
# Building Resilience to Disasters in Western Balkans and Turkey

*Kick-off Meeting*

*Zagreb, Croatia, 30 August 2012*

# WMO Component

**D. Ivanov, WMO Regional Office for Europe**

# Disaster Risk Reduction – a WMO Strategic Priority

*Global Societal Need:*

Improved protection of life and property related to the impacts of hazardous weather, climate, water and other environmental events, and increased safety of transport on land, at sea, and in the air.

# Disaster Risk Reduction – a WMO Strategic Priority

## *WMO Response (Strategic Plan 2012-2015):*

**Expected Result 2:** Enhanced capabilities of Members to reduce risks and potential impacts of hazards caused by weather, climate, water and related environmental elements.

**Expected Result 3:** Enhanced capabilities of Members to produce better weather, climate, water and related environmental information, predictions and warnings to support in particular disaster risk reduction and climate impact and adaptation strategies.

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# Focus on SE Europe

WMO implemented, in collaboration with UNDP and other partners, the Action: "Regional cooperation in SEE for meteorological, hydrological and climate data management and exchange to support Disaster Risk Reduction" during the period April 2009 – October 2011.

(IPA/2009/199-922)

*All materials available on:*
*http://www.wmo.int/pages/prog/drr/projects/SEE/SEE_en.html*

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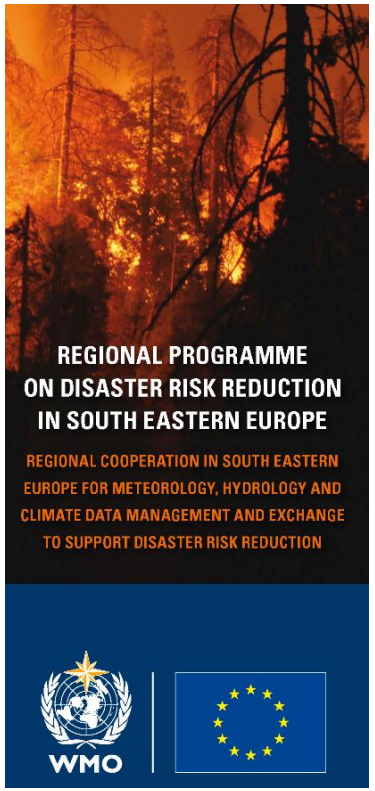
# Focus on SE Europe

**Main Achievements:**

- DRR National Policy Dialogues, policy recommendations adopted highlighting the role of the NMHS in Disaster Risk management (DRM) and early warning systems
- SEE regional cooperation mechanisms to support risk assessment and Multi-Hazard Early Warning Systems (MHEWS) were identified and agreed upon
- Flood and drought hazard risk analysis capacities to support risk assessment were strengthened through trainings and regional proposal development included in the project Phase II
- Integration to European Meteorological Infrastructure (EMI)
- Adaptation to climate change introduced into the regional DRM Agenda through the South-East European Climate Outlook Forum (SEECOF)
- Comprehensive capacity building effort - more than 220 experts and officials were trained during 10 high-quality training events on different subjects related to Disaster Risk Reduction



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# The new Project – WMO Focus areas

***Enhance the regional risk assessment and mapping capacities through improved capacity of beneficiaries in hazard analysis and mapping***

***Enhance IPA beneficiaries' capacity to forecast hazardous meteorological and hydrological phenomena and deliver timely warnings to support DRR***

***Develop capacity needed to support climate risk management and climate change adaptation into a national and regional DRR agenda***

***Design a regional Multi-Hazard Early Warning System composed of harmonized national Early Warning Systems within a regional cooperation framework***

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# The new Project – Work Packages (WMO)

## Data for risk analysis

- Hazard analysis and mapping
- Cross-border Exchange
- CDMS
- Pilot project – Sava River Basin (with ISRC)

## Improved Products in support of DRR

- Forecasts
- Warnings
- “Nowcasting”
- Floods and drought products

## Climate change

- Long-range forecasts
- Seasonal climate outlooks
- New services (e.g., insurance)

## Institutional DRR issues

- EWS Design
- Quality Management
- Regional Harmonization
- Infrastructure

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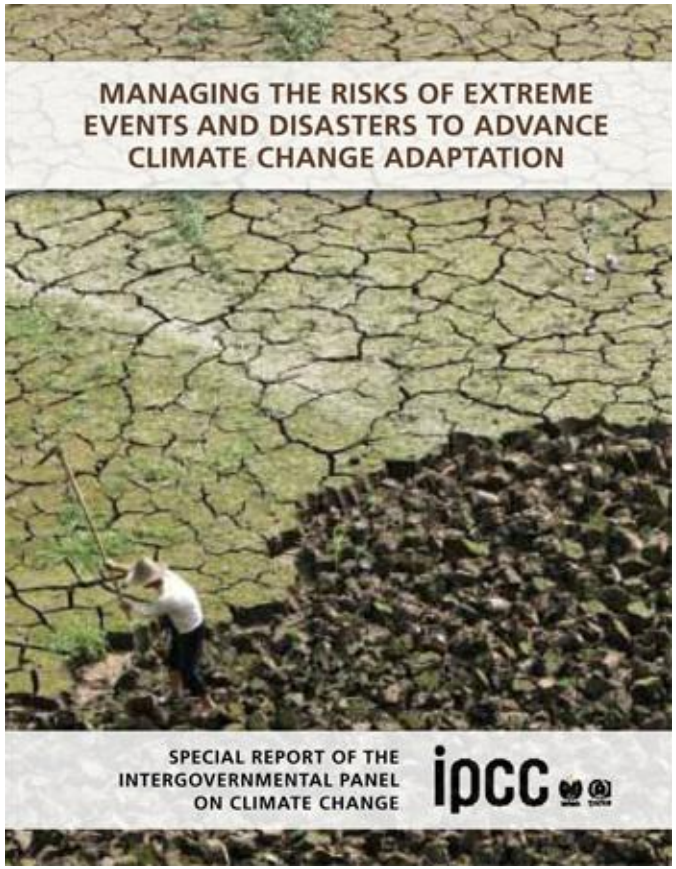
# The new Project – Challenges

