



# Socio-economic Benefits of NMHSs through Service Delivery

International Workshop on Socio-economic  
Benefits of Weather, Climate and Water  
Services

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# Why this workshop?

We are from NMHSs; why do we need to talk about Socio-economic issues?

What has changed?

What are the reasons for this change?

Why WMO is interested in these issues?

# Outline

Traditional role of NMHSs

Transition to new role

Challenges

Future role of NMHSs

# WMO Strategic Plan

Emphasizes enhancing the capabilities of Members to provide and use weather, climate and water applications

WMO should assist NMHSs to:

- Increase their understanding of social and economic requirements for WCW and air quality services
- Improve relevant, timely, cost-effective and useful products and services

# WMO strategic Plan

Expand the use of weather, climate and hydrological services

Increase training and guidance material that enhance ability of NMHSs and partners to deliver useful services

Increase collaboration between NMHS and government agencies whose activities can benefit from WCW services





**As meteorologists and hydrologists,  
we traditionally concern ourselves  
with scientific and operational  
aspects of the environment**

# Major Advances in Meteorology


Greater understanding of the atmospheric processes that produce hazardous weather and related effects, climate variability and change

Better observations, particularly from space

Ability to extend the limits of predictability, possibly to two weeks or more

New techniques for the assimilation of observations into numerical weather prediction models

New dissemination and communication tools



How to realize fully the Social and Economic benefits of these advances in atmospheric science and related technology for all sectors of society and economy?



# What is expected from NMHSs today?

As national institutions, NMHSs should play a role in the development plans of their countries

NMHSs should be able to address a wide range of weather, climate and water-related issues that affect human life, socio-economic development and the environment

# challenges

Service Delivery

Leadership, contributions, and visibility of NMHSs

Unrealized economic and social value of NMHSs

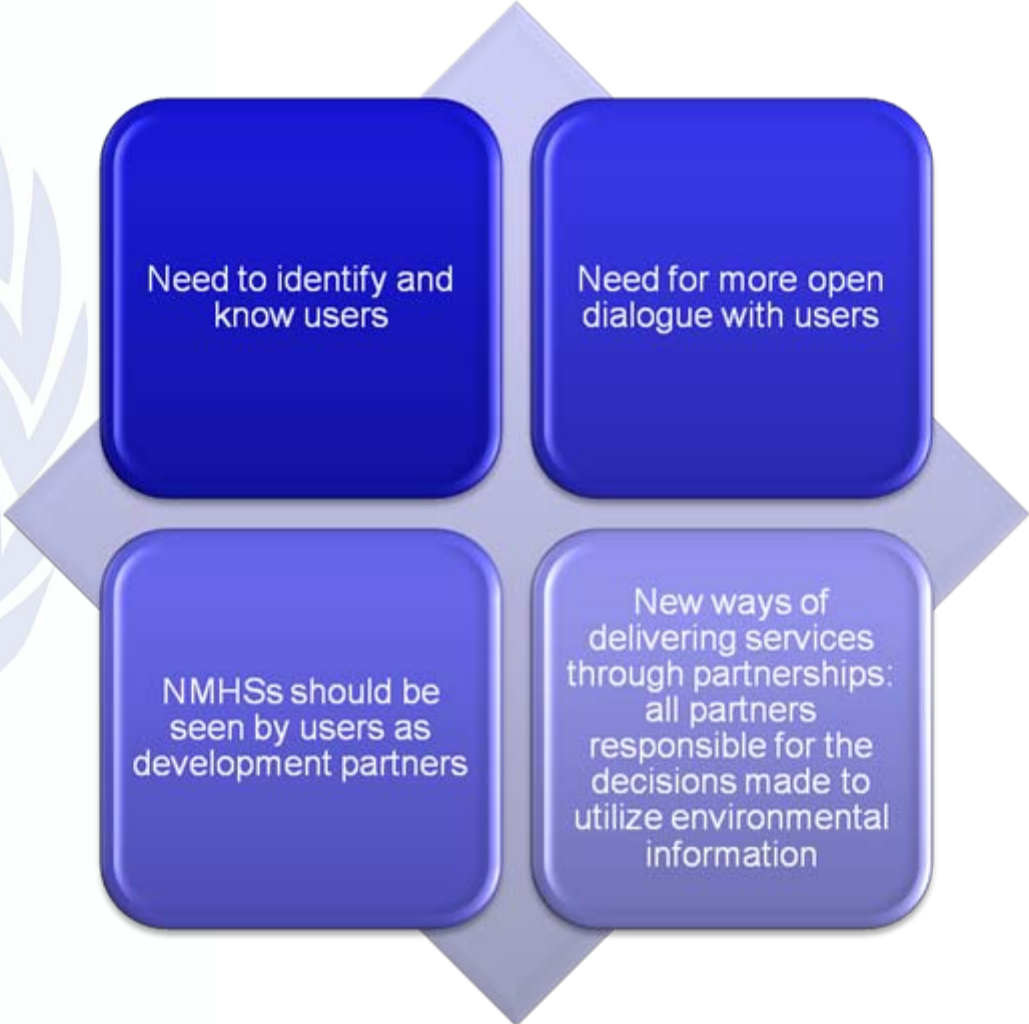
Only capacity to meet selective user needs

