

World Meteorological Organization

Key Elements of PWS and Effective EWS

Haleh Haleh Kootval Chief, PWS Programme

Weather

· Climate
· Water

Workshop Objectives

- This workshop is all about Service Delivery and becoming excellent at it through:
 - Sharing experiences
 - Learning from each other
 - Develop / improve your skills in Service Delivery with the help of the instructors



Workshop Outline

- Major emphasis is on delivery of PWS to Public and Key Partners:
 - Building partnerships and developing collaboration for better delivery of services
 - Warning Services
 - Coordination with two Main Partners: Disaster Management and Media
 - Media and Communication Skills



A Warning System

Successful Warning Service

A warning service is successful when recipients:

- Receive the warning;
- Understand the information preser
- Believe the information;
- Make correct decisions; and,
- Respond in an adequate manner,
- Feedback, lessons learnt.

Scientific knowledge alone not sufficient

NMHSs + Hazards Community (other government organizations + local officials + emergency managers + media + voluntary and Humanitarian organizations + weather sensitive businesses....)





Why Warnings Fail?

- Warning become ineffective because of technical factors:
 - Forecast accuracy: miscalculating onset time, intensity or impacts
 - Lack of timeliness of warnings and updates
 - Insufficient data
 - "sole official authority" issue in preparing and issuing warnings-advocated strongly by PWS/WMO
 - Contradictory information from different sources
 - Communication and/or dissemination inadequacies

Why Warnings Fail?

- Warnings become ineffective because of human factors:
 - Ineffective, haphazard and ad-hoc coordination with disaster management and the media
 - Lack of understanding of public's response: making own assessment
 - Warning language and content
 - Complicated, vague, ambiguous, insufficient advice and call to action
 - NMHSs staff inadequacy
 - Lack of a disaster preparedness plan: SOP
 - Low credibility of NMHS

Dissemination & Communication

Challenges for PWS Communication

- Forecasting component easier for staff:
 - Familiar environment of forecast office
 - Education and Training in Forecasting
- PWS component more difficult:
 - Requires knowledge and skills not taught
 - Engagement with users: environment often not familiar or even hostile
 - Requires understanding others' points of view and demands: often unfamiliar
 - Feedback: Not always friendly

Communication

The most important skill required by PWS forecasters:

- Oral Communication:
 - (dialogue, understanding problems, points of view and needs, feedback),
- Written Communication
- Public speaking
- Presentation skills
- Public education campaigns
- Relationship and partnership building (e.g., media, DRM)

Key Components of PWS

- Effective dissemination
 - Need to cover as large an audience as possible:
 - Backups and redundancies
 - Must reach Hazards Community
- Communication: multiple channels
 - Traditional (TV, Radio, Sirens, Public Address systems, Coloured Balls and Beacons, Flags)
 - mobile and Social networking (SMS, Web, facebook, twitter)
 - Networking (Ethnic and religious leaders in remote communities)
 - Public education

How weather information reaches the public

Public website

- Forecasts for media (TV, Radio, newspapers)
- Social Media
- Smartphone Apps
- Mobile Weather
 - **RSS** feeds







Weather • Climate • Water



The Website



Weather · Climate · Water

The Media

Television

Radio

Print





Social media





Winds rising across the UK. Keep up to date with the latest severe weather warnings for your area: bit.ly/9L6U4m

12 Sep via HootSuite





possible and ensure you access the latest weather forecast. Be prepared for:





er · Climate · Water

What is CAP?

- The Common Alerting Protocol (CAP) is a standard message format designed for All-Media, All-Hazard, communications:
 - over any and all media (television, radio, telephone, fax, highway signs, e-mail, Web sites, RSS "Blogs", ...)
 - about any and all kinds of hazard (Weather, Fires, Earthquakes, Volcanoes, Landslides, Child Abductions, Disease Outbreaks, Air Quality Warnings, Transportation Problems, Power Outages ...)
 - **to anyone:** the public at large; designated groups (civic authority, responders, etc.); specific people



All-Hazards, All-Media





Points to consider

- Consider the advantages and disadvantages of different means of communicating warnings, and whether they are can be effective in your country
 - TV and radio
 - Websites
 - Social media
 - Mobile technology including apps
- What resources do you need for each?
- Would they reach a significant number of stakeholders?

- What are the most effective means in your country of communicating with
 - the emergency response teams?
 - the public?
- How do we reach those in rural and remote areas without access to modern communication means?

Impacts and Uncertainty

Forecasting Impacts

- 1. Forecasting impact is more important than pure meteorological forecasts: they are better understood everyone
- 2. Despite our best efforts natural hazards often become human disasters
- **3.** Why?
 - Inability to communicate warning information
 - Warning information is not sufficiently specific in time, space and impact
- 4. Need
 - Better observations of small scale events
 - More specific forecasts of small scale events
 - Detailed exposure and vulnerability information
 - Closer operational ties between NMHSs and DRR agencies
 - Multi hazard warning systems



Severe Weather Warnings Colour Codes

NO SEVERE WEATHER EXPECTED

Keep up to date with latest forecast

BE AWARE

Remain alert and keep up to date with latest forecast

BE PREPARED

Remain vigilant, keep up to date with latest forecast and take precautions where possible

TAKE ACTION

Remain extra vigilant, keep up to date with latest forecast. Follow orders and any advice given by authorities and be prepared for extraordinary measures



Weather

· Climate
· Water

Communicating Uncertainty

- Forecasts are inherently uncertain.
 - Is the problem different when we are communicating with the civil protection managers to that when we are communicating with the public?



Communicating Uncertainty

- The challenge
 - How can we convey that uncertainty without compromising our credibility?
- Language
 - "There is a *chance* of a shower"
 - "Temperatures *may* rise as high as 35C"
 - "It should stay dry until after dark"
 - "At this stage it looks *most likely* to affect the south of the country but...
- Can appear to be vague

Can be understood differently by different people

Communicating Uncertainty

- Probability
 - "There is an 80% chance of a shower"
 - "There is an 20% chance of a shower"
 - "There is a 60% chance of rain in the morning but only 30% chance in the afternoon.
- Seems more scientific, but is it?
- Do people fully understand probabilities?



Media Relations

Different Formats And Settings



On the scene



Satellite interviews



Multiple interviews



Press conference

Phone & print



VIP



Writing News Releases

- Launch of new weather services/warnings
- severe weather event
- Record breaking
- Raise awareness of public
- Weather-related issues of public interest



Writing News Releases

- Laymen term, easily understood
- Use diagram to illustrate
- Note deadlines of media
- Get the officer ready for answering enquiries after issuing press release





Meteorological Organization

Weather • Climate • Water

Thank you for your attention

hkootval@wmo.int

Weather · Climate · Water

www.wmo.int