## The IPCC SREX Report – Nov 2011

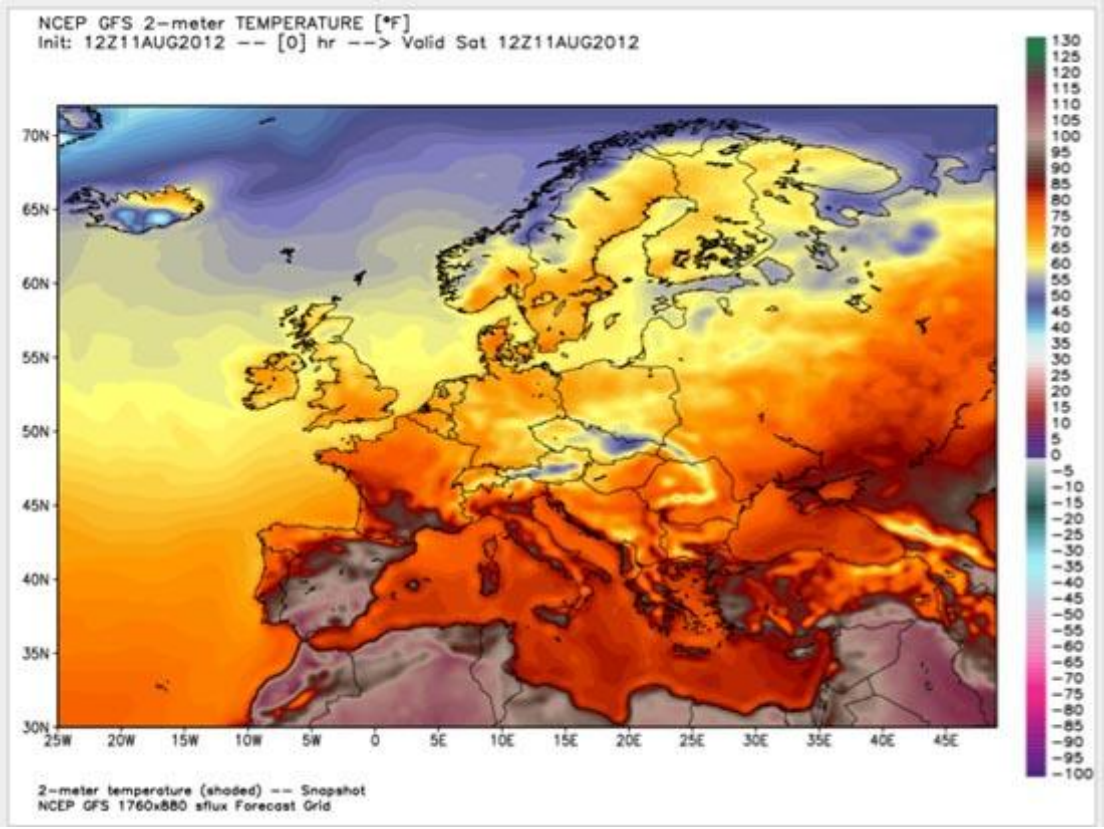
- A changing climate leads to changes in extreme weather and climate events
- For exposed and vulnerable communities, even non-extreme weather and climate events can have extreme impacts
- Economic losses from climate-related disasters have increased, with large spatial and interannual variations
- Information on vulnerability, exposure, and changing climate extremes can together inform adaptation and disaster risk management



# The new Project – Challenges

**IPCC: Expected changes in Climate Extremes**

- It is very likely that the length, frequency, and/or intensity of warm spells will increase over most land areas. A 1-in-20 year hottest day is likely to become 1-in-2 year event by the end of 21st century.



# The new Project – Challenges

**IPCC: Expected changes in Climate Extremes**

- Droughts will intensify in the 21st century in some seasons and areas due to reduced precipitation and increased evapotranspiration. This applies to regions including southern Europe and Mediterranean.

# The new Project – Challenges

**IPCC: Expected changes in Climate Extremes**

- It is likely that the frequency of heavy precipitation will increase in the 21st century. This may lead to increases of local flooding in some catchments or regions.