Aging infrastructure

Inability to partner and collaborate with other organizations

Lack of resources

# How to respond?



Need to identify and know users

Need for more open dialogue with users

NMHSs should be seen by users as development partners

New ways of delivering services through partnerships: all partners responsible for the decisions made to utilize environmental information

# Traditional SD Model

Traditional mission of NMHSs: provide well-defined set of met/hydro products such as for aviation and marine

Providers: aviation forecaster/port meteorologist: knowledge of user needs and skill to interact directly with user

Users: Pilots and mariners were educated in meteorology/oceanography



# Traditional SD Model

Marine and  
Aviation  
services: two  
components

Safety of life  
and property

Improving  
efficiency  
through route  
planning



# Changing Users' Needs

NMHSs beginning to recognize other users



User sectors beginning to recognize potential to reduce risks of environmental hazards by integrating WCW information into their decision process



The traditional service model does not work well



Result: limited capacity to utilize WCW information effectively

# Changing Users' Needs

Lack of communication between NMHS and user sector



Poor understanding by NMHSs of the user needs



Lack of knowledge by users of the NMHSs services

# Addressing SD Challenges

Education and Training: A Key element

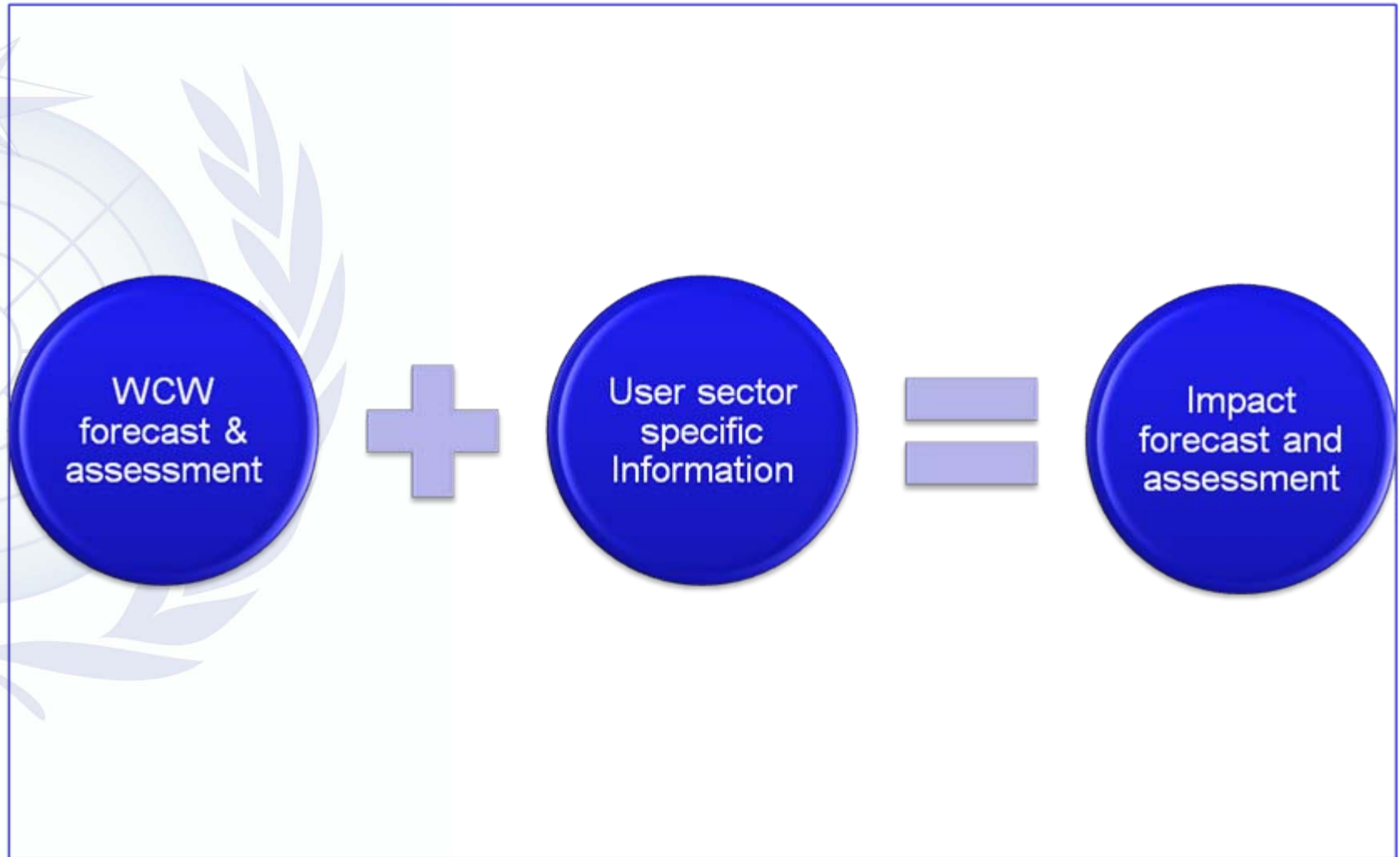


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graph TD; A[Education and Training: A Key element] --> B[Met Services should train staff to understand user needs/business]; B --> C[Users should employ specialists in the application of WCW information for decision making];
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Met Services should train staff to understand user needs/business

Users should employ specialists in the application of WCW information for decision making

# Improved Serviced Delivery



# Public Service Platform

WCW Specialists

+

Sector Experts

=

Authoritative Service Delivery



**INFORMED OUTCOMES**



# Leadership

NMHSs must be convinced of their relevance and role in their countries' social and economic development

NMHSs must be convincing and able to integrate their services more completely into the national decision-making processes.

# Addressing Leadership Challenges

Increase visibility of NMHSs through user engagement

Be proactive and responsive to user needs

Provide timely, well formulated, relevant and well presented information and advice especially on high impact and severe weather, and climate to the decision makers and the public

