



EU FLOOD DIRECTIVE

SUSTAINABLE TOOL TO CLIMATE CHANGE ADAPTATION

Content

- **Part 1 : Flood Directive – general background**
- **Part 2 : Implementation of FD in Romania**
- **Part 3: MS experiences & knowledge transfer to Turkey**

FD- Objectives:



- **To reduce and manage flood-related risks to human health, the environment, infrastructure and property**
- **To improve, at EU level, the overall level of flood protection.**
- **Establish a common framework & common approaches for flood risk management**

FD- Schedule of implementation

I: Preliminary flood risk assessment

-TB Completed: 2011 - update 2018 latest, every 6 years

II: Flood hazard maps and flood risk maps

-TB Completed: 2013 - review / update 2019 latest, every 6 years

III: Flood risk management plans

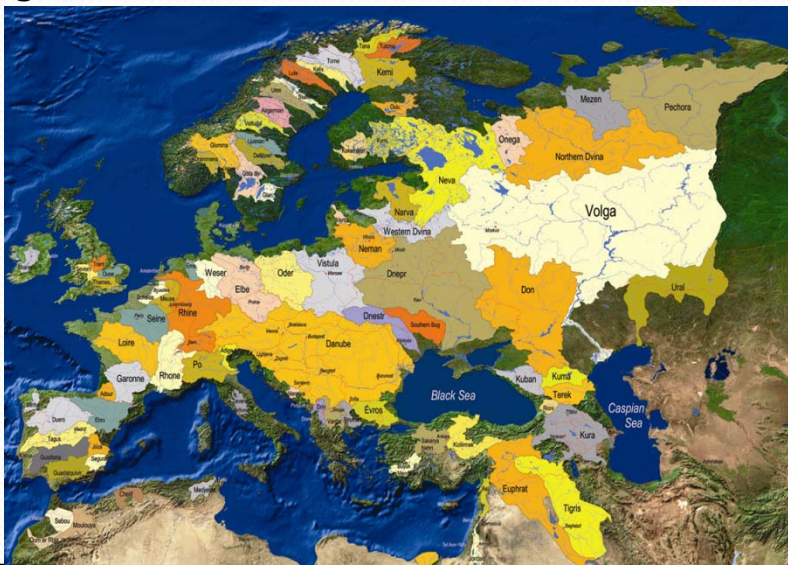
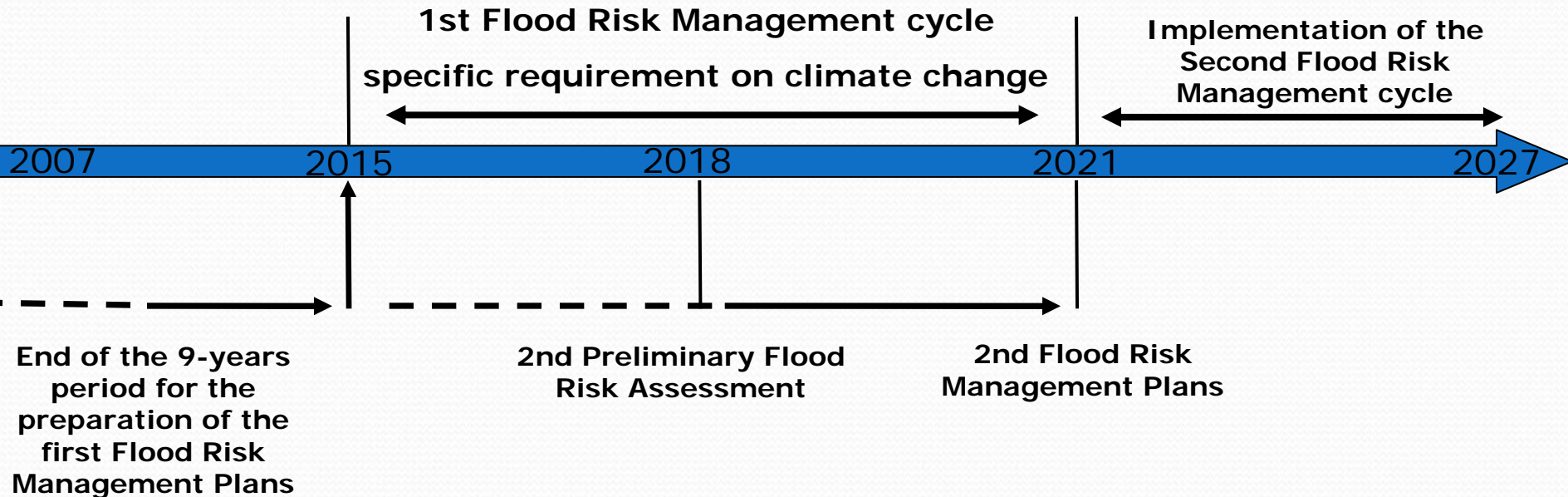
-TB Completed and published: 2015

