



**World Meteorological Organization**  
Working together in weather, climate and water

# Overview of Task Team for developing assessment guidelines for evaluating national capabilities for End-to-End Early Warning Systems

Y. Simonov



## Task 2 - items

by ensuring guidance material\* is available for NMHSs and for donors, NGOs, and other organizations working to strengthen flood forecasting capabilities in national services

1. Recommend to CHy that it establish a team to develop assessment guidelines for E2E EWS for flood forecasting (outcome of the task 1 item 3), based in part on the WMO Manual on FF&W – CHy (through AWG); by Feb 2016
  - a) Development of generic and living list of requirements/best practices (e.g. open source codes, free and open exchange of hydrometeorological data) to be taken from the existing materials – CHv (Y. Simonov) by CHv XV (Dec 2018 – still needed\*\*)
  - b) Develop an inventory on what is available and what is missing in WMO and outside WMO to set up an E2E FFEW system – Secretariat by CHy XV (subsequent to Dec 2016)
  - c) Based on inventory and report of November 2013, develop assessment guidelines that point to technical reference material to strengthen weaknesses – ongoing iterative process through 2018



\* recognizing that different audiences need different services (guideline documents for each stakeholder - NMHSs, donors, general public)



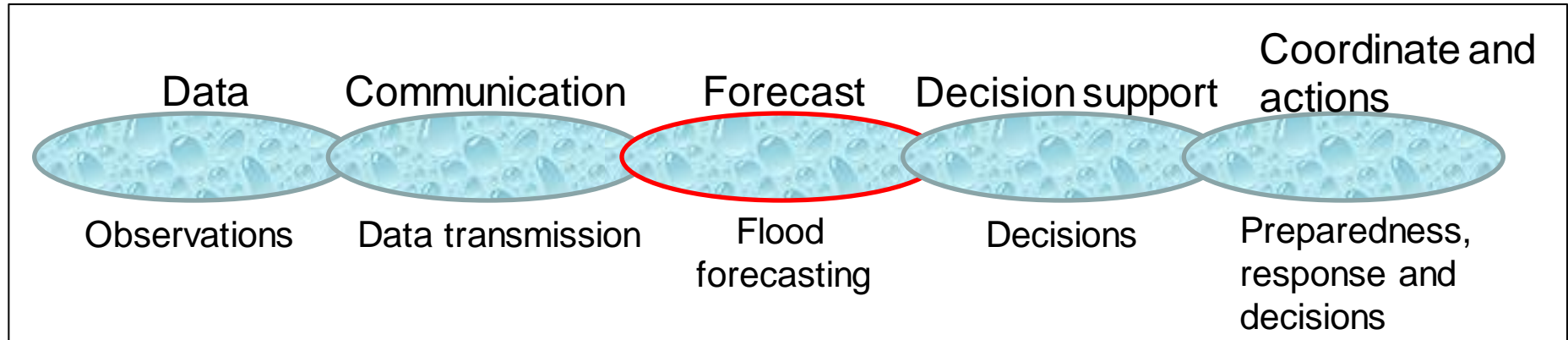
# Commission for Hydrology - 15

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- (e) Implementation Strategy for the End-to-End Early Warning Systems (E2E EWS) for flood forecasting (using the Community of Practice approach): **develop assessment guidelines for NHSs to evaluate their E2E EWS for flood forecasting, furthering the earlier work on “Efficiency of flood forecasting services” (including testing developed procedures) possibly through the establishment of a Task Team/Working Group, consistent with the FFI-AG Work Plan of 2016-2019**, develop access to the interoperable technologies including platforms and models for use in flood forecasting; provide access to training and guidance material, in conjunction with item 1.4(g) below, on the aforementioned items; and assist in the development of projects;
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# Current status



## Blocks of the E2E EWS for FF:

1. Monitoring
2. Data
3. Meteorological forecasts
4. Hydrological forecasts
5. Final products dissemination
6. Decision support
7. Training



