



Understanding Risk Balkans Conference

Republic of Serbia
Ministry for Agriculture, Forestry and Water
Republic Directorate for Water
Belgrade –Serbia
Mrs. Merita Borota

September 17 – 19
2018





Content:

- Introduction
- Legal and institutional framework
- EU Flood Directive : Law on Water / comparison
- Status in Serbia according EU Flood Directive
 - Preliminary Flood Risk Assessment (PFRA)
 - Flood Hazard Maps and Flood Risk Maps
 - Flood Risk management Plan
- Coordination with EU Directive 2000/60/EC Public information and Consultation





Република Србија
Министарство
пољопривреде, шумарства и
водоприправе



Турскица

Латинка

English



Почетна

Министарство

Документи

Идерија центар

Саопштења управа

Дозволе и обрасци

Галерија

Адреса

Контакти



Република Србија
Министарство пољопривреде, шумарства и водоприправе
РЕПУБЛИКА ДИРЕКЦИЈА ЗА ВОДЕ

Насловна

О нама

Стратегија

Активности

Дисциплина

Послови

Контрола

Водство

Национална мрежа

Адреса

Галерија



Министарство
пољопривреде,
шумарства и
водоприправе

ЈРС Србија/воде

ЈРС Иван Војновић

Домовна кућа

ИРС

РМС

Систем за мониторинг
кавалитет

«Глас

Београд

Мале просторности

ИНФОРМАТОР О РАДУ

ДОЗВОЛЕ НА ИНТЕРНЕТ ПРЕЗЕНТАЦИЈУ
РЕПУБЛИКЕ ДИРЕКЦИЈЕ ЗА ВОДЕ

Београд, ул. Војводе
Београд

телефон: 20-43-360

факс: 20-43-370

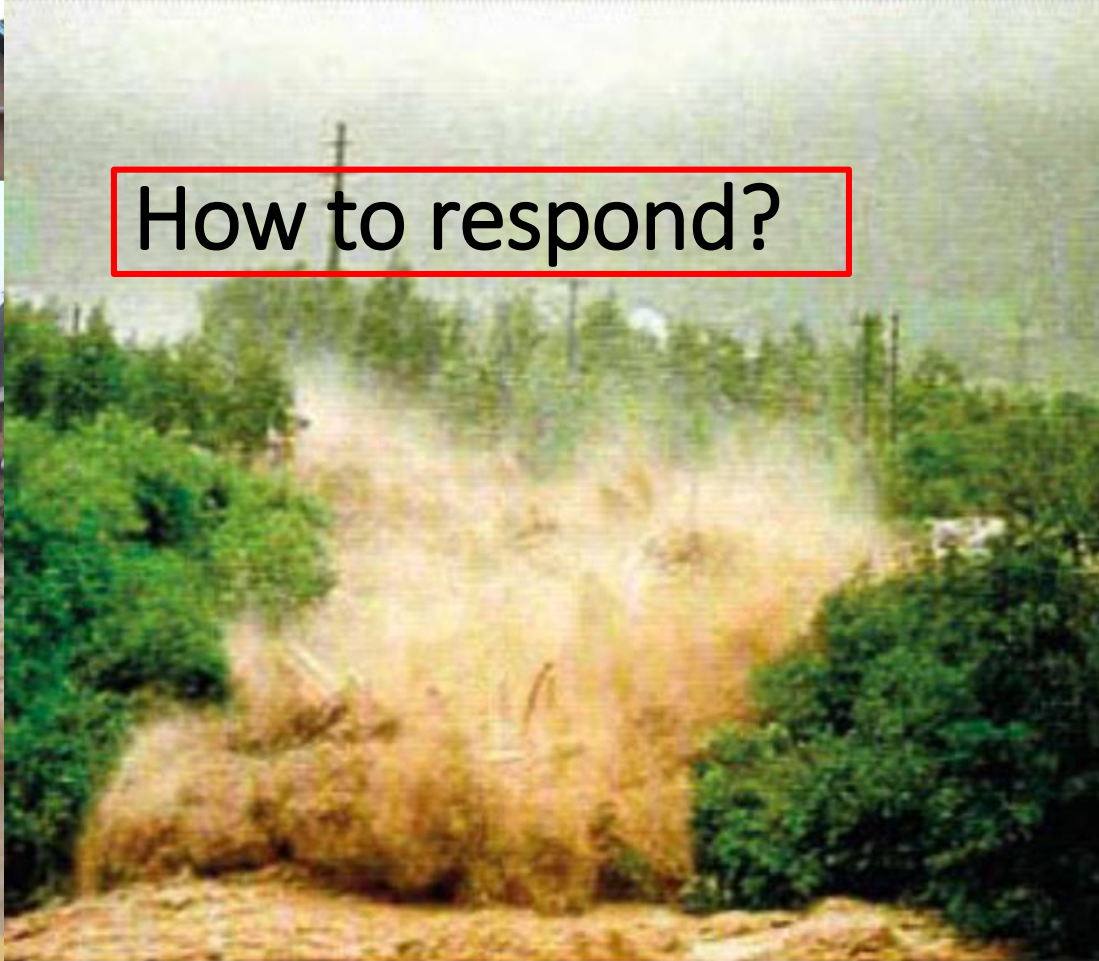


Topic – Understanding Risk

FLOOD



How to respond?



Legal and institutional framework



- Law on Water
- Rulebook on the delineation of sub-basins
- Decision on the determination of water boundaries
- Decision on determining the list of waters of the 1st order
- Rulebook on determining the methodology for the preparation of the preliminary flood risk
- Rulebook on determining the methodology for development of flood hazard maps and flood risk maps
- General plan for flood protection for the period from 2012 to 2018
- Operational Plan for Flood Protection for 2018 (annual)



Authorities

Main institutions responsible for water management / flood risk management, are:

- Ministry for Agriculture, Forestry and Water/
Republic directorate for water,
- Provincial Secretariat for Agriculture,
Water Management and Forestry in Vojvodina
- Competent authorities of local self-government units,
- Public Water Management Companies
``Srbijavode`` and ``Vode Vojvodine``

* Ministry of Interior Affairs – Sector for Emergency situations



МИНИСТАРСТВО
УНУТРАШЊИХ
ПОСЛОВА

Кирилица | Latinica | English | Руски

СЕКТОР ЗА ВАНРЕДНЕ СИТУАЦИЈЕ



EU

Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks / EU Flood Directive

Serbia

Law on Water, Official gazette of Republic of Serbia No 30/10, 93/93 and 101/16
Flood protection is regulated by the Law that regulates proceedings and measures for flood and ice protection, as well as protection from torrents and erosion.



EU Flood Directive

- Preliminary Flood Risk Assessments
- Flood Hazard and Flood Risk maps
- Flood Risk Management Plans
- Coordination with Directive 2000/60/EC