# The new Project – Challenges

**Climate extremes of 2012**

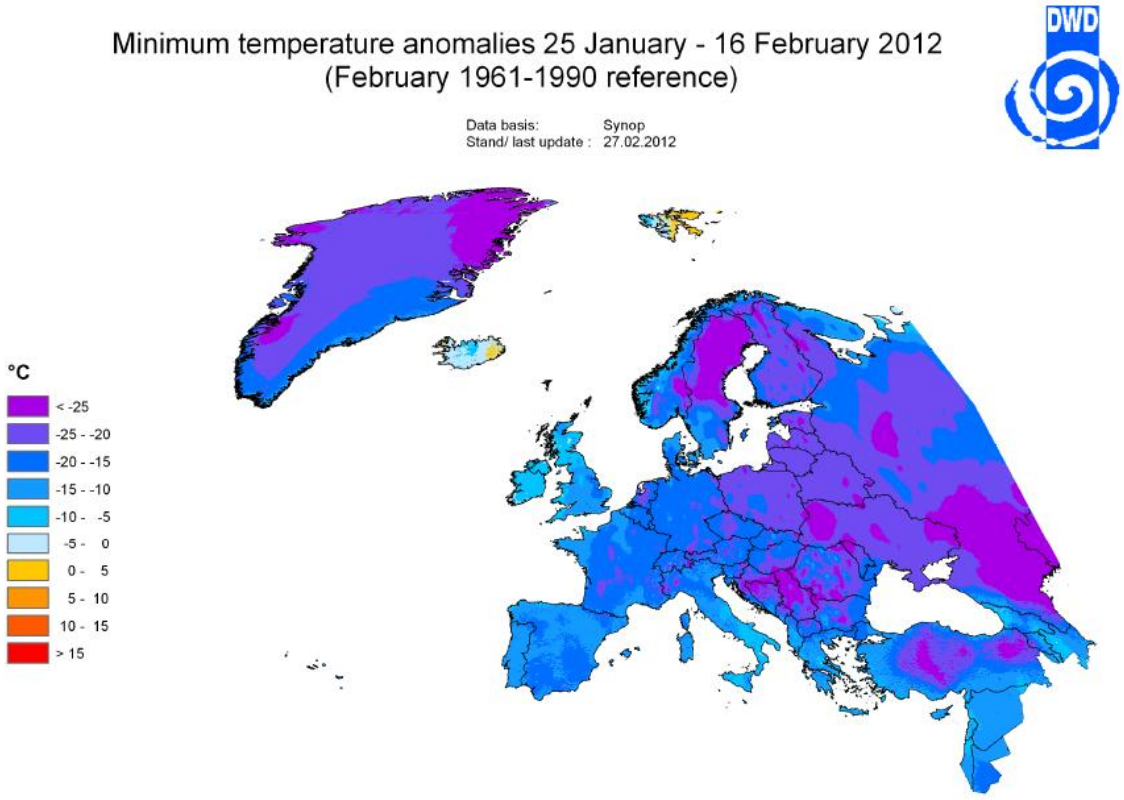



***Figure 10*** *Anomalies of absolute daily minimum temperature in the period 25 January – 16 February 2012 (1961-1990 reference)*
*Source: Deutscher Wetterdienst, Germany*

