World Meteorological Organization

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37th EWGLAM AND 22nd SRNWP MEETINGS

(BELGRADE, SERBIA, 5-8 OCTOBER 2015)

SUB-REGIONAL COOPERATION IN SOUTHEASTERN EUROPE: IMPLEMENTATION OF WMO CAPACITY DEVELOPMENT STRATEGY

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WMO Representative for Europe

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- **STRENGTHENING CAPACITY DEVELOPMENT**
- **WMO Cg/EC/CBS DECISIONS/RECOMMENDATIONS RELEVANT TO LAM CONSORTIUM WORK**
- **MHEWS VISION**

Geneva
25 May–12 June 2015

Abridged final report with resolutions

WMO-No. 1157

STRENGTHENING CAPACITY DEVELOPMENT
Capacity Development Strategy

5.1.2 Congress recalled that through Resolution 49, Cg-XVI requested the Executive Council to prepare a **WMO Capacity Development Strategy (CDS)** and an associated **CDS Implementation Plan (CDSIP)**. It further recalled that **the request was based on the need for a cohesive and coordinated approach to capacity development to maximize the outcome of capacity development activities and to ensure sustainable development of NMHSs.** In this regard, Congress recognized with appreciation that the CDS and CDSIP had been prepared as requested and subsequently approved at EC-64 (Resolution 18) and EC-65 (Resolution 16) respectively.

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WMO-No. 1133

STRENGTHENING CAPACITY DEVELOPMENT
Capacity Development Strategy

Capacity development vision

"Stronger NMHSs to meet society's need for information on weather, climate and water for the safety and well-being of people throughout the world."

Capacity development mission

"To facilitate a holistic and integrated approach to sustainable capacity development of NMHSs, especially in developing countries, LDCs and SIDSs, through advocacy, education and training, outreach, partnerships and resource mobilization, demonstration and pilot projects, service delivery and research. "

STRENGTHENING CAPACITY DEVELOPMENT
Capacity Development Programme

5.1.10 …. Congress welcomed the recommendation of EC-66 to incorporate under a new WMO Capacity Development Programme those activities formerly related to the Technical Cooperation Programme (TCOP) with emphasis on broader programmatic linkages and the objectives of the CDS.

Congress adopted **Resolution 50 (Cg-17) – Capacity Development Programme** for the creation of the Capacity Development Programme.

WMO Cg decisions/recommendations relevant to the LAM Consortium work

16th Session of WMO Congress, in connection to Future of GDPFS/NWP, requested the Secretary-General and CBS to develop a strategy to assist Members in the implementation of improved high-resolution regional NWP including data assimilation.

Ref: *WMO-No. 1077, 16th Session of WMO Congress, Abridged final report with resolutions (Cg-XVI, 2011)*

Specifically Item 3.1.3.2, requesting the Secretary-General and CBS to develop a Strategy to implement Limited Area Models (LAMs)

WMO EC decisions/recommendations relevant to the LAM Consortium work

Recommendations of the WMO Executive Council (EC-64, 2012), which according to Cg-XVI decisions, requested from the ***NWP Centres, Consortia and CBS*** *the following*:

4.3.3 (a)

- *NWP Centres and Consortia make available their LAM codes*
- *Assist WMO Members with their installation and configuration*
- *Advise them on data-assimilation developments.*

WMO EC decisions/recommendations relevant to the LAM Consortium work

4.3.3(b) CBS to assist in and facilitate the implementation of LAM, by including these aspects in its work programme

Ref: *WMO-No. 1092: WMO Executive Council, Sixty-fourth Session, Abridged final report with resolutions (EC-64, 2012)*

WMO CBS recommendations relevant to the LAM Consortium work

Recommendation of the WMO Commission for Basic Systems (CBS)

Abridged final report of the 15th Session of Commission for Basic Systems (WMO-No. 1101, CBS-15, 2012):

- *4.4.10 The Commission encouraged centres running global models to consider providing boundary conditions to NMCs running Limited Area Models (LAMs). Recalling the request by Cg-XVI to the Secretary-General and CBS to develop a strategy to assist Members in the implementation of improved high-resolution regional NWP (including data assimilation and boundary condition aspects), and the subsequent recommendations by EC-64, the Commission requested the OPAG on DPFS to establish a task team for a limited time period to develop such a strategy for consideration by the next CBS session.*
- *4.4.11 The Commission encouraged RSMCs and RCCs running models to ensure dissemination of the products to NMHSs of countries covered by their models' footprint.*

CBS requested from the Open Programme Area Group on Data Processing and Forecasting System (OPAG on DPFS) to establish a Task Team for the development of the requested strategy.