# Business Model

Although most NMHSs are in government departments, they can and should function more like a business

NMHS mandate is to deliver a set of services and products; business and operational considerations, delivery schedules and clients

Good business practices include knowing the market, what is needed, meeting delivery and quality of services criteria, knowing the clients and their satisfaction

Bottom line: client satisfaction



# Addressing Socio-Economic Challenges

NMHSs should understand the economic and social problems and priorities of the country

Learn the basics of economics: “language of economists”

Learn how to translate the work of the NMHS into ways to contribute to solving the economic and social problems

# Addressing Capacity Building and Modernization Challenges

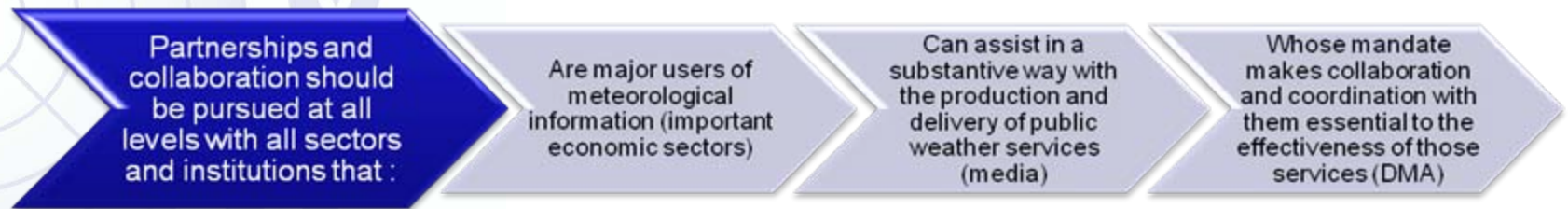
Modernize the NMHS as far as possible to take advantage of scientific and technological advances

Build the capability of the staff to use these advances to produce better products, but

Also how to communicate them and provide better services



# Addressing Partnership and Collaboration Challenges



# Resource Mobilization

A main challenge is shrinking budgets of NMHSs today

Government budgets are not sufficient to respond to needs of NMHSs in fulfilling mandate

The partnerships with relevant organizations to demonstrate the relevance of NMHS in national development plans is crucial

# WMO and Socio-Economic Issues

WMO events and publication relating to socio-economic issues date back to 1960s,

Three major international conferences on Economic and Social Benefits of Meteorological and Hydrological Services held in 1990, 1994, and 2007

# WMO and Socio-Economic Issues

## The need for:

- Greater user/supplier interaction,
- Studies to identify user needs,
- Methodologies to assess benefits,
- Training to be provided,
- Partnerships/collaboration

Current workshop

# Future role of NMHSs?



A clear, science-based information source, providing information on the past, present and future states of the environment, in as broad a sense as is scientifically credible within mandate

NMHSs as “Societal Services” – their products and services serve all sectors of society

Provide to both the government and citizens information for decision making and adaptive response



# Conclusion

NMHSs should go beyond the traditional disciplinary mix to bring in the expertise of good economists, sociologists, media analysts and political scientists

Equally important: NMHSs have to understand how better to present and communicate weather information so that it meets the users' needs



**THANK YOU**