# The new Project – Challenges

**Climate extremes 2012**

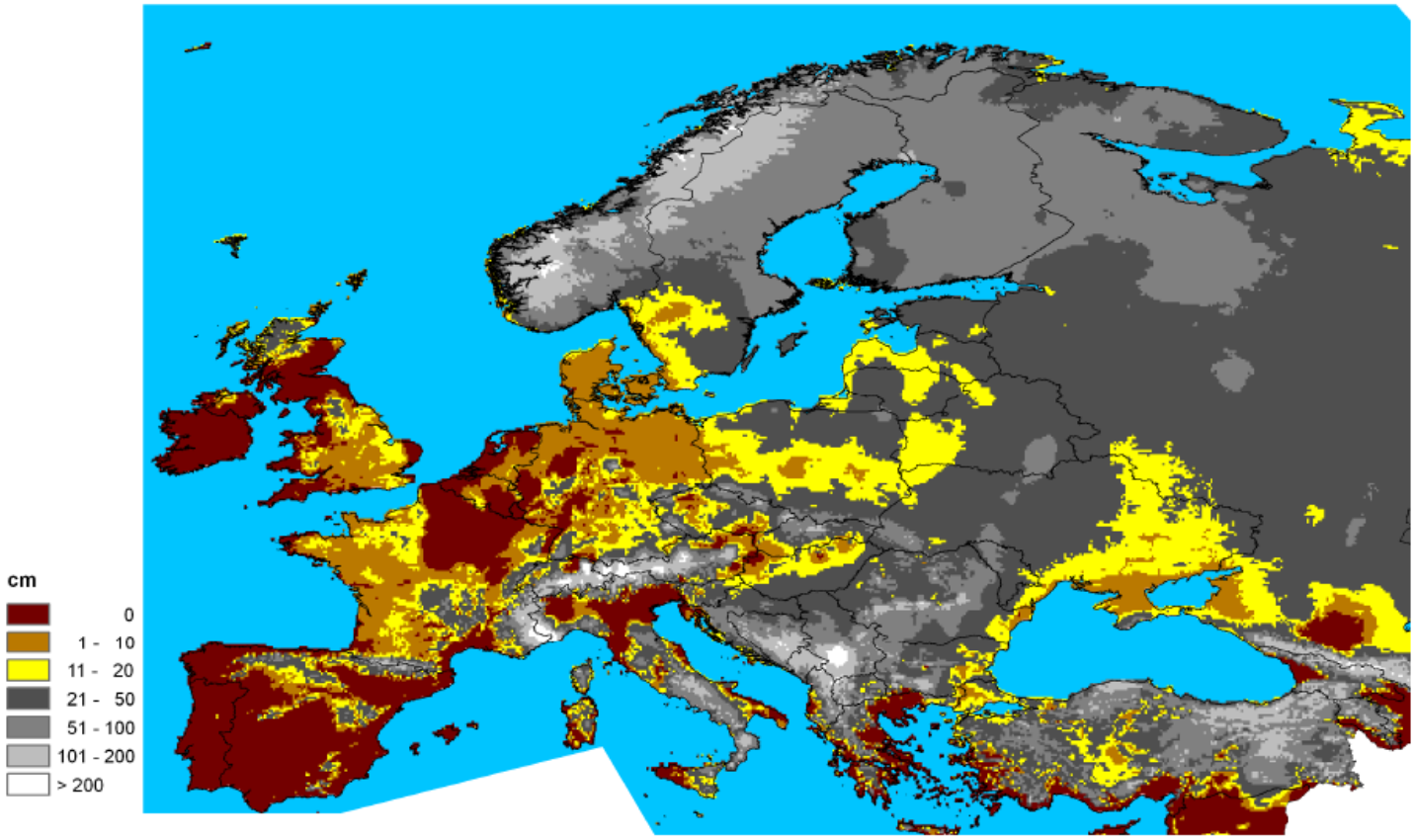



***Figure 13*** *Maximum snow depth in the period 01 December – 29 February 2012*
*Source: Deutscher Wetterdienst*

# The new Project – Challenges

**Climate extremes of 2012**

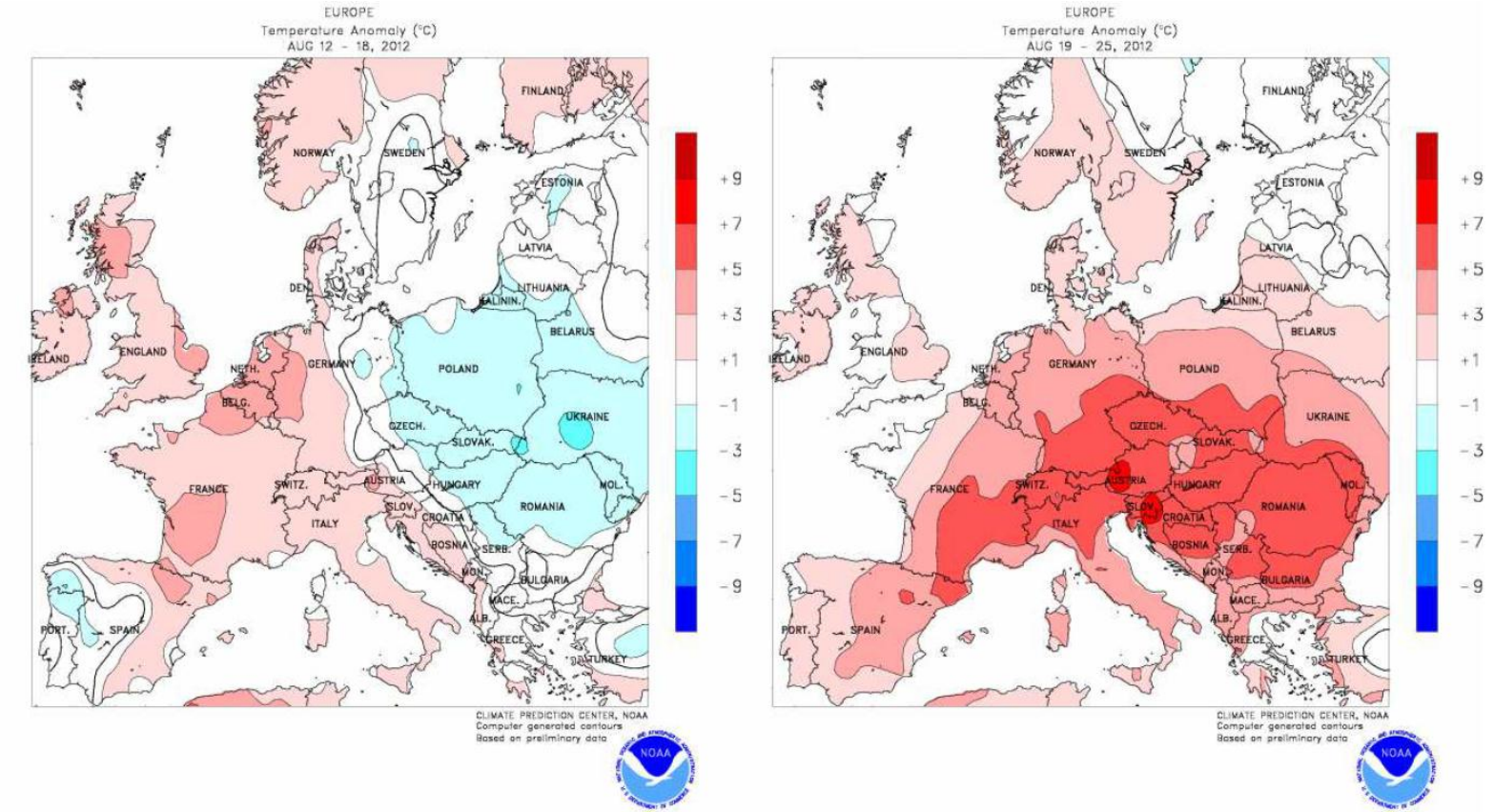



**Figure 1:** Temperature anomaly for recent weeks (source: Climate Predication Center, USA)

# The new Project – Opportunities

Adaptation to climate change and disaster risk management provide a range of complementary approaches for managing the risk of climate extremes and disasters.