WMO CBS recommendations relevant to the LAM Consortium work

According to the work plan of the Task Team, the final draft of the Strategy should be finalized by the end of 2015, so that it could be considered and adopted at the CBS-16 meeting in September 2016. **The draft of the Strategy should contain, inter alia, a list of the existing LAM Consortia [opportunity to include all Consortia in the text of this WMO Strategy]**

Ref: *WMO DPFS/ET-OWFPS/Doc. 4.5, Strategy to implement Limited Area Models – LAM. (Outline)*

WMO Cg-17 recommendations relevant to the LAM Consortium work

4.1(2).8 Congress recalled its request, at its sixteenth session (Cg-XVI, 2011), to the Secretary-General and CBS, to develop a strategy to assist Members in the implementation of improved high-resolution regional NWP including data assimilation. Congress noted that CBS has been developing an outline for the guidelines on high-resolution NWP. It stressed that the guidelines need to address the use and interpretation of high-resolution NWP models, the application of high-resolution NWP in forecasting severe weather, the implementation of (high-resolution) regional NWP model and data assimilation systems, and a mechanism to collect information and best practices. Congress also stressed the importance of this task to Members, and urged CBS to address this issue as a matter of priority and to work with the Secretary-General for the prompt dissemination of the guidelines to Members. Congress also requested CBS, in collaboration with CAS, to provide guidance on addressing scalability issues related to the development of improved high-resolution NWP, including data assimilation, for the optimal match between model code, hardware and efficient I/O, which are essential in developing disaster mitigation strategies.

4.1(2).9 Congress recognized that, while some of the Members have the capacity to run high resolution NWP models, many others do not. Congress noted the trend of regionalization of meteorological services such as aeronautical meteorological services, and the increasing demand of high resolution gridded weather forecasts in support of all areas of service delivery. It also noted that the development of high-resolution NWP with regional focus, taking advantage of the opportunity to assimilate the wealth of regional and local weather observational data into high resolution regional NWP models, would better support the regionalized delivery of services. To address these issues, Congress requested Members and RAs, with support as needed from CBS and the Secretary-General, to explore the possibility for setting up regional consortium for Limited Area Model (LAM) to facilitate access to high resolution NWP while building capacity of participating Members through training and development assignments. Congress noted the progress of the two pilot projects underway in RA II related to capacity development on NWP and provision of medium-range weather forecasts. It therefore requested CBS, RA II working groups and the pilot project coordinators to explore possible contributions to the guidelines on the use and interpretation of high-resolution NWP models.

4.1(2).17 Congress also noted that the SWFDP is running or being prepared to run in 5 geographical regions: Southern Africa, South Pacific, Eastern Africa, South-East Asia and Bay of Bengal. The proposed expansion of SWFDP in Africa as suggested by RA I-16 and the planned expansion in the Caribbean SIDS, Central Asia and South-East Europe would require significant increase of resources to support training, contributions by participating global products centres and RSMCs, and coordination functions by the WMO Secretariat. Congress recalled that it did recognize at its sixteenth session (Cg-XVI, 2011), that SWFDP expansion could only be realized with an appropriate and resourced Project Office at the WMO Secretariat, and extrabudgetary contributions to augment the regular budget allocations. Congress continued to support the SWFDP expansion, as indicated in the WMO budget proposal (ref.: agenda item 10.2: Budget for the Seventeenth Financial Period (2016-2019)).