-TB Implemented from 2015 - update 2021 latest, every 6 years

!!!. Coordination with Water Framework Directive, public information and participation!!!



IWRM in the European Union = Floods Directive [2007/60/EC]



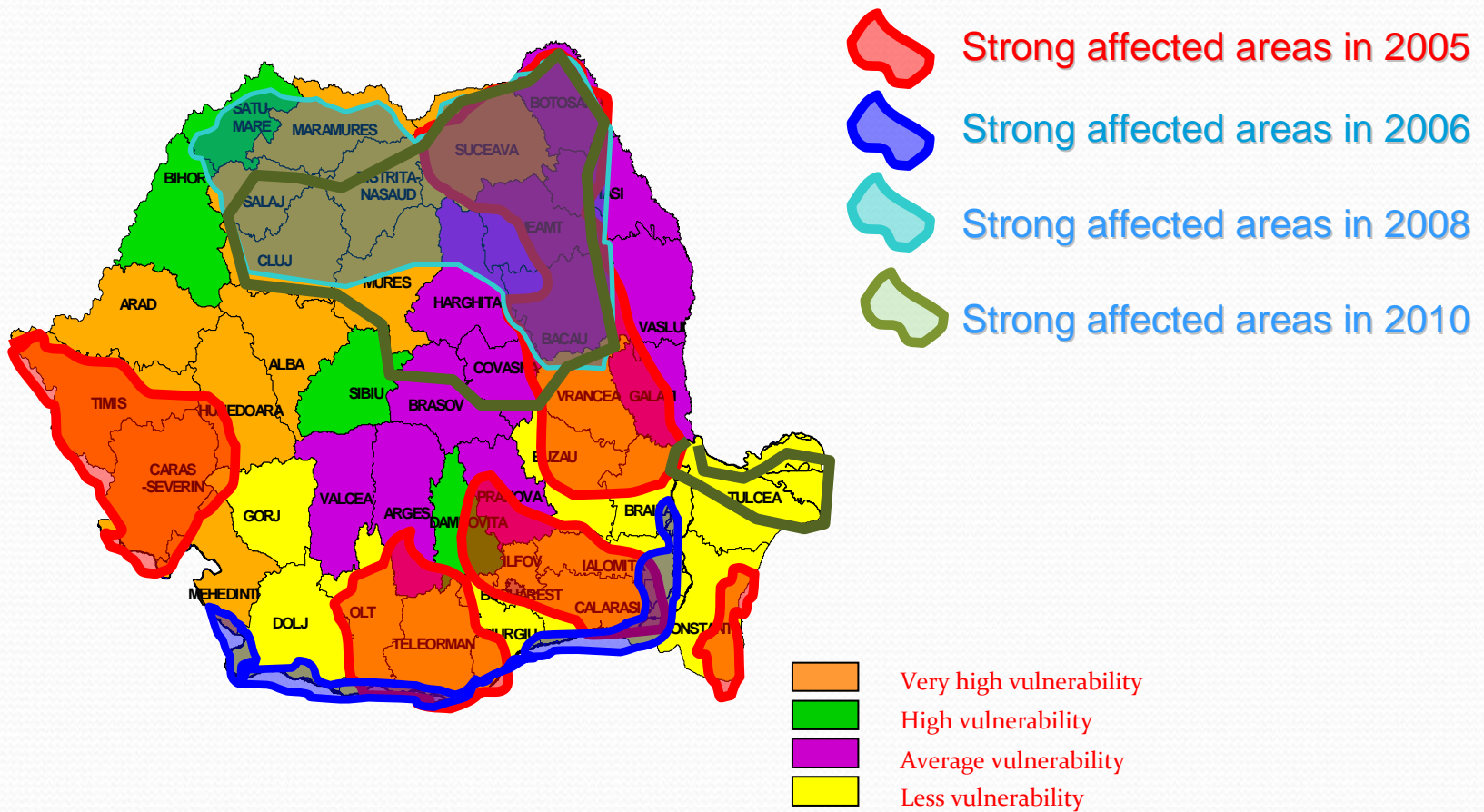
Review /update every 6 years thereafter

Part 2 :

FD Implementation in Romania



WHY DO WE NEED FD ?



