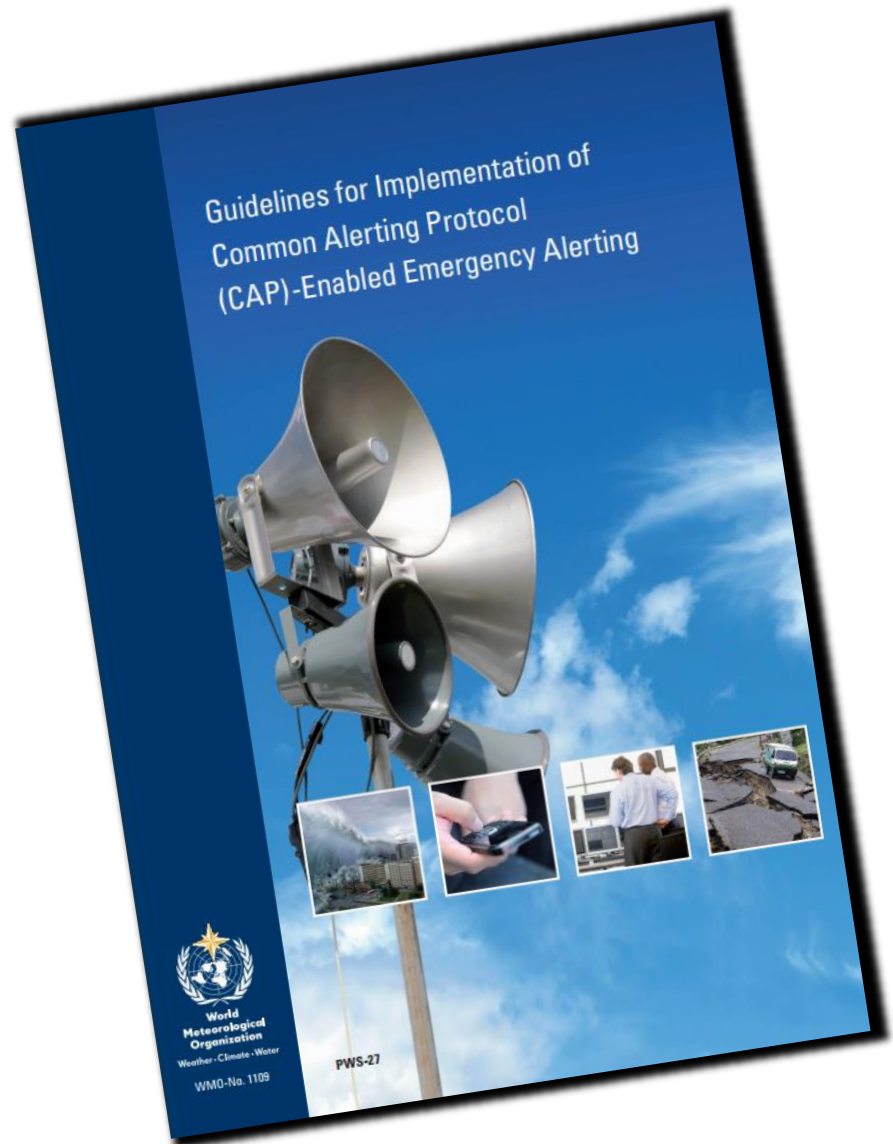
MsgType - Is this a new Alert, or is it an Update, Cancel, or Error for an already posted alert?