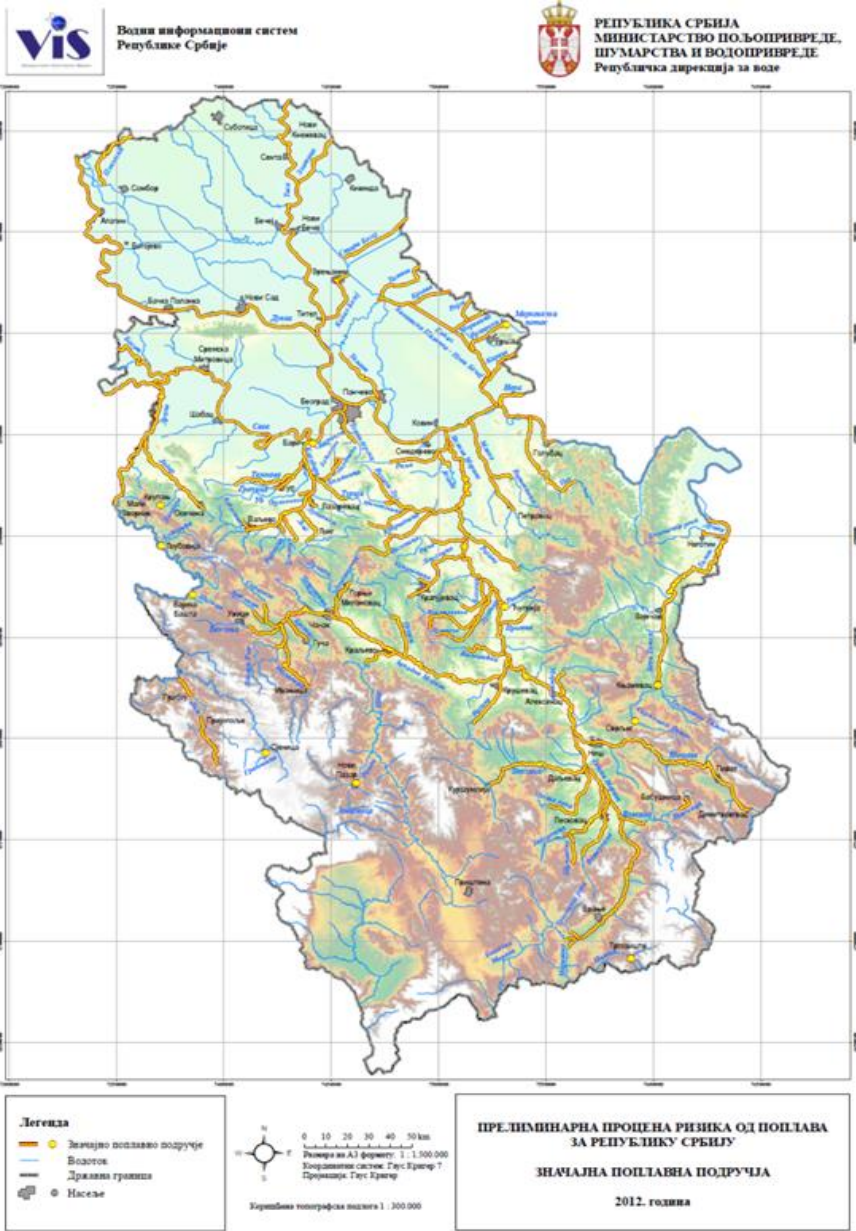
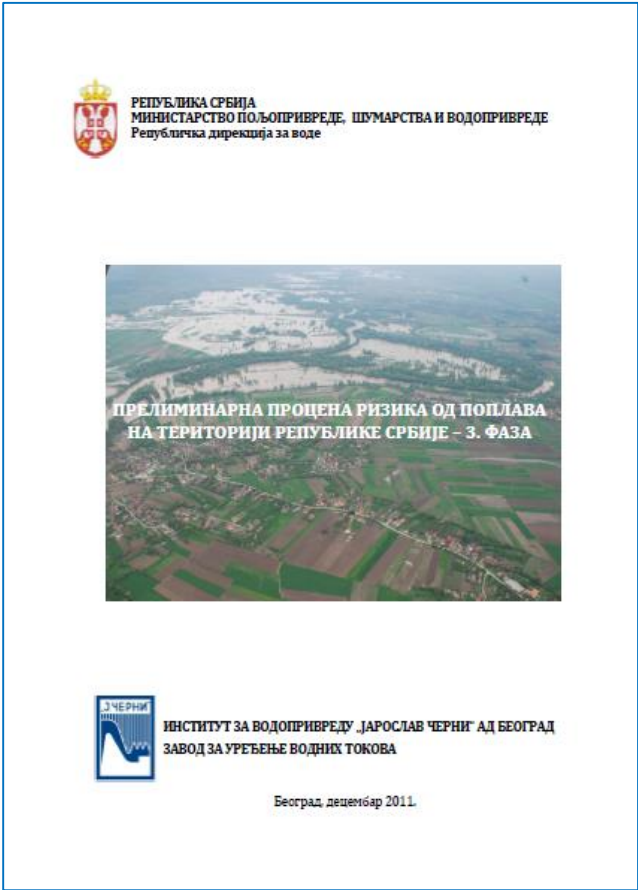
Law on Water

- ✓ Preliminary Flood Risk Assessments, 2012
- ✓ - Different Projects (SoFPAS, IPA 2014..)
- ✓ -Flood Risk Management Plan for territory of Serbia (draft)
- ✓ Determination – management units, water units...



