

# WMO Public Weather Services Delivery Programme

WEATHER CLIMATE WATER  
TEMPS CLIMAT EAU

**2<sup>nd</sup> Regional Workshop on Impact-based  
Forecast in Asia and South-West Pacific**

Seoul, Republic of Korea  
19 to 21 November, 2018



**WMO OMM**

World Meteorological Organization  
Organisation météorologique mondiale

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# Public Weather Service Delivery

- Develop capacity for **Impact Based forecasts and Warning services**;
- Establish and improve multiple channels of communication of Weather forecasts and warnings;
- Provide training on working with the Disaster Management community and stakeholders;
- Encourage the international exchange of forecasts and warnings.
- Develop capacity to provide warnings in the **Common Alerting Protocol (CAP)**
- WMO PWS/SDD w/ **Tropical Cyclone Programme (TCP)** and the **Severe Weather Forecasting and Demonstration Project (SWFDP)** of WMO.



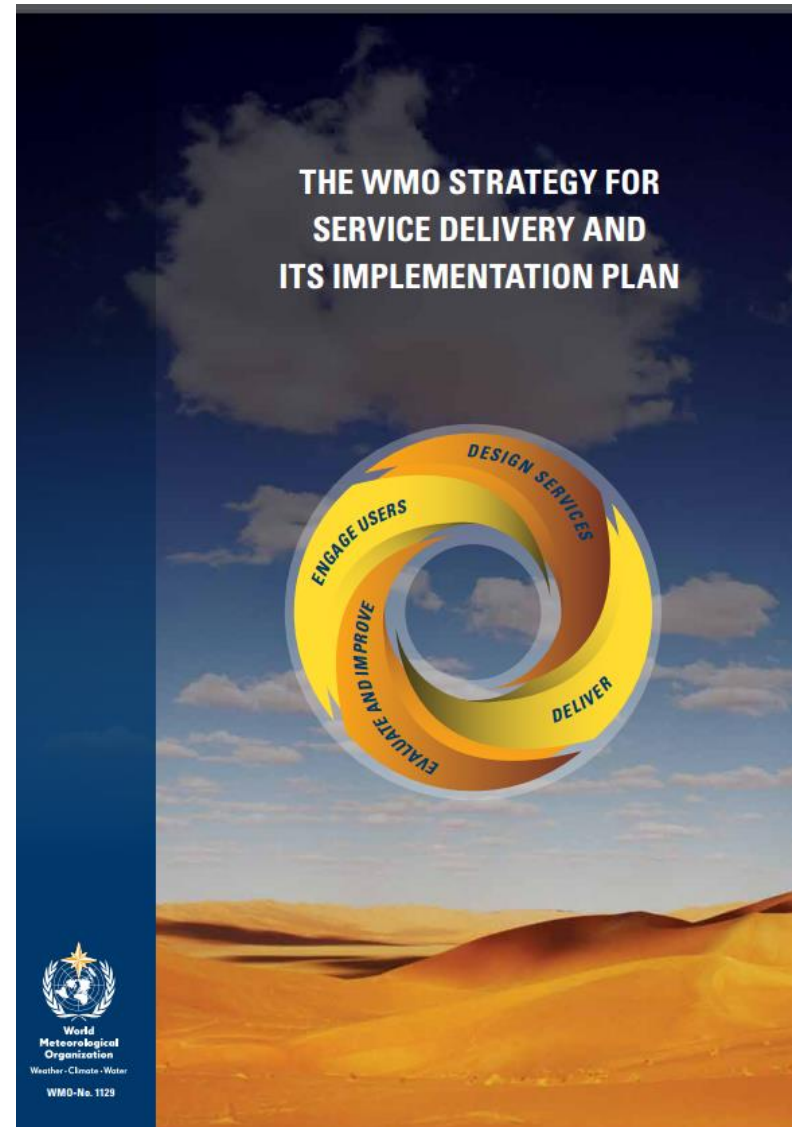
# Public Weather Service Delivery

➤ While best practices for SD exist around the globe, generally speaking the current focus has been on **producing a product** rather than a **service culture** based on **user needs and demands**.

NMHSs need assistance from WMO to change the SD paradigm:

- ✓ Thorough comprehensive **WMO Strategy for Service Delivery** has been developed;
- ✓ **Implementation Plan - Service Delivery Progress Model (SDPM)**

# The WMO Strategy for Service Delivery



# Public Weather Service Delivery

The six elements necessary for moving towards a more service-oriented culture are:

- |          |   |          |   |
|----------|---|----------|---|
| <b>1</b> | Evaluate user needs and decisions                     | <b>4</b> | Sustain improved service delivery                 |
| <b>2</b> | Link service development and delivery to user needs   | <b>5</b> | Develop skills needed to sustain service delivery |
| <b>3</b> | Evaluate and monitor service performance and outcomes | <b>6</b> | Share best practices and knowledge                |

**Fit-for-purpose products, tailored to meet user needs**

# Public Weather Service Delivery

## **PWSD Focal Points:**

Under the direction of the Permanent Representative of the Member countries, provide linkages between NMHSs and the WMO Secretariat and especially assist the Secretariat with all the aspects of the implementation of PWSD programme and activities within their respective NMHS.

- **Members who have not yet done so are kindly invited to update or nominate their PWSD FPs.**

## **WMO Strategy for Service Delivery:**

WMO can facilitate the implementation and make use of the Strategy and its Implementation Plan. In order to introduce the Strategy to Members and to enable them implement it, WMO through the PWSD Programme, organizes the “Stakeholder Workshop to Implement the WMO Strategy for Service Delivery”.