en  
Test  
Restricted  
Alert  
Compose CAP alert

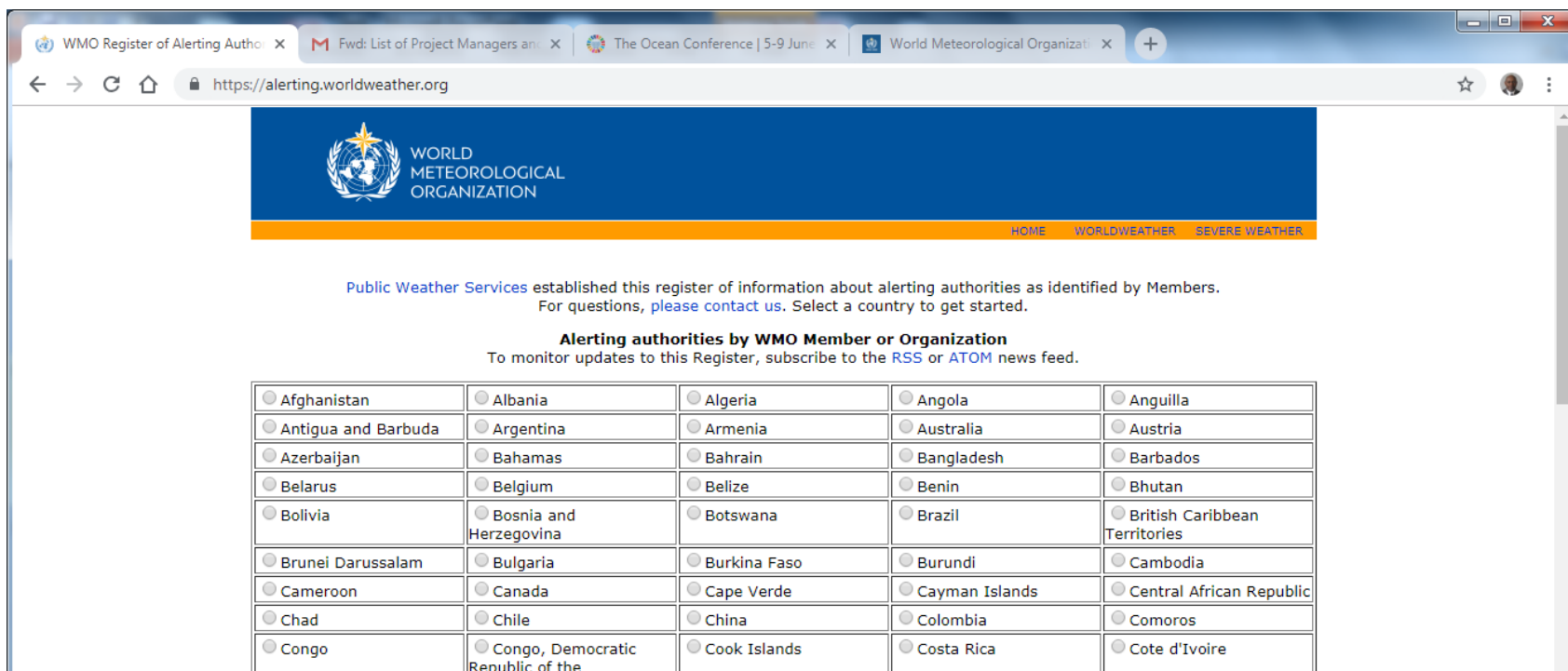


# Guidelines

## Guidelines for Implementation of Common Alerting Protocol (CAP)- Enabled Emergency Alerting



# WMO Register of Alerting Authorities

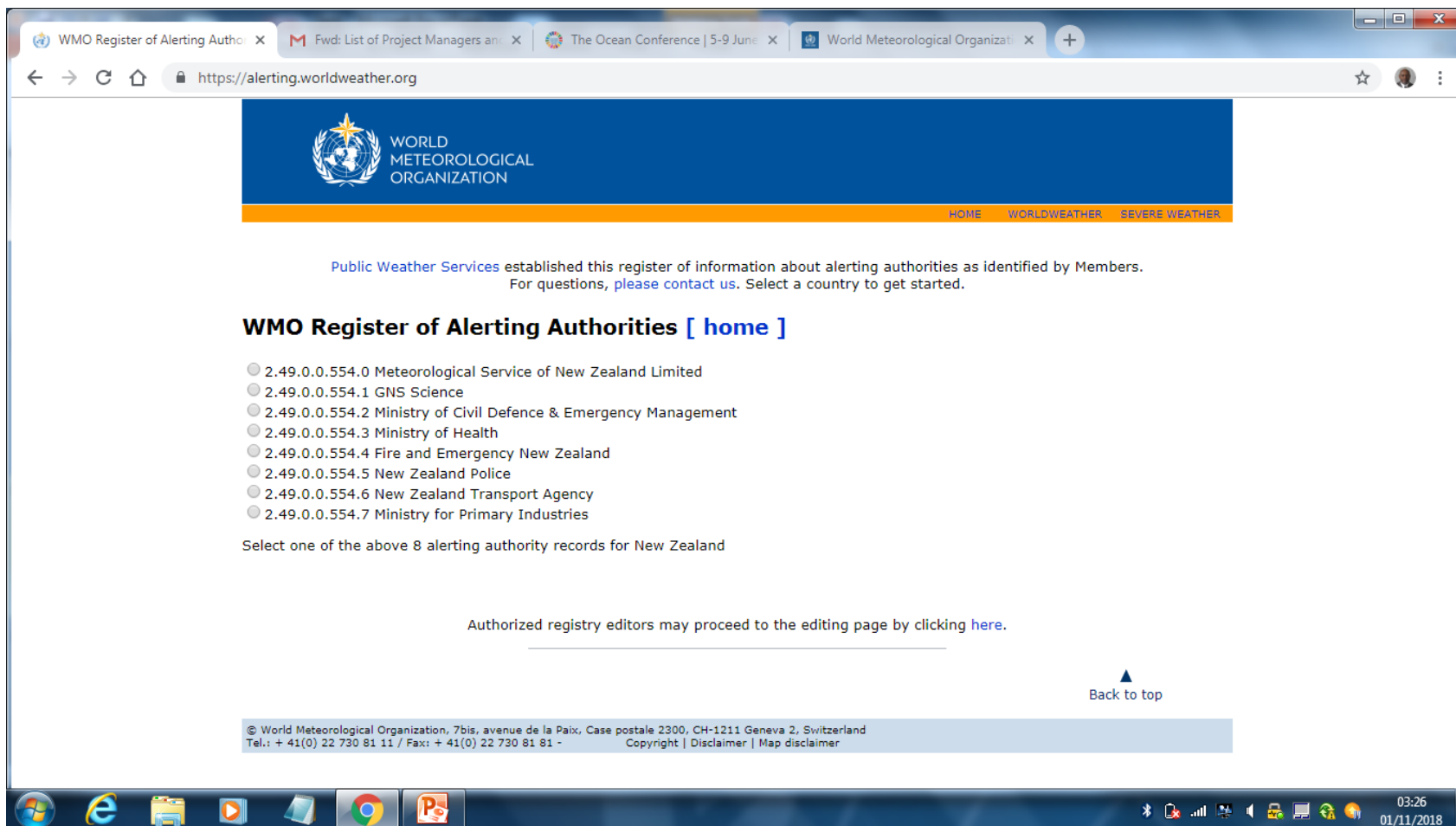


The screenshot shows a web browser window with the URL <https://alerting.worldweather.org>. The page features the WMO logo and the text "WORLD METEOROLOGICAL ORGANIZATION". Below the header, there is a navigation bar with links for "HOME", "WORLDWEATHER", and "SEVERE WEATHER". The main content area includes a paragraph stating: "Public Weather Services established this register of information about alerting authorities as identified by Members. For questions, please contact us. Select a country to get started." This is followed by a section titled "Alerting authorities by WMO Member or Organization" with a subtext: "To monitor updates to this Register, subscribe to the RSS or ATOM news feed." Below this, there is a table listing various countries and territories, each with a radio button next to its name.