Preliminary Flood Risk Assessments, 2012

Identified
99 APSFR



Табела 4.1. Значајна поплавна подручја за територију Републике Србије

Р. бр.	Водоток	Значајно поплавно подручје	Значајна поплава у периоду 1965-2011.	Могућа будућа поплава	Израђена карта		Водно подручје
					угрожености	ризика	проектат
1	Дунав	од границе са Бугарском до бране ХЕ "Бердап 2"		+			Дунав
2		кроз Голубац и узводно до границе са Мађарском	+	+	+	+	
3	Тимок	целим током	+	+			Дунав
4	Бели Тимок	целим током	+	+			Дунав
5	Трговишки Тимок	од састава са Сврљишким Тимком и узводно кроз Њакевац		+			Дунав
6	Сврљишки Тимок	од састава са Трговишким Тимком и узводно кроз Њакевац		+			Дунав
7		кроз Сврљиг		+			
8	Јасеничка река	од ушћа до и кроз Милошево		+			Дунав
9	Пек	од ушћа до и кроз Волују	+	+			Дунав
10	Млава	од ушћа до и кроз Петровац	+	+			Дунав
11	Витовница	од ушћа до и кроз Аљудово	+	+			Дунав
12	Нера	од ушћа узводно дуж границе са Румунијом		+			Дунав
13	Канал Банатска Паланка - Нови Бечеј (Хе ДТД)	од ушћа до улива Тамиша		+			Дунав
14	Караш	од ушћа до границе са Румунијом		+			Дунав
15	Вршачки канал	целим током		+			Дунав
16	Марковачки поток	од ушћа до бране Великог Среднште		+			Дунав

Flood Hazard Maps & Flood Risk Maps

FHM & FRM are required for all designated APSFR`s

- Rulebook on determining the methodology for development of flood hazard maps and flood risk maps

- In force / 2017 February

FHM development procedure
FRM development procedure

- Different projects : SoFPAS I, Danube Flood Risk (ICPDR),...



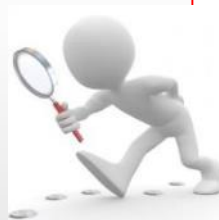
Flood Hazard Maps & Flood Risk Maps

SoFPAS I Map of the Project area

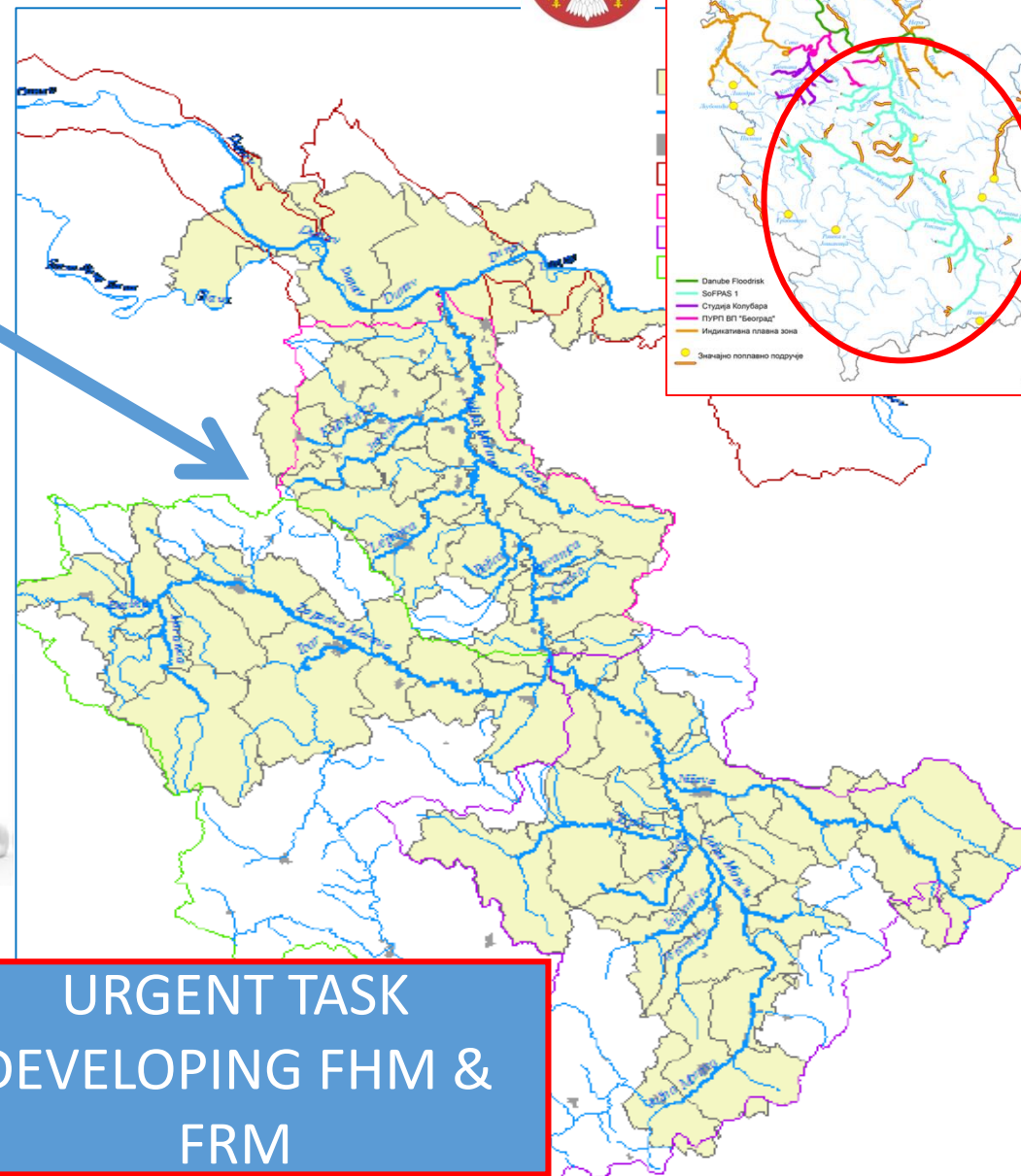
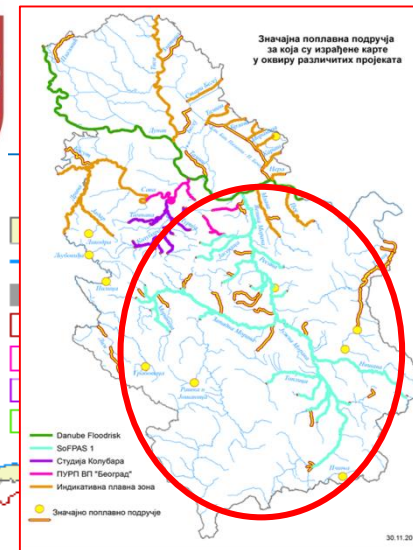
- different source of data
- different formats and data processing level
- data that are non-homogeneous