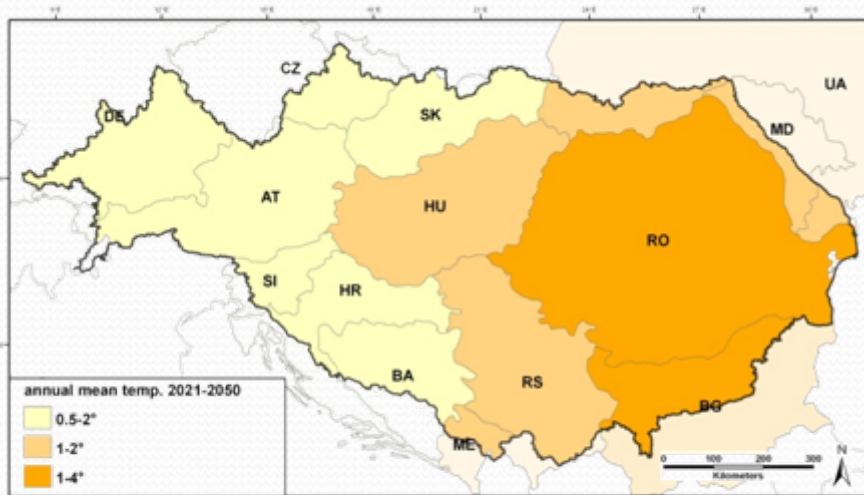
FLOODS EVENTS IN ROMANIA

CLIMATE CHANGE SCENARIO IN THE DANUBE RIVER BASIN

Future air temperature in the DRB

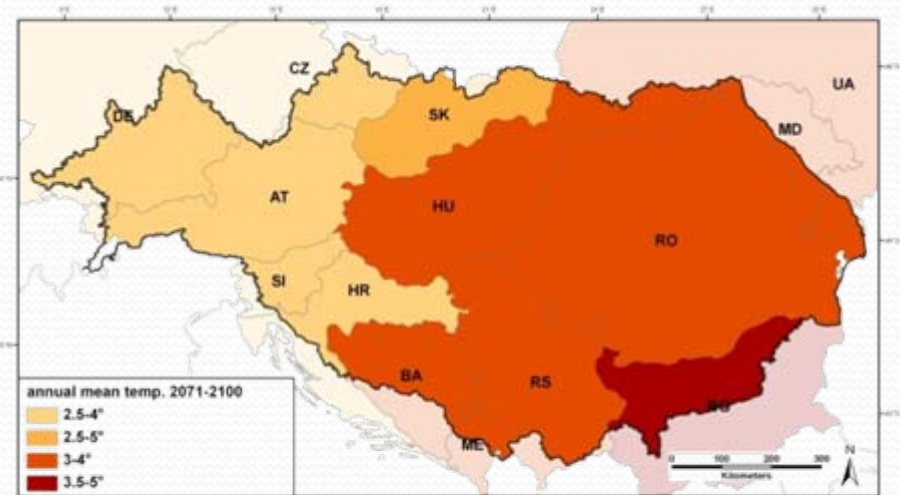
- ➔ Increase of air temperature with a gradient from northwest to southeast in the DRB
- ➔ Both annually and in all seasons (largest uncertainty in winter)

Future annual air temperature in the DRB:



Temperature for multiple A1B scenarios

2021-2050: +0.5 – 4K



Temperature for multiple A1B scenarios

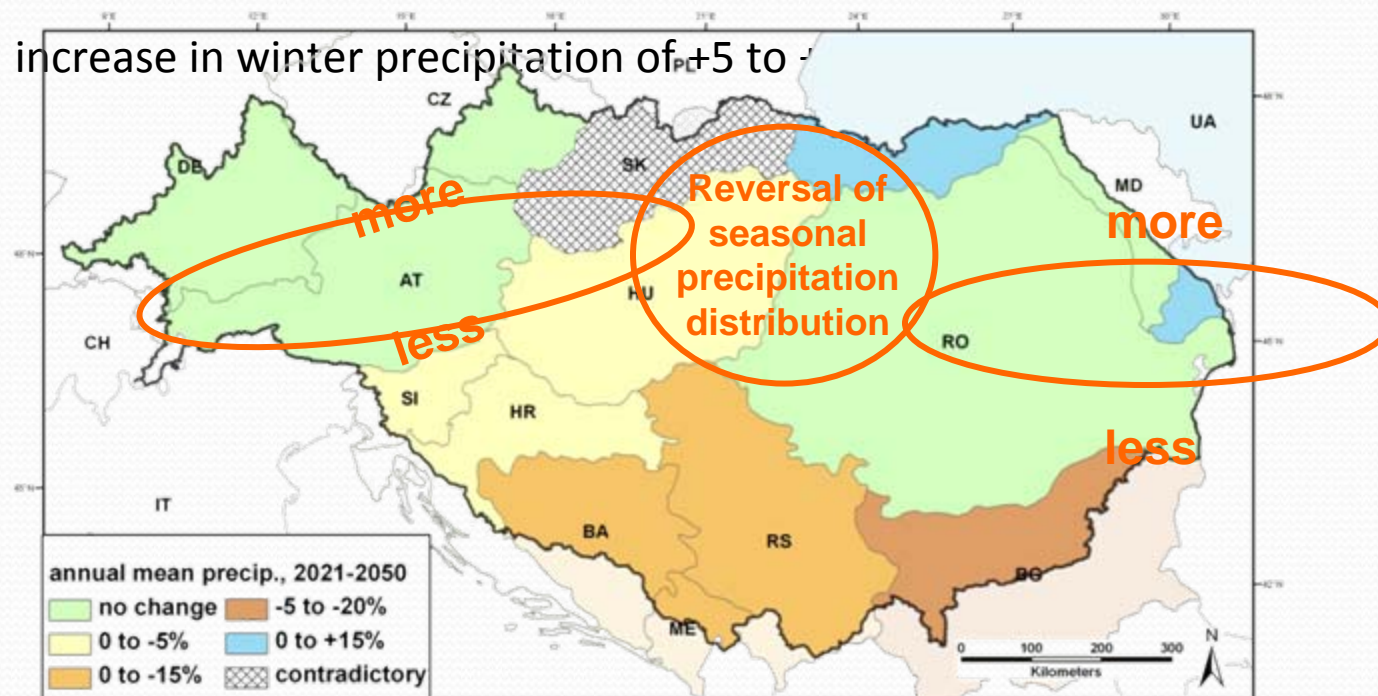
2071-2100: +2.5-5 K

Certainty: high (quantity and seasonality), **amount of studies:** high, **agreement of studies:** high

Climate Change Scenario in the Danube River Basin (DRB)

Future precipitation in the DRB

- Mean annual precipitation amount will remain almost constant
- But: seasonally and regionally significant changes
 - decrease in summer precipitation of -20%
 - increase in winter precipitation of +5 to -



Annual precipitation for multiple A1B scenarios from 2021 – 2050 in the DRB

FD implementation in Romania

💧 **Flood Directive - transposed into the Romanian legislation** (the 107/1996 Water Law was modified and completed by the **3/2010 Water Law**);

💧 **National Strategy for Flood Risk Management on medium and long term** (G.D. 846/2010).



NATIONAL STRATEGY FOR FLOOD RISK MANAGEMENT

MAIN INDICATORS – TARGETS

- **Increasing the national level of flood protection for living areas - 1:100 year**
- **30 % reduction of people affected by floods within 10 years, and a 75 % within 20 years;**
- **30 % reduction of damage costs on infrastructures (railways, main roads and bridges) within 10 years, and a 60 % progressively obtained within 20 years;**
- **50 % reduction of flood-induced costs corresponding to agricultural losses in the medium-term (within 10 years) and a 75 % reduction in the long term (within 30 years);**
- **Major reduction of social vulnerability of flood exposed communities, with a 50 % reduction within 10 years, then progressive improvement for a 75 % reduction in the long-term (within 30 years).**