<input type="radio"/> Afghanistan	<input type="radio"/> Albania	<input type="radio"/> Algeria	<input type="radio"/> Angola	<input type="radio"/> Anguilla
<input type="radio"/> Antigua and Barbuda	<input type="radio"/> Argentina	<input type="radio"/> Armenia	<input type="radio"/> Australia	<input type="radio"/> Austria
<input type="radio"/> Azerbaijan	<input type="radio"/> Bahamas	<input type="radio"/> Bahrain	<input type="radio"/> Bangladesh	<input type="radio"/> Barbados
<input type="radio"/> Belarus	<input type="radio"/> Belgium	<input type="radio"/> Belize	<input type="radio"/> Benin	<input type="radio"/> Bhutan
<input type="radio"/> Bolivia	<input type="radio"/> Bosnia and Herzegovina	<input type="radio"/> Botswana	<input type="radio"/> Brazil	<input type="radio"/> British Caribbean Territories
<input type="radio"/> Brunei Darussalam	<input type="radio"/> Bulgaria	<input type="radio"/> Burkina Faso	<input type="radio"/> Burundi	<input type="radio"/> Cambodia
<input type="radio"/> Cameroon	<input type="radio"/> Canada	<input type="radio"/> Cape Verde	<input type="radio"/> Cayman Islands	<input type="radio"/> Central African Republic
<input type="radio"/> Chad	<input type="radio"/> Chile	<input type="radio"/> China	<input type="radio"/> Colombia	<input type="radio"/> Comoros
<input type="radio"/> Congo	<input type="radio"/> Congo, Democratic Republic of the	<input type="radio"/> Cook Islands	<input type="radio"/> Costa Rica	<input type="radio"/> Cote d'Ivoire

<https://alerting.worldweather.org/>

# Register Example



The screenshot shows a web browser window with the URL <https://alerting.worldweather.org>. The browser's address bar and tabs are visible at the top. The website header features the WMO logo and the text "WORLD METEOROLOGICAL ORGANIZATION". Below the header, a navigation bar contains links for "HOME", "WORLDWEATHER", and "SEVERE WEATHER". The main content area includes a paragraph stating that "Public Weather Services" established this register and provides instructions for users. A section titled "WMO Register of Alerting Authorities [ home ]" lists eight alerting authority records for New Zealand, each with a radio button for selection. At the bottom of the main content area, there is a link for authorized registry editors to proceed to the editing page. The footer contains copyright information for the World Meteorological Organization, including the address in Geneva, Switzerland, and contact details.

WMO Register of Alerting Authorities [ home ]

- ☐ 2.49.0.0.554.0 Meteorological Service of New Zealand Limited
- ☐ 2.49.0.0.554.1 GNS Science
- ☐ 2.49.0.0.554.2 Ministry of Civil Defence & Emergency Management
- ☐ 2.49.0.0.554.3 Ministry of Health
- ☐ 2.49.0.0.554.4 Fire and Emergency New Zealand
- ☐ 2.49.0.0.554.5 New Zealand Police
- ☐ 2.49.0.0.554.6 New Zealand Transport Agency
- ☐ 2.49.0.0.554.7 Ministry for Primary Industries

Select one of the above 8 alerting authority records for New Zealand

Authorized registry editors may proceed to the editing page by clicking [here](#).

[Back to top](#)

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Tel.: + 41(0) 22 730 81 11 / Fax: + 41(0) 22 730 81 81 - Copyright | Disclaimer | Map disclaimer

# CAP messages URL

WMO Register of Alerting Authorities | Fwd: List of Project Managers and | The Ocean Conference | 5-9 June | World Meteorological Organization

← → ↻ 🏠 ⓘ <https://alerting.worldweather.org> ☆ 👤 ⋮

Public Weather Services established this register of information about alerting authorities as identified by Members.  
For questions, [please contact us](#). Select a country to get started.

## WMO Register of Alerting Authorities [ [home](#) ]

OID: 2.49.0.0.554.0 WMO Member: New Zealand ISO 3166: NZ NZL 554

Issuing Organization: Meteorological Service of New Zealand Limited

Hazard Categories: Met


Authorization Basis: It is the Minister of Transport who, under the Meteorological Services Act 1990 (as amended in 1992), is responsible for ensuring the provision of meteorological warnings and forecasts for New Zealand and the collection of data to support these services. Furthermore, the Minister is required to designate an organization that shall provide the authorised warning service in New Zealand.

CAP Feed URL(s):  
Language: English URL: <https://alerts.metservice.com/cap/rss>

Forecasts URL: <http://www.worldweather.org/046/m046.htm>

Alerting Area (NWSE): -34.000 166.00 -48.000 179.000

Map view of the typical area for this alerting authority.