# Public Weather Service Delivery

## **Impact-based Forecast and Warning Services (IBFWS):**

WMO can assist NMHSs develop IBFWS by organizing “Workshops on Impact-based Forecasting and Warnings Services” at Regional and subregional level, and Pilot Projects at National level.

## **Delivery of public warnings and Common Alerting Protocol (CAP);**

Through WMO’s assistance

- NMHSs are encouraged to adopt the CAP standard and to join:
  - the Severe Weather Information Centre (SWIC); and the
  - The World Weather Information Service (WWIS).

# Public Weather Service Delivery

## Urban and Environmental Services:

NMHSs are expected to play an important role in the provision of effective delivery of user-targeted meteorological, hydrological and other related services in urban areas therefore it is important that:

- they familiarize itself with the **WMO Guide for integrated urban services** and provide a feedback on currently implemented, or planned to be established functional urban services; as well as,
- share information on best practices through a **Survey** sent to Permanent Representatives (or Directors of Meteorological or Hydrometeorological Services) of Members of WMO, to Hydrological Advisers to Permanent Representatives and the PWSD FPs on October 15<sup>th</sup>, 2018.



# Impact-based forecast and Warning Services (IBFWS)

## References

### WMO CBS-OPAG/PWSD Programme, WDS/SDD

- **Decision 4 (EC-69), Impact-Based Decision Support Services which emphasized the importance of Members to implement IBF; the potential to use Regional Training Centres (RTCs) to accelerate acquisition of knowledge and skills; and the need for exchange of digital data to support impact-based forecasting.**
- WMO Strategic Plan 2020-2023 (under development).
- WMO Commission for Basic Systems, Management Group, 17th Session, (CBS-MG-17) Final Report.
- Recommendation by the Implementation-Coordination Team on Public Weather Service Delivery (CBS-OPAG ICT-PWSD) meeting (2017, Beijing, China).
- Decision 3 (EC-69) WMO Global Multi-Hazard Alert System (GMAS) and Meeting of the Expert Group on WMO Global Multi-Hazard Alert System (EG-GMAS), (Oct. 2017, WMO), Summary Report.
- RA III CSB-Proyecto de Demostracion de las Predicciones de Fenomenos Meteorologicos Extremos (Paraguay, Oct. 2017).
- WWRP-WG SERA (Working Group on Societal and Economic Research applications).
- Decision 12 EC-70 Symposium to collect Members experiences with IBFWS.
- Decision 13 EC-70 Endorsement of the fundamental WMO Competency Requirements for Public Weather Forecasters, Annex 1. (WMO-No.49, Volume I, Part V)
- (EC-61 Paragraph 3.5.2.7) Endorsement of the Common Alerting Protocol (CAP) standard to improve the effectiveness and efficiency of alerting systems, and consequently encouraged WMO Members to adopt it.

# Impact-based forecast and Warning Services (IBFWS)

## Activities

- ✓ In-country IBF stakeholder training workshops : Maldives, Curacao, Myanmar, Mauritius, Mozambique (2015-2016).
- ✓ First KMA/WMO RA II (Asia) Workshop on Impact-based Forecasts - Seoul, Republic of Korea, 7-9 November, 2017. ([Final Report available](#))
- ✓ WMO RA III (South America) Capacity Building Workshop on Impact-based forecast and Warning Services (IBFWS) and on the Common Alerting Protocol (CAP) -Buenos Aires, Argentina, 10-14 Sept. 2018. ([Final Report available](#)) **(WMO-SMN Arg- RTC Arg- ETRP-WWRP-USAID)**
- **Second KMA/WMO RA II (Asia) Workshop on Impact-based Forecasts - Seoul, Republic of Korea, 19–21 Nov. 2018.**
- ❖ WMO RA V Workshop on Impact-Based Forecast and Warning Services and QMS (Honiara, Solomon Islands, 18-22 Feb. 2019).
- ❖ Advanced Workshop on Meteorological Warnings and Emergency Response to hazardous weather events, RTC- Bet-Dagan, Israel, 10-20 Dec. 2018.
- ❖ **Symposium to collect Members experiences with IBFWS (date/venue TBD, Q4 2019).**



# WMO Guidelines on Multi-hazard Impact-based Forecast and Warning Services

Available online: [http://library.wmo.int/pmb\\_ged/wmo\\_1150\\_en.pdf](http://library.wmo.int/pmb_ged/wmo_1150_en.pdf)

World Meteorological Organization

Published by: WMO ; 2015

- Improves the understanding of the **potential impacts** of severe hydrometeorological events, certainly a challenge to NMHSs and their partner agencies, particularly disaster reduction and civil protection agencies (DRCPAs).
- Establishes a road map that identifies the various milestones **from weather forecasts and warnings to multi-hazard impact-based forecast and warning services**.
- Describes the **ultimate step of forecasting actual impacts**, although it is recognized that this is a highly sophisticated exercise, requiring strong collaboration with partner agencies and significant research into **exposure and vulnerability**.
- For many WMO Members this step **will not be the responsibility of the NMHS but rather that of the relevant DRCPA and other partners.**





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WMO-No. 1150

# WMO Guidelines on Multi-hazard Impact-based Forecast and Warning Services

# Impact-based forecast and Warning Services (IBFWS)

## Discussions

- Revision/updating of the WMO Guidelines on Multi-hazard Impact-based Forecast and Warning Services (WMO No. 1150);
- Regional perspective on IBFWS;
- Capacity development on IBFWS;
- Public-Private Partnerships;
- IBFWS, “the paradigm shift”;
- IBFWS Credibility;
- Data sources (social media and others);
- IBFWS identified issues for improvement.



# Thank you



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