Early Warning Systems (EWS), risk communication between authorities, decision-makers and local citizens are among the “low-regrets” measures for managing changing risks of climate extremes and disasters.

The Project addresses these measures through building the national and regional capacity in those areas

# The new Project – Opportunities

Utilizing science and technology achievements (example the Extreme Forecast Index (EFI) provided by the ECMWF)

The summer of 2012 – extreme heat and drought in South-East Europe

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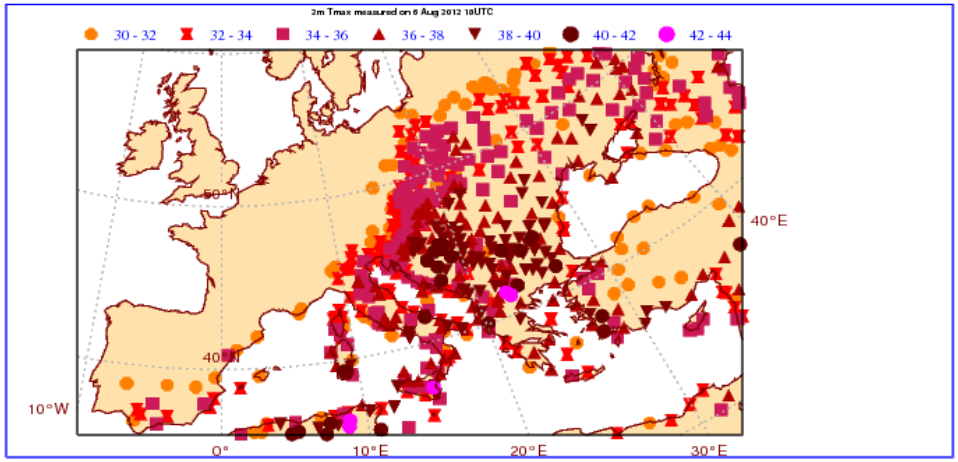
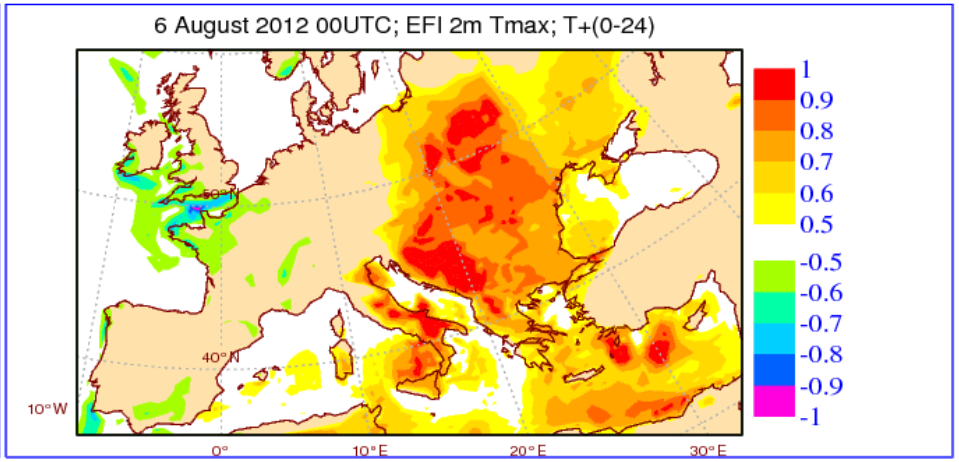
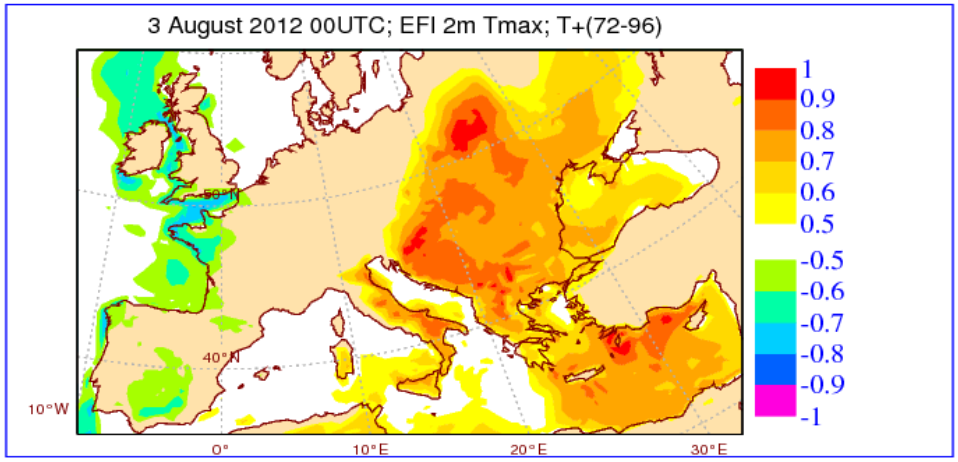
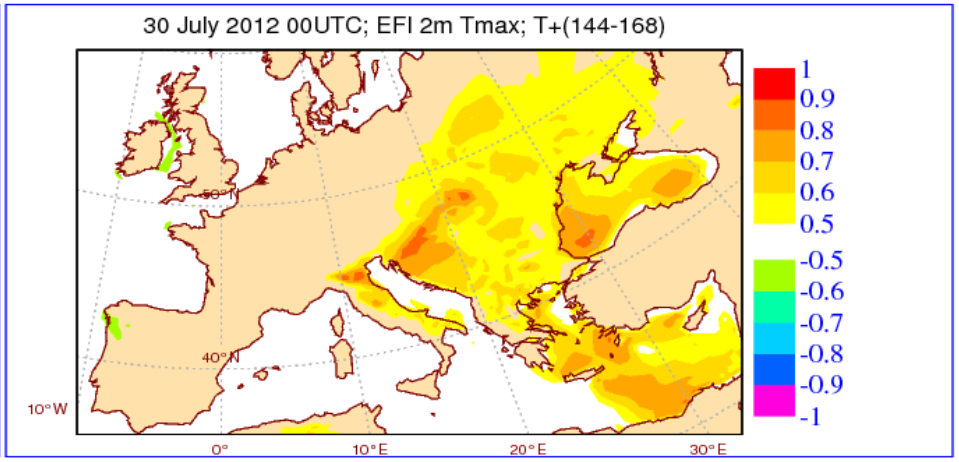
# The new Project – Opportunities