Structure of the  
Assessment Guidelines



# Composition of the Task Team

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- John Fenwick – NIWA, New Zealand
- Leandro Giordano – Instituto Nacional del Agua, Argentina
- Liu Zhiyu – Hydrological Forecast Center,  
Ministry of Water Resources of China
- Paolo Reggiani – University of Siegen, Germany
- Reggina Cabrera – Southeast River Forecast Center  
NOAA/National Weather Service, USA
- Yuri Simonov – Hydrometcentre of Russia

## *Additional experts:*

- Jeff Perkins – Bureau of Meteorology, Australia
  - William Scharffenberg – U.S. Army Corps of Engineers
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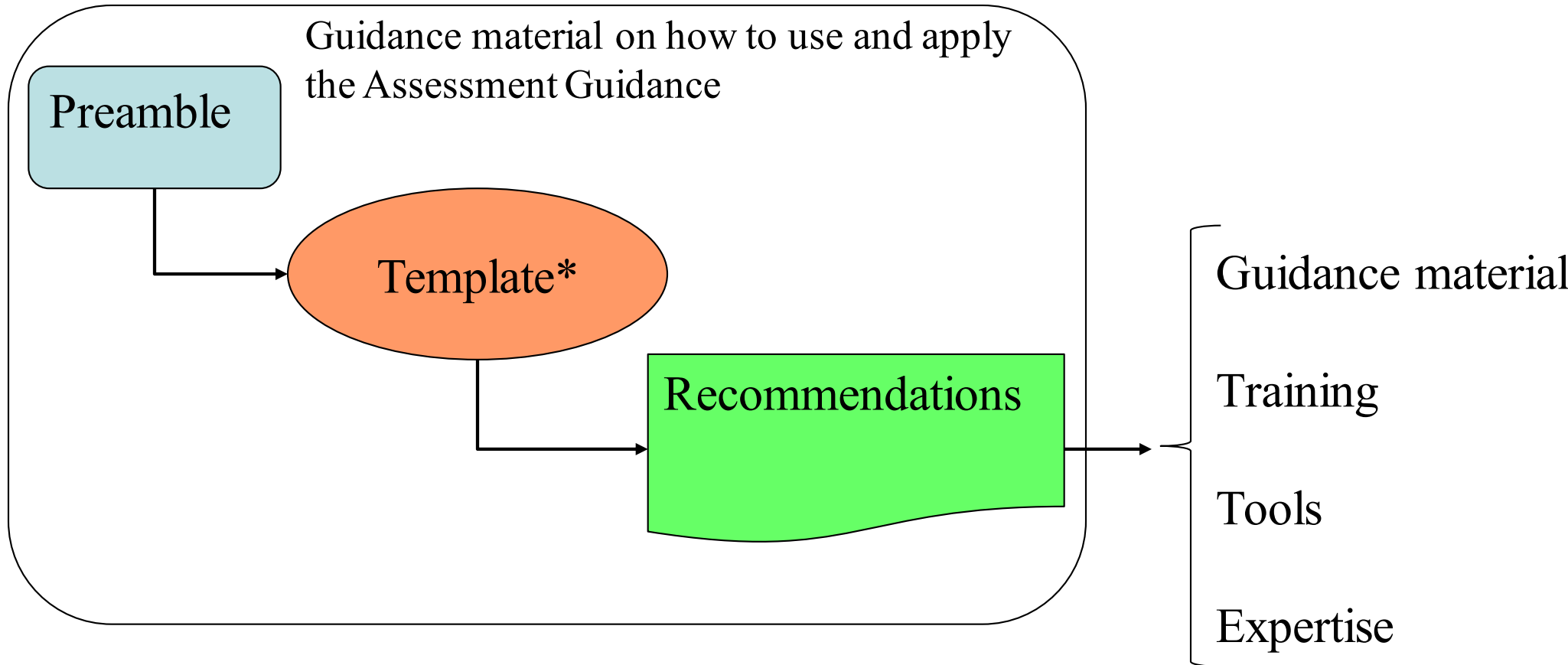


# Goals of the Assessment Guidelines

- build a full picture of a region/NHS's/basin capabilities to implement/develop E2E EWS for Flood Forecasting;
  - Any type of a flood
  - any mechanisms involved
  - any domain (region – transboundary/national/basin/subbasin scale)
- reveal deficiencies (objective approach – independent on the evaluator experience);
- recommend/point to the possible way to overcome of the found constraints:
  - guidance material
  - training material
  - expertise within the Community of Practice