FIRST STEP OF FD IMPLEMENTATION - 2011

Preliminary Flood Risk Assessment - PFRA

Hydrologic criteria

$$Q_{\text{recorded}} > Q_{\text{max}10\%}$$



Damage criteria

Victims > 10 ;

Social objectives > 2

Economic objectives > 10

Cultural objectives > 1

Roads > 200 km ; Houses > 100/event

IPPPC objectives > 1

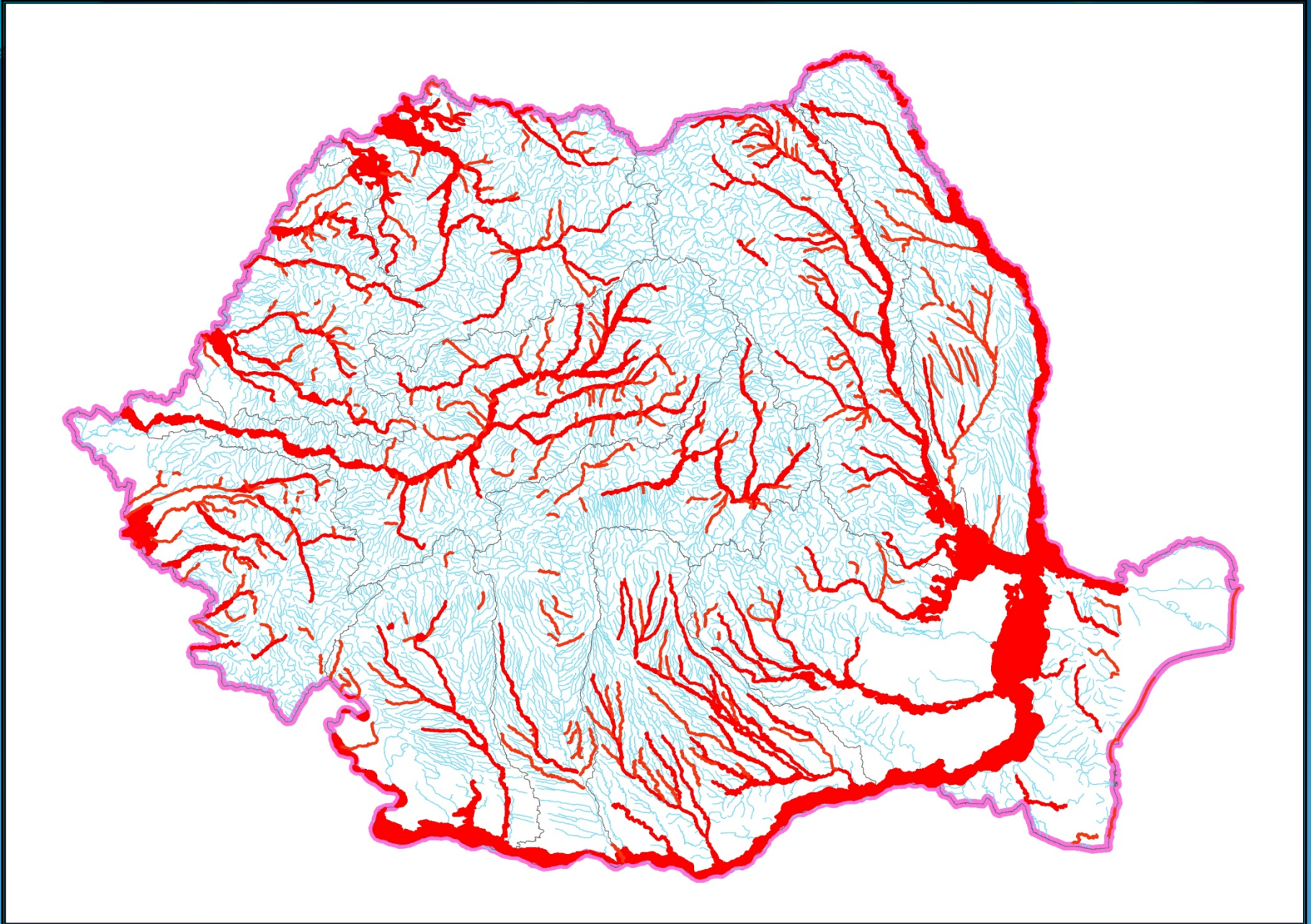


**Significant
Event**



**36 events at national level
(without Danube River)
3 events for Danube River (1998,
2006, 2010)**

Areas with Potential Significant Flood Risk - APSFR



FUTURE STEPS (1)

FLOOD HAZARD MAP - 2013

HARTA ADÂNCIMII APEI

GEOS DHF CARTOP S.A.