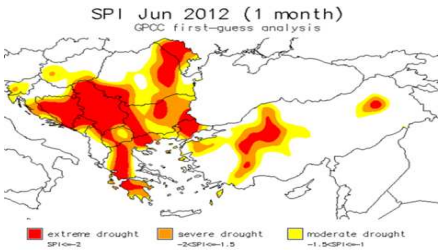
Building Resilience to Disasters in Western Balkans and Turkey

IPA PROJECT
BUILDING RESILIENCE TO DISASTERS IN WESTERN BALKANS AND TURKEY

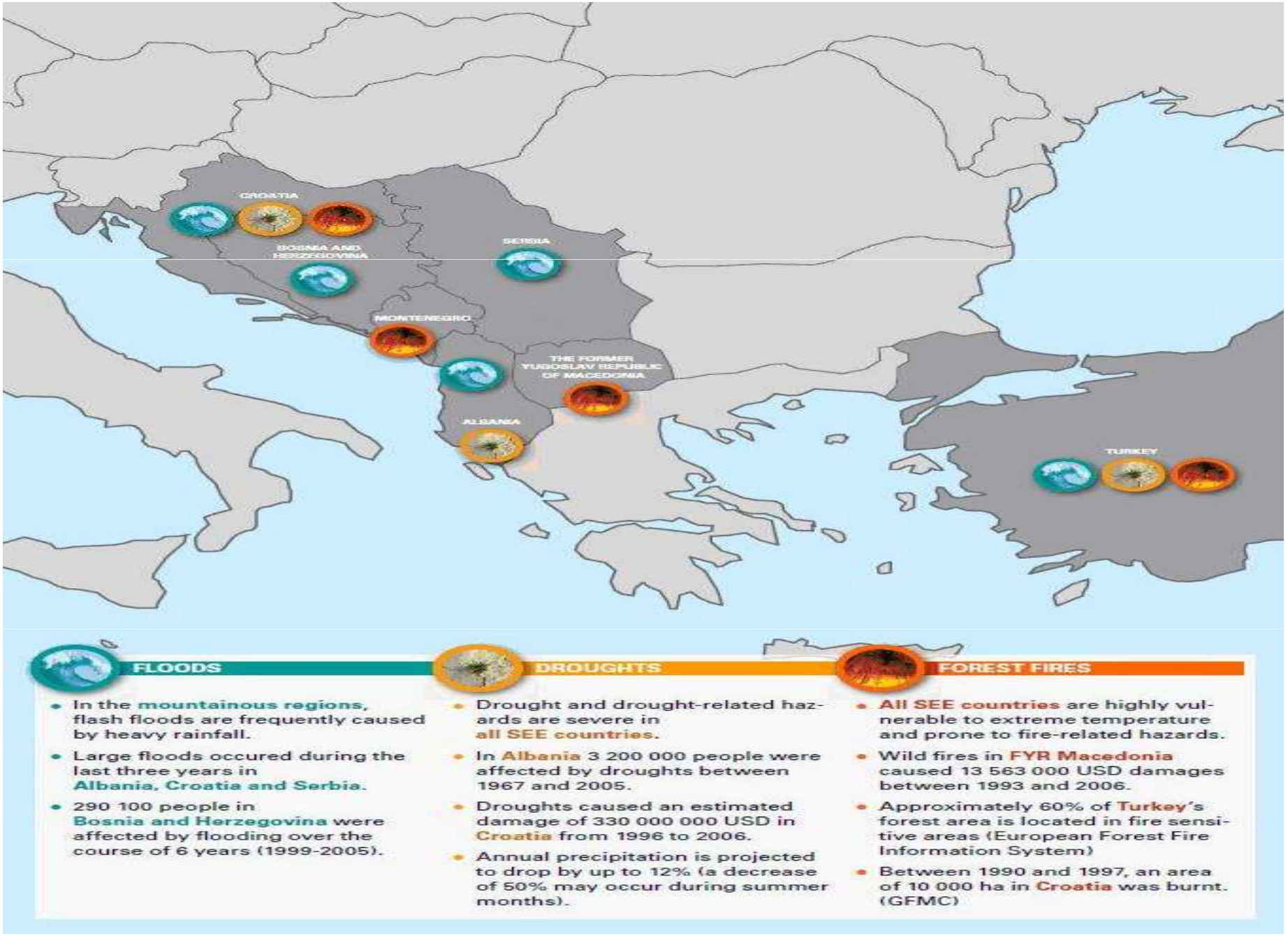
TASK 6: National Early Warning Systems – assessment of current capacities, identified gaps and recommendations (reports for each beneficiary)