Hazard Categories  
**Geo:** Geophysical (earthquakes, volcanoes, tsunami, etc., includes landslide)  
**Met:** Meteorological (weather, storms, etc. includes flood)  
**Safety:** General emergency and public safety  
**Security:** Law enforcement, military, homeland and local/private security  
**Rescue:** Rescue and recovery  
**Fire:** Fire suppression and rescue  
**Health:** Medical and public health

03:27 01/11/2018



# WMO Global Multi-hazard Alert System (GMAS)

- GMAS under development as an authoritative source of warnings and information related to high-impact weather, water, ocean and climate events
- To provide authoritative information and advice to UN agencies, humanitarian communities, national disaster management etc



# WMO Global Multi-hazard Alert System (GMAS)

- **Live Feed Widget** developed through collaboration of PWS and CPA of WMO and Hong Kong Observatory (HKO)



- You can see it at:  
[https://www.wmo.int/pages/index\\_en.html#alertwidget](https://www.wmo.int/pages/index_en.html#alertwidget)



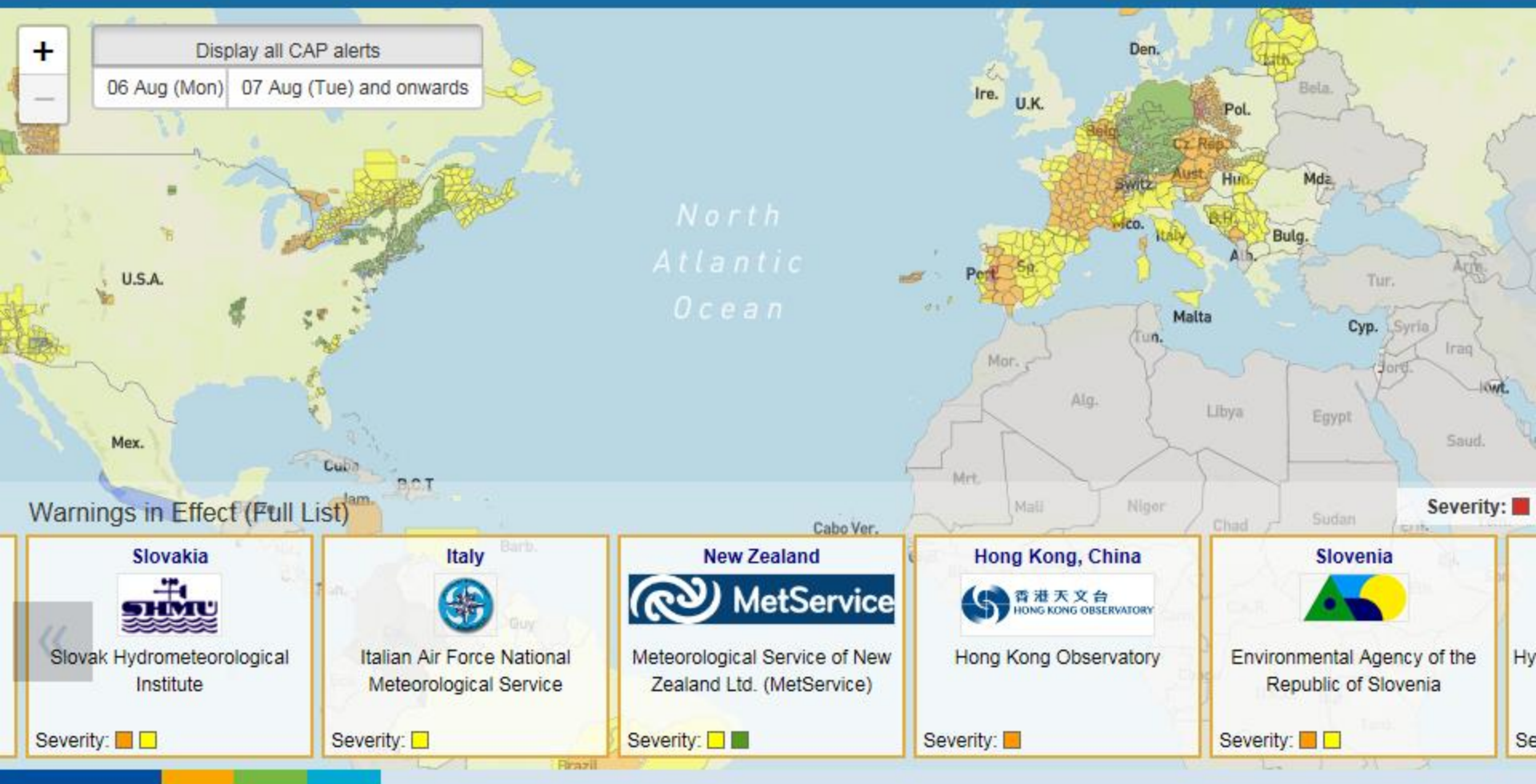


WORLD  
METEOROLOGICAL  
ORGANIZATION

Weather - Climate - Water

# Severe Weather Information Centre 2.0 (Beta)

Home | Tropical Cyclones | Severe Weather Observations





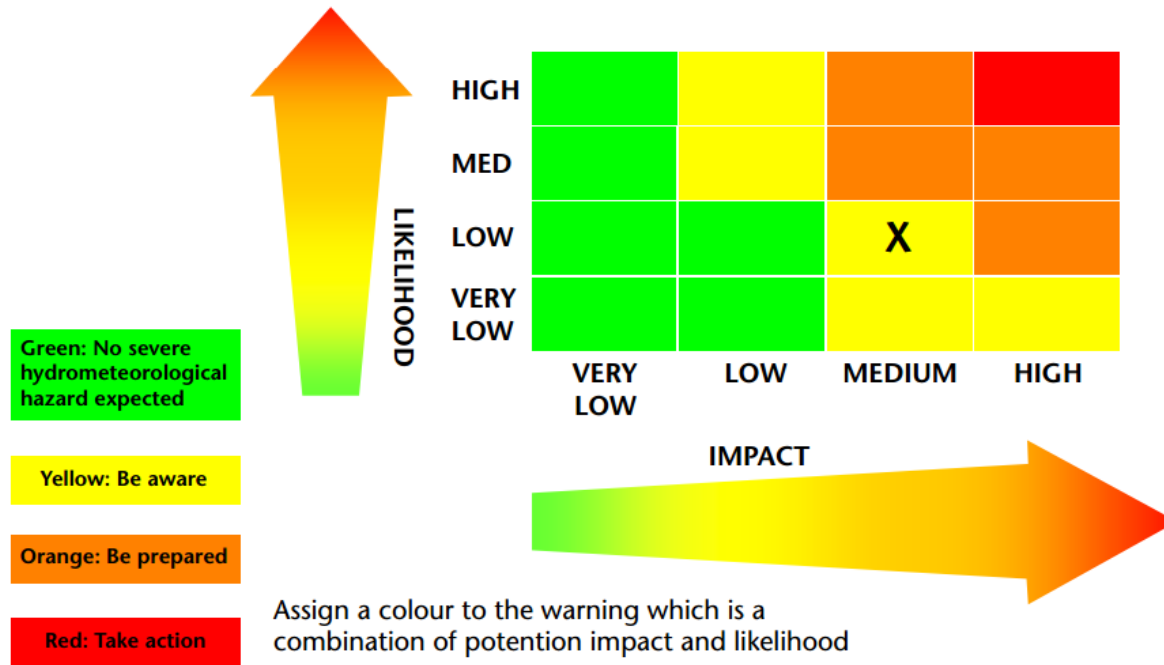
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# Impact Based Forecast Risk Matrix



(Source: Met Office, United Kingdom)

