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# Overview and Purposes of Second Steering Committee Meeting of the South East Europe Flash Flood Guidance (SEEFFGS) System



**WMO OMM**

World Meteorological Organization

Organisation météorologique mondiale

# Flash Floods – The most deadly natural (weather-related) disaster in the world

- “Recent findings of the WMO country-level survey where of the 139 countries, 105 indicated that flash floods were among the top two most important hazards around the world and require special attention”.
- “On the average, these events kill more people worldwide than any other [weather-related] natural disaster -in an average year, flash floods kill over 5,000 unsuspecting people and cause millions of dollars of property damage”(WMO 2008).



# Flash Flood Guidance (FFG) System



Flash Flood Guidance System with global coverage (Resolution 21, World Meteorological Congress-XV) enhances early warning capabilities of the NMHSs, currently **covers more than 60 (sixty) countries** and **more than two billion people** around the world saving lives and decreasing economic losses.

The WMO Commission for Hydrology (CHy) jointly with the WMO Commission for Basic Systems (CBS) and in collaboration with the US National Weather Service, Hydrologic Research Center (HRC), and USAID/OFDA have developed the concept of the Flash Flood Guidance System (FFGS) with global coverage.

The concept has been endorsed by the Fifteenth WMO Congress and is being implemented through a series of regional projects with funding from USAID.

# Regional Components



## The Regional Centre is to:

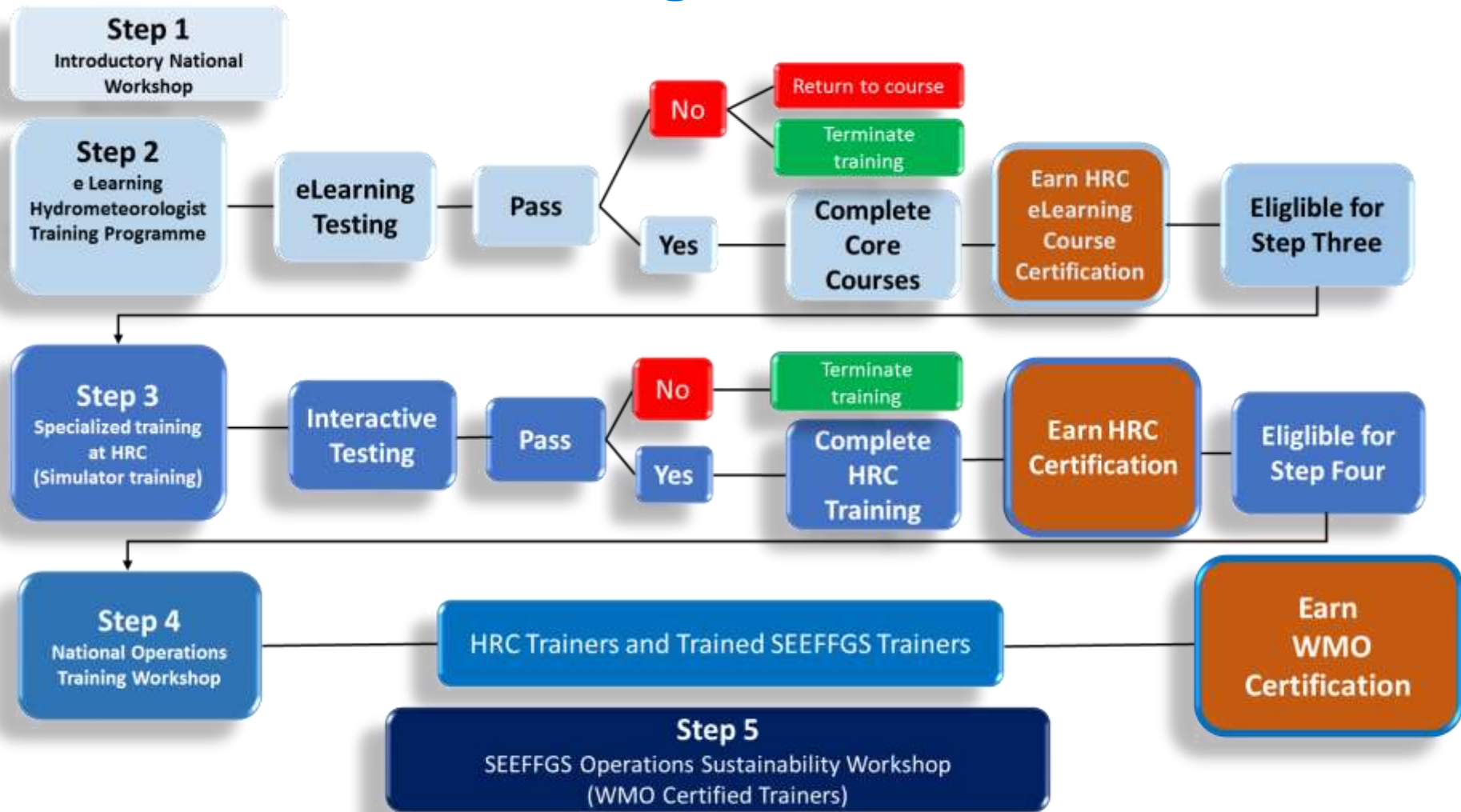
- Provide FFGS forecast products and data to the participating countries,
- collaborate with WMO and its project partners to implement flash flood hydrometeorologist training programme,
- evaluate FFG products from the regional perspective and conduct verification study in collaboration with the participating NMHSs, and
- have good IT infrastructure for data exchange and internet connection.