## Improved lead time of extreme weather forecasts (ECMWF)



# The new Project – Opportunities

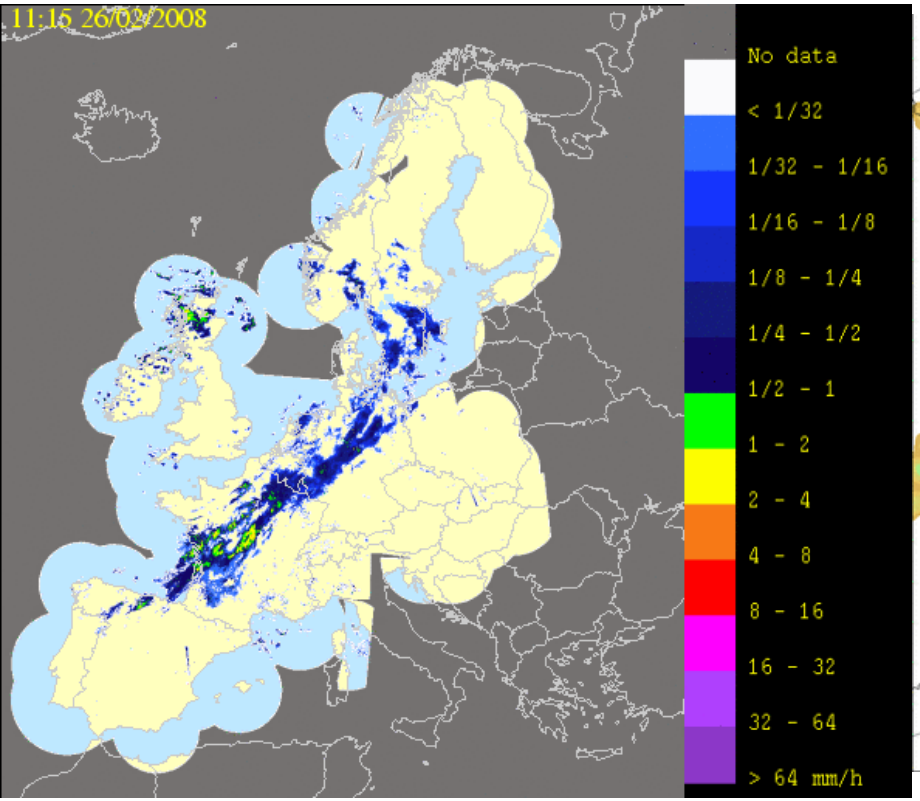
**New Climate Watch System developed by the WMO RA VI Network of Regional Climate Centres (RCC)**

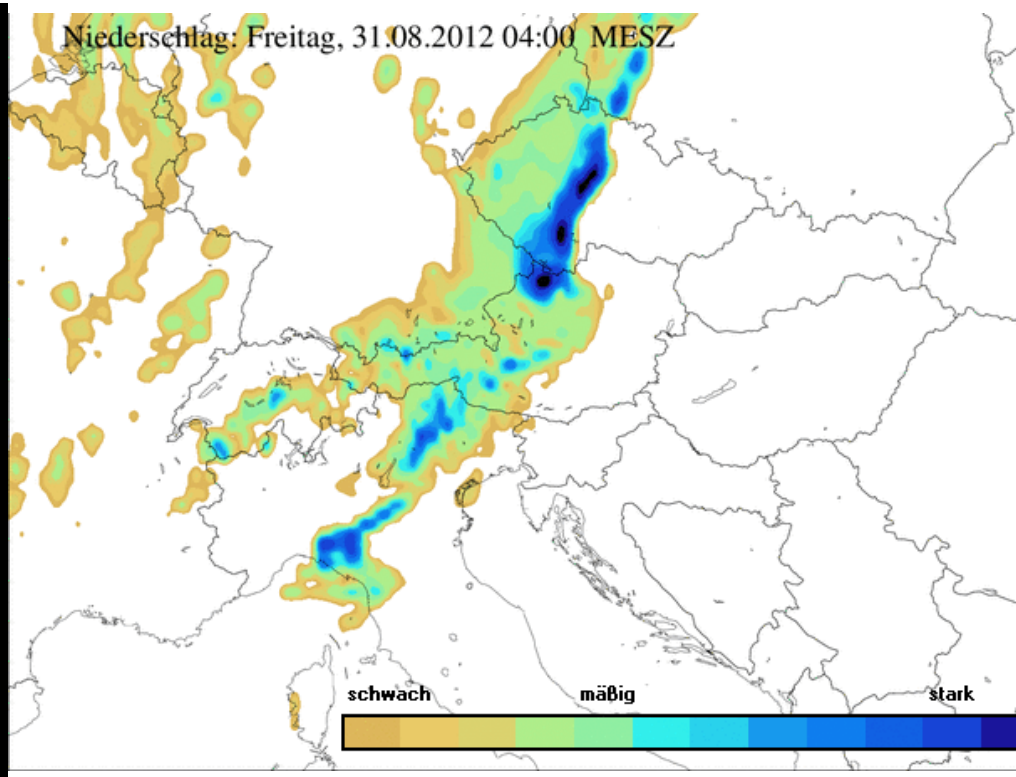
**Climate Watch Guidance on above-normal temperatures in South-eastern Europe:**
**Update No. 3 issued on 28 August 2012**