Sergio Pasquini and Milan Dacic, WMO

REGIONAL FORUM ON MULTI-HAZARD EARLY WARNING SYSTEM
15 OCTOBER 2014, ANKARA, TURKEY



South East Europe Disaster Risk MAP



Regional MHEWS Cooperative Mechanism for SEE

SEE-MHEWS

- **Design** of the **observation networks** (*meteorological* and *hydrological*) could be optimized provided that *effective data exchange* is in place
- Hydro-meteorological services and DRM agencies could *benefit* from improved **information sharing** and collaborative **joint work** in the region
- "**One stop shop**" for *diverse analyses*, different *models* output *data*, and *remote sensing observations* for the benefit of **shift forecasters** throughout **SEE**
- *Authorized* **Password** protected **access** to the **ICT platform** *approved by* Intergovernmental Agreements, including the Data Policy Agreement
- **Warnings** *produced* and *issued* at the level of **NMHS/DRM** where **SEE-MHEWS** *serves as* **Advisory system** for **forecasters** supported by *EMI*, *Regional Centers*, *NMHSs*, etc.

Conclusions & Recommendations

- Almost all SEE NMHSs stated that resources and infrastructure **limited** their **ability** to **deliver** *critical* products and services for disaster risk reduction

- Most of them identified **financial** resources and **lack of** professional **staff** as **limiting** *factors*

- Almost all NMHS beneficiaries stated that **better coordination** of neighboring countries at a sub-regional *level*, with
  - WMO Regional Specialized Meteorological Centers
  - European Meteorological Infrastructure (*ECMWF, EUMETSAT and EUMETNET*)

  would **improve** their **contribution** to their *disaster risk reduction activities*

- *International*, *regional* and *national* efforts in **response** to the **natural disasters** provided a sound **basis** for **planning** early warning systems in the SEE region

Conclusions & Recommendations

- Project "**Building Resilience to Disasters in Western Balkans and Turkey**" **succeeded** in achieving its original **objectives** and intended **outcomes** of defining **core** technical **elements** of the **MHEWS** for the SEE region

- **Substantial support** is still needed to **establish** the **SEE-MHEWS** within a *multi-hazard framework*

- **Recommended actions** for the *SEE-MHEWS realization*

  1. **UNISDR, WMO**, **EU** as well as other *intergovernmental / international* and *regional* **institutions** working on early warning should **continue** their **assistance** to the SEE region countries in enhancing capacities and mobilizing resources necessary for **establishment** of the **SEE-MHEWS**