Recommendations:

- standardization and preparation of spatial planning documents
- development of GIS in institutions
- strengthening cooperation among institutions including data exchange
- involvement of stakeholders in proces



URGENT TASK
DEVELOPING FHM &
FRM



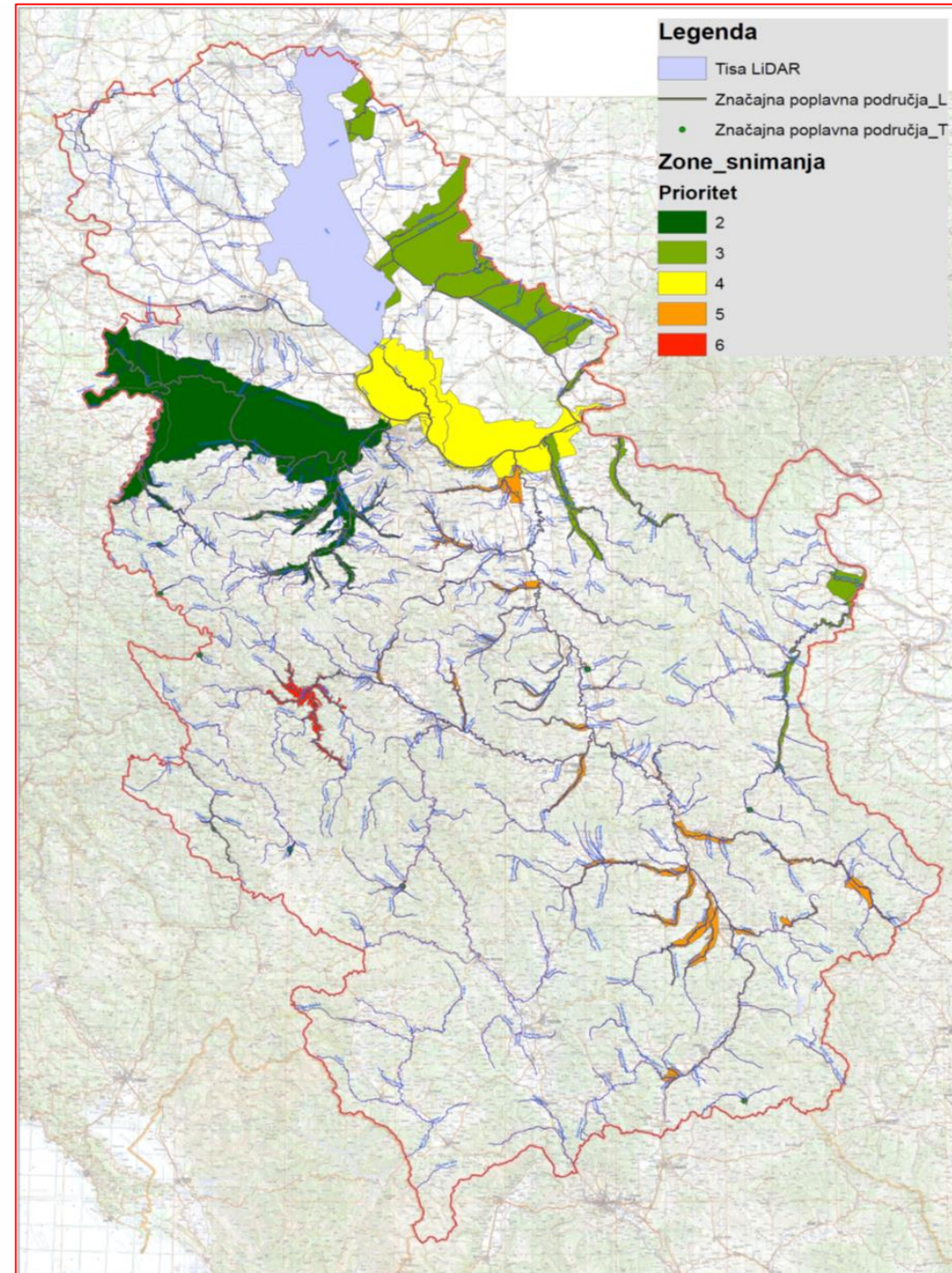
Flood Hazard Maps & Flood Risk maps



IPA 2014-2020

Serbia Flood Recovery Project