SCARA 1 : 5 000

JIU, HARTA 1

FUTURE STEPS (2)

FLOOD RISK MAP & FLOOD RISK MANAGEMENT PLAN - 2015

red zone

substantial danger for constructions and people inside houses

- no new constructions allowed

blue zone

medium danger

- constructions allowed with restrictions

yellow zone

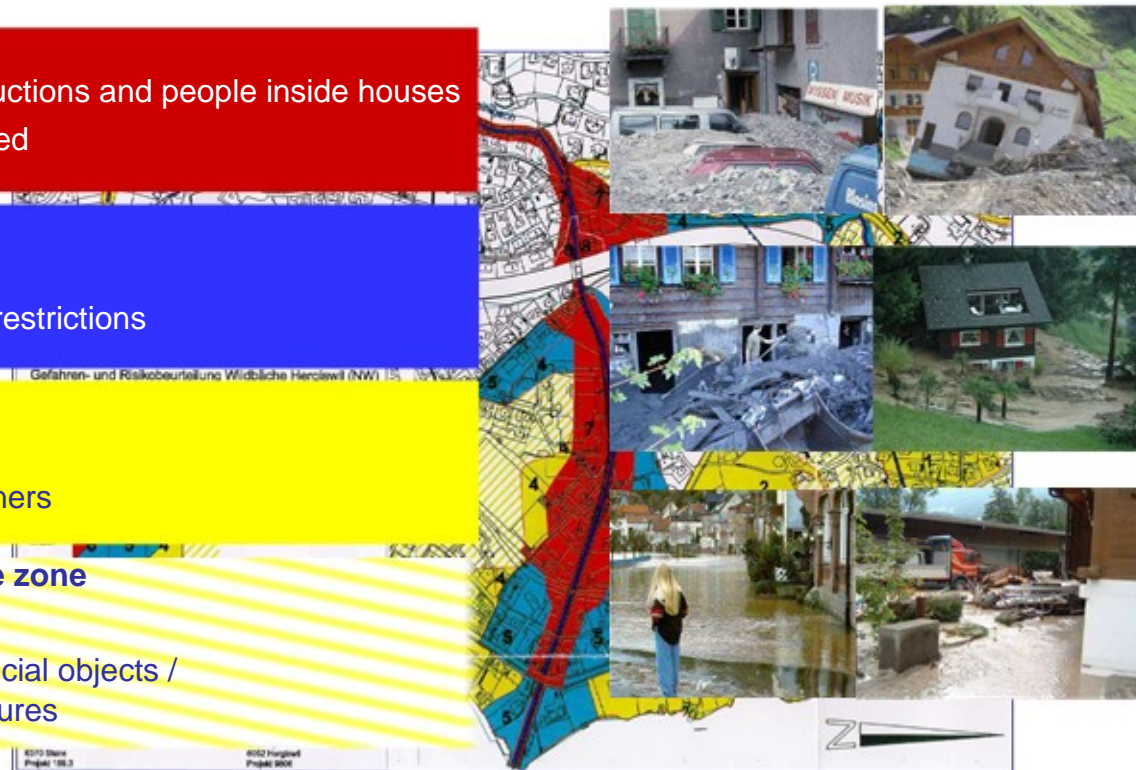
low danger

- information for the land-owners

cross-hatched yellow-white zone

residual danger

- pay attention in case of special objects /
planning of emergency measures





CAPACITY BUILDING TO IMPLEMENT THE FLOOD DIRECTIVE

Twinning project

(ISTANBUL- SIDE EVENT, 16 OCTOBER 2012)

Project title: Capacity Building to Implement the Flood Directive.

Objectives of the Project: Building up an administrative and technical capacity in Turkey in order to transpose and implement Flood Risks Assessment and Management Directive (2007/60/EC)

Consortium: France & Romania

Beneficiary Institution/Country: TURKEY

Duration of implementation: 24 months

Starting date: August 2012

Thank you for your attention!