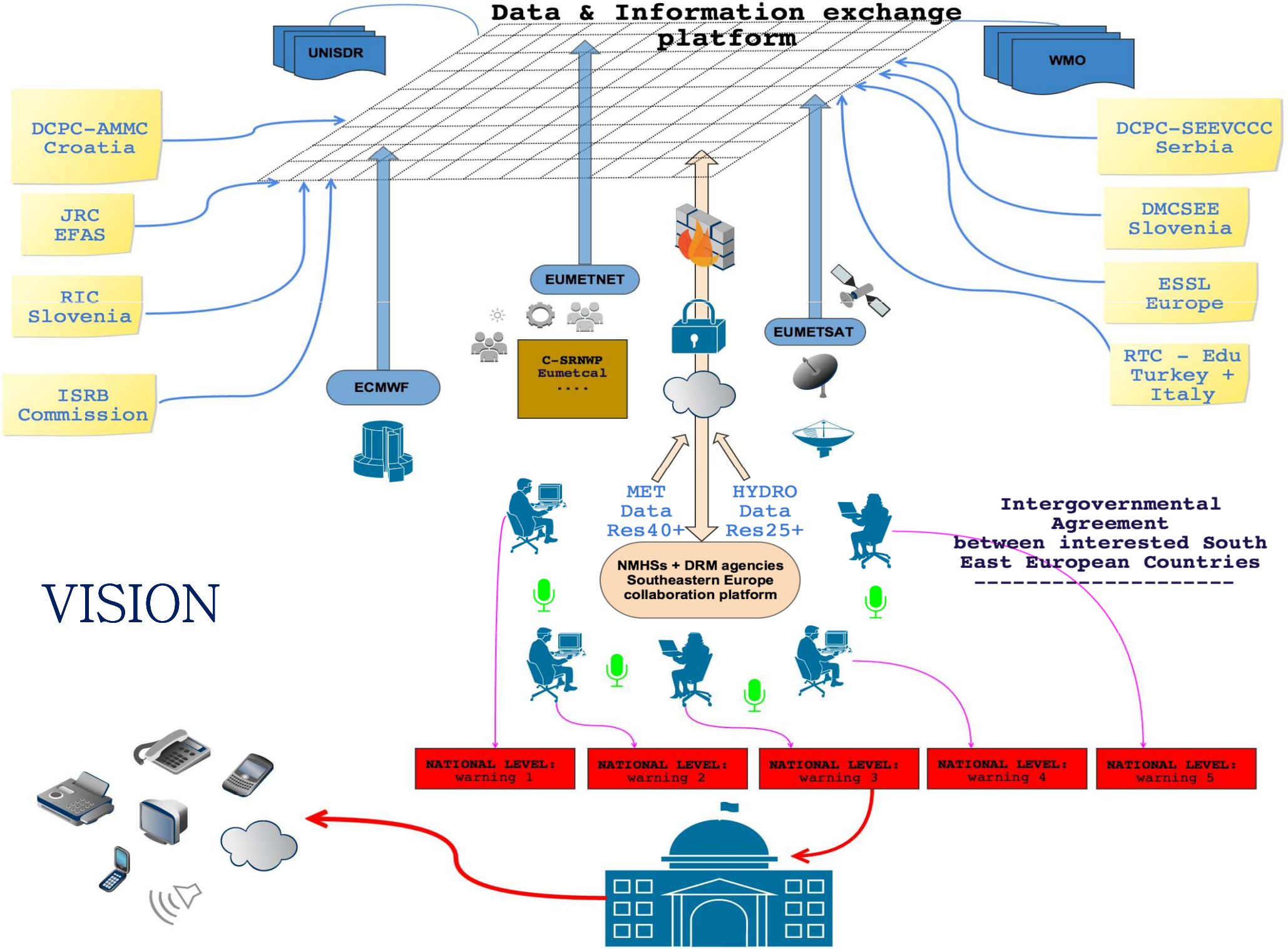
  2. **UNISDR** and **WMO** should also provide **follow-up** activities for the **technical** and **economic feasibility study** for the proposed **SEE-MHWS**

Conclusions & Recommendations

- **Recommended actions** for the *SEE-MHEWS realization*

  3. *Regional SEE* **coordination mechanism** for the **MHEWS** through the WMO should be **set up** in order to coordinate **follow up activities** related to **SEE-MHEWS establishment** in the near future

  4. In order to generate an enabling environment for SEE-MHEWS, the **WMO** should continue to **assist** the countries in SEE to strengthen **national EWS** to **effectively** implement the *HFA / Post -2015 Framework for Disaster Risk Reduction*


Data & Information exchange platform
UNISDR
WMO
DCPC-AMMC Croatia
JRC EFAS
RIC Slovenia
ISRB Commission
DCPC-SEEVCCC Serbia
DMCSEE Slovenia
ESSL Europe
RTC - Edu Turkey + Italy
EUMETNET
EUMETSAT
ECMWF
C-SRNWP Eumetcal ....
MET Data Res40+
HYDRO Data Res25+
NMHSs + DRM agencies Southeastern Europe collaboration platform
Intergovernmental Agreement between interested South East European Countries
VISION
NATIONAL LEVEL: warning 1
NATIONAL LEVEL: warning 2
NATIONAL LEVEL: warning 3
NATIONAL LEVEL: warning 4
NATIONAL LEVEL: warning 5

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Thank you for your attention