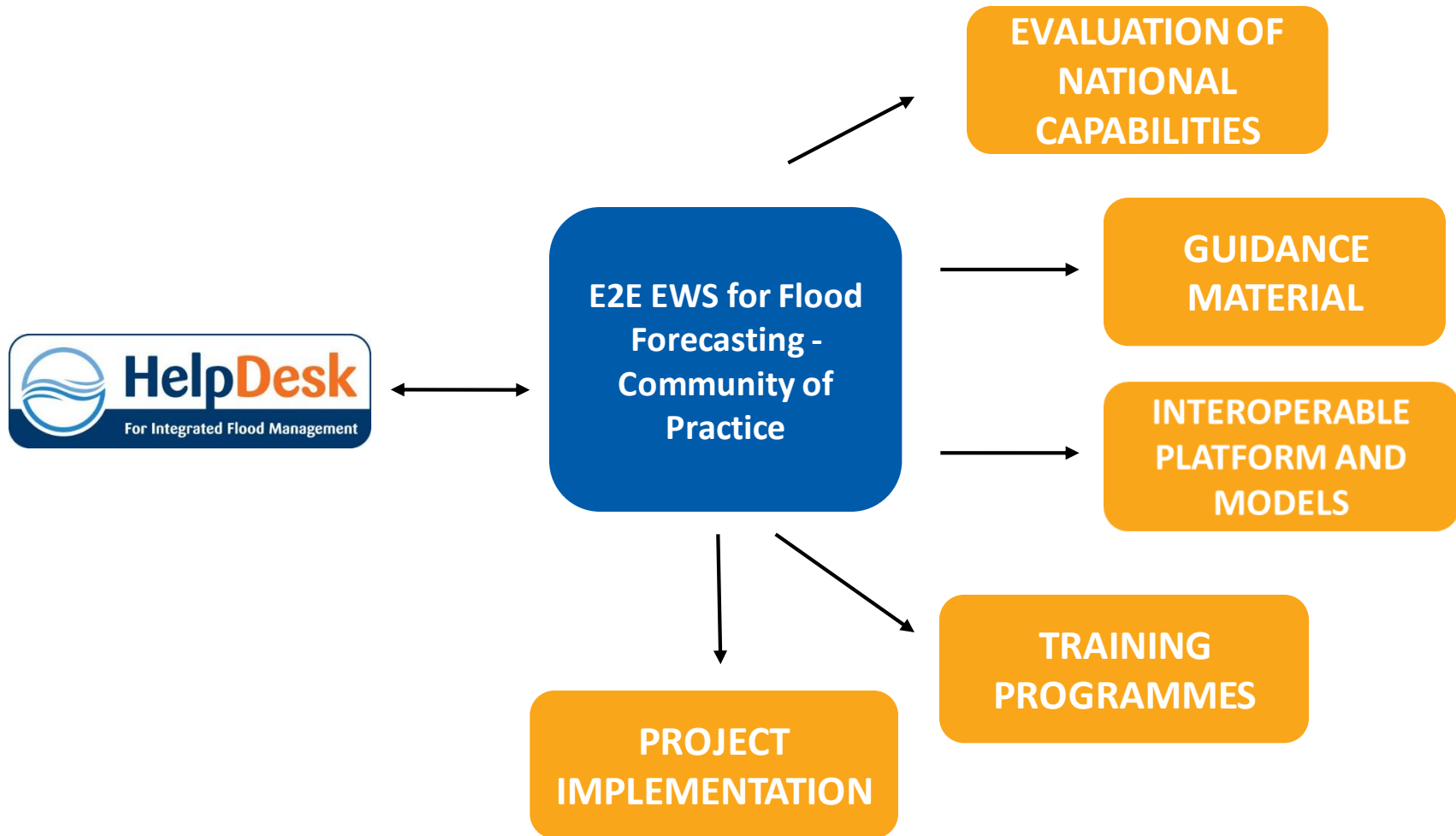
# Components of the Assessment Guidelines