Due to the recent weather situation (current heat wave in parts of Southern and South-eastern Europe) and the results from monthly forecast we expect
**"A continuation of the period with temporarily (significantly) above normal temperatures up to the mid of September for South-eastern Europe (except South Caucasus) with possible prolongation to the end of September. The probability for this anomaly is estimated to be above 70%."**

# The new Project – Opportunities

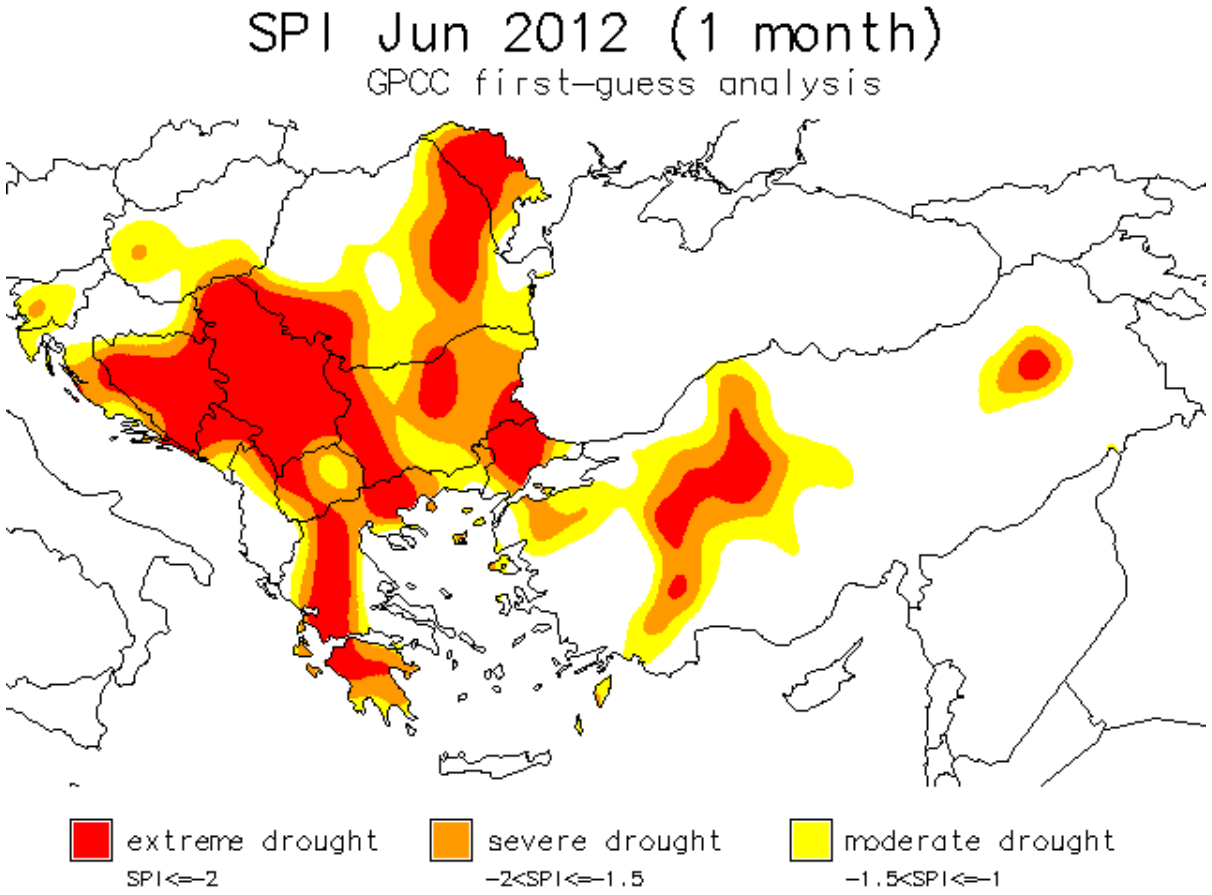
## Enhancing monitoring and forecasting capabilities of IPA beneficiaries and integration into European infrastructure