## The Participating NMHSs are to:

- Prepare and issue flash flood warnings and alerts to the public and national agencies including Disaster Management Agencies,
- provide historical and in-situ local data to the FFG system developer through the RC,
- participate in the Flash Flood Hydrometeorologist Training Programme (Steps 1-5), and
- conduct verification studies.



# Flash Flood Hydrometeorologist Training Programme



# First Steering Committee Meeting (Step-1 Training)



Skopje, The former Yugoslav Republic of Macedonia, 31 March- 2 April, 2015



# eLearning (Distance Learning) (Step-2 Training)

## Elements of Meteorology

- Factors necessary to produce heavy rainfall
- Elements necessary for deep moisture convection
- Characteristics of flash flood producing storms
- Examples of flash flood producing storms
- Meteorological processes that contribute to flash floods

## Elements of Hydrology

- Water cycle
- Surface hydrology
- Sub-Surface hydrology
- Flash Floods-unique properties.

## GIS

- Description of GIS-introduction of concepts and application of QGIS
- Applied use of GIS-as related to flash floods
- Manipulation of the Flash Flood Guidance products data using QGIS
- Practical exercises.

## Remote Sensing

- Satellite rainfall
- Radar rainfall
- Land Surface Remote Sensing

## FFGS

- Description of FFGS concepts and applications
- Types of analysis available using the FFG model
- Practical exercises using the Flash Flood Guidance model.



# Participants of the Operational Training at HRC (Step-3 Training)

| Country                                   | Names             |
|---|-------------------|
| Albania                                   | Klodian Zaimi     |
| Bosnia and Herzegovina                    | Azra Babic        |
| Bosnia and Herzegovina                    | Milica Djordjevic |
| Croatia                                   | Petra Mutic       |
| Croatia                                   | Toni Jurlina      |
| Moldova                                   | Gherman Bejenaru  |
| Serbia                                    | Jelena Jerinic    |
| Slovenia                                  | Saso Petan        |
| Slovenia                                  | Andrej Golob      |
| The former Yugoslav Republic of Macedonia | Vasko Stojov      |



San Diego, CA, USA, July/August 2015



# Certified WMO FFG Trainers (Step-4 Training)

| Country  | Participants      |
|----------|-------------------|
| BiH      | Azra Babic        |
| BiH      | Milica Djordjevic |
| Croatia  | Petra Mutic       |
| Croatia  | Toni Jurlina      |
| Slovenia | Andrej Golob      |
| Slovenia | Saso Petan        |



Zagreb, Croatia, 9-13 May 2016



# Objectives of the SCM2 (Step 5 training)

## Objectives of the SEEFFG Second Steering Committee Meeting (Step-5 Training) are:

- Review the SEEFFG products to allow forecasters to become familiar with the SEEFFGS products;
- Promote operational use of the SEEFFG products through hand-on exercises;
- Review and evaluate the SEEFFG products for elected past flash flood events through case studies;



# COMPETENCY REQUIREMENTS

- **A forecaster shall have the following competencies to use the SEFFGS products in operation:**
- Analyze and monitor the evolving meteorological and hydrological situation;
- Analyze and monitor the SEFFGS Product;
- Forecast meteorological and hydrological phenomena and parameters such as flash floods;
- Prepare flash flood advisories, watches, warnings, and alerts; and
- Communicate flash flood warning information to internal and external users, including Emergency Management Agencies.



# Thank you

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For more information please visit:

<http://www.wmo.int/ffgs>

<http://www.hrcwater.org>