\* The Assessment Guidelines template/or matrix/or living list of requirements



# Place of the Assessment Guidelines within the Community of Practice in F/Forecasting







# Previous effort



## EXPERT MEETING: IMPROVING THE EFFICIENCY OF FLOOD FORECASTING SERVICES

Development of a Framework for the Assessment of Service Delivery Capabilities of Hydrological Services

A contribution to the WMO Flood Forecasting Initiative

*2011, 2013: Expert Meetings: Improving the efficiency of Flood Forecasting Services*

## Outcomes:

- structure of the Framework
- grading scheme

## Inputs to present study:

- some items are used as the basis for the new Assessment Guidelines



# Structure of the AG - Dec'17

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The AG's preamble – sets initial conditions for the shape and list of elements of the AG matrix

• information for evaluator – what has to be ? – what are the

**requirements of the E2E EWS for FF in a domain**

• flood types/mechanisms/physiographic conditions/transboundary/end user needs

**present state of the E2E EWS for FF in a domain**

□ group (e.g. “Monitoring”)

▪ element (e.g. hydrometric measurements)

• item (e.g. collection frequency)

**Recommendations and links to technical reference material**

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# Preamble of the Assessment Guidelines

## Items

### domain

#### domain features:

- physiographic features
- climatological features
- anthropogenic (urban areas, reservoirs, dams, etc.)

#### factors affecting the flooding:

- rainfall, snowmelt, ice jams, landslides, levee breach, drainage network clogging, groundwater dynamics, tides and storm surges

#### flood type for which E2E EWS has to be assessed

#### flood forecasts requirements

- location of flooding impacts
- end users and partners needs



# Structure of the template

Item No	Item	Guidance for evaluator	Answer	Grade(Y/N/NA)	Evaluator comments	Recommended improvements	Links to resources



# Users of the Assessment Guidelines

- External evaluators + NHS's experts
  - NHS's experts
    - informational part of the template
  - External evaluator(s)
    - Preferably more than 1 (covering different areas of E2E EWS for FF chain of actions)
    - Cross-checking NHS's capabilities (informational section)
    - Outcomes and Recommendation sections
- NHS's specialists
  - under consideration
    - depends on a NHS's level of development



# Application of the Assessment Guidelines

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1. Preliminary assessment of the domain (off-line)
    - filling preamble of the Assessment Guidelines (AG)
      - physiographic features ...
      - flood triggers
      - types of floods
  2. Defining subdomain for every type of a flood within main domain
  3. Filling the AG matrix for every type of a flood and its subdomain
    - Specific items (questions) for every type of a flood
  4. Evaluating results of the assessment
    - Binary grading scheme (yes/no) with comments if “no”
    - Expertise required on this step!
  5. Linking result of the assessment with
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# Steps of the Assessment

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- Preliminary step
    - Offline, before going to a country
    - Establishing contacts with a country's agencies
  - Main step
    - Interviewing of NHS, NMS, DRR, other Agencies involved in E2E EWS for FF
    - Take into account
  - Evaluation
    - Report
    - Linkages with CoP
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## Further steps

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- Items classifications
    - According to different flood types and mechanisms
  - Implementing of the Assessment Guidelines (current ver.) in practice
    - Task-team members assessment
    - CHy experts assessment (Liberia, Sierra Leone,...)
  - revise item list
    - Include legal aspects
  - upgrade the grading scheme
    - Based on the implementation of the AG in practice
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# Next steps

<b>Actions</b>	<b>Name</b>	<b>Deadline</b>
Identifying missing items in the template	See table below	February 2018
Classifying template items by flood mechanism/type		
Developing guidance comments for the template items to assist the evaluator		



# Actions for 2018

Action Items	Timeline	Comments	Responsible
Teleconference on TT assessment guidelines...	February 2018	Detailed matrix for the assessment guidelines	TT on assessment...
Research existing WMO documents, publications, and relevant initiatives (e.g. alerting protocols, HydroHub, MCH, DEWETRA, etc.) to the CoP	As required	Secretariat to share existing list to be reviewed by the TTs (End of 2017)	Both TTs
Initial version of guidance material on how to use the assessment template	June 2018		TT on assessment...
Test AG template and guidance material	Late 2018	To get feedback from applying the guidelines and template	Yuri, Leandro and others



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Thank you  
Merci