# The new Project – Opportunities

## Developing and utilizing region-specific severity indices

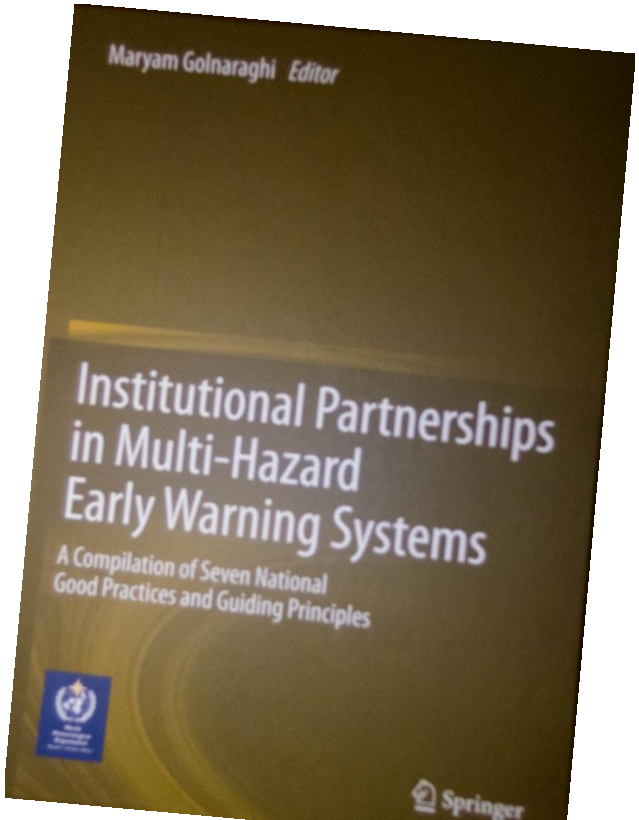


# The new Project – Opportunities

**Among the main outcomes of the Project is the development of a design for a Multi-Hazard Early Warning System composed of harmonized national EWSs**

The design will reflect the national good practices adapted to the specific conditions of the IPA region

The regional approach to EWS will ensure cross-border interoperability and filling the existing gaps in monitoring, forcasting and communication capabilities



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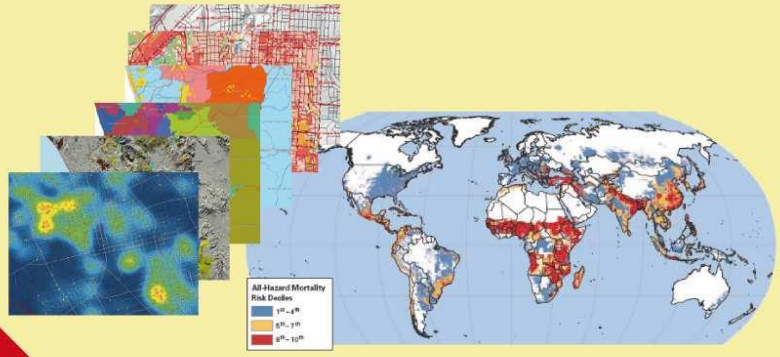
# The new Project – Opportunities

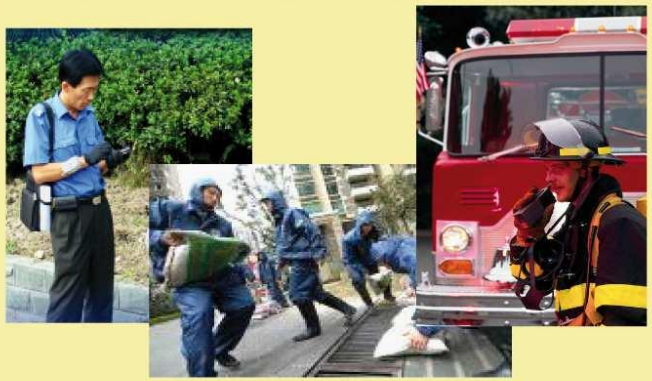
Hazard Data and Forecasts




Risk Information

Coordination and Collaborations

Communication and Dissemination Mechanisms



Preparedness and Early Response

# The new Project – Partners

- Implementation together with UNISDR and EC DG Enlargement; coordination and cooperation with other international organizations – UNDP, World Bank, USAID
- IPA beneficiaries – Western Balkans and Turkey – NMHSs, DRM agencies, weather-sensitive economic sectors
- European meteorological infrastructure – ECMWF, EUMETNET, EUMETSAT, ESSL, RA VI Network of RCCs (including SEEVCCC Belgrade and East Mediterranean Climate Centre, Turkey)
- Regional partners – International Sava River Basin Commission, DPPI
- National meteorological agencies:
  - Environmental Agency of Slovenia (RIC Ljubljana, DMC/SEE Ljubljana)
  - National Meteorological Administration of Romania
  - ZAMG, Austria
  - FMI, Finland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## Governance and Institutional Framework (Policy, Legislation, legal framework, institutional coordination)

## (Multi-sector, Multi-level, Multi-Hazard)

2

### Risk Assessment

QUANTITATIVE MULTI-HAZARD-MULTI-LEVEL, MULTI-SECTOR RISK ANALYSIS

1

Hazard, exposure and vulnerability databases

Statistical and forward looking approaches

### Risk Reduction

PREPAREDNESS:
early warning systems
emergency planning

3

PREVENTION and MITIGATION:
Sectoral Medium to long term planning (e.g. zoning, infrastructure, agriculture…)

4

### Risk Financing and Transfer

Gov Investments, trust funds (ex-ante, post disaster)

CAT insurance & bonds

Weather-indexed insurance and derivatives

Other emerging products

5

6

## Information and Knowledge Sharing
## Education and training

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# Thank You!