Figure 2. Risk matrix

# The Impact-based Forecast (IBF) and CAP

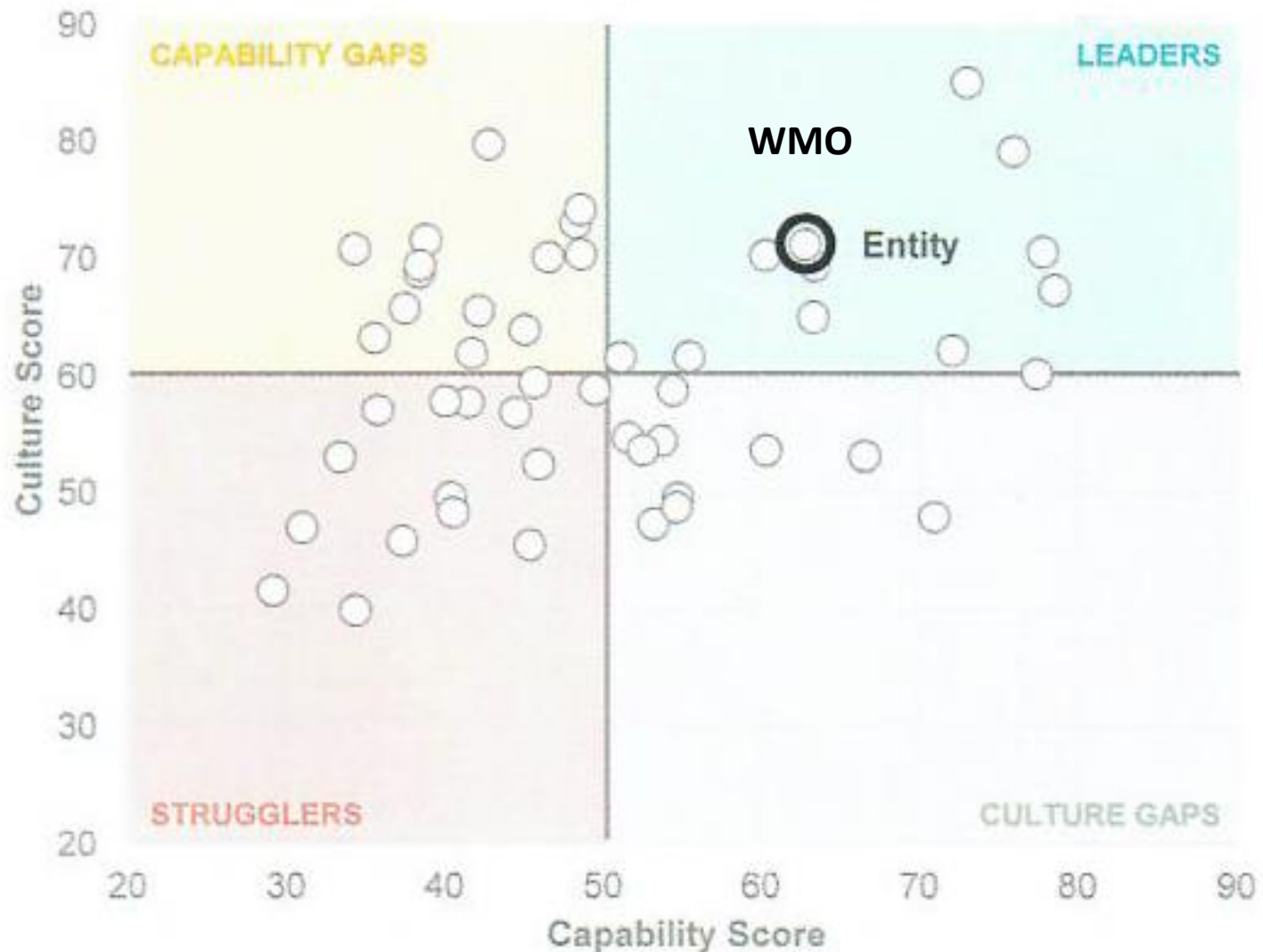
- Question of communication of format of IBF in relation to CAP format
- how the Forecasting and Warning Services Initiative that takes into account the impacts can take better advantage of CAP

# Innovativeness of 52 UN Organizations

WMO 3/52 Culture, 11/52 Capability & one of the 11 Leaders

## CAPABILITY & CULTURE MAP, 52 ENTITIES (selected entity circled)

Aggregate scores for culture and capability (structures, strategy, leadership)





# Thank you Merci



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