- APSFR under consideration in this project including the priority
- data collection
- LiDAR record
- data processing
- DTM
-



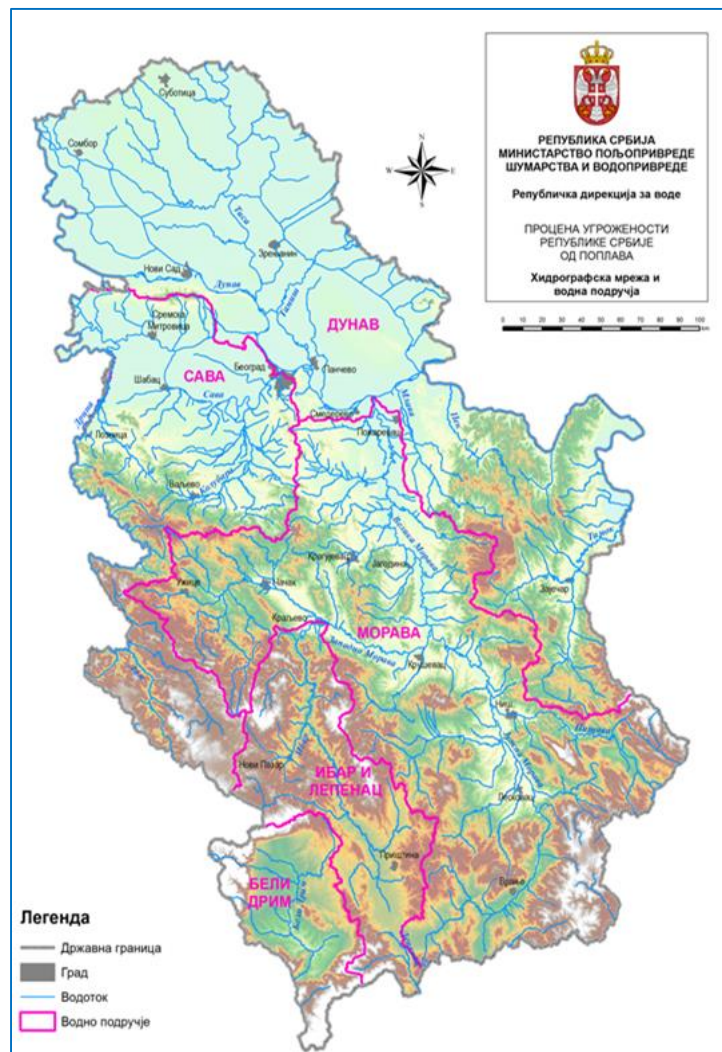
Flood Risk Management Plan

- Flood Risk management Plan for territory of Republic of Serbia
 - Draft version
- On the basis of the maps FRMP for territory of Serbia will establish by RDW
- FRMP for river basin district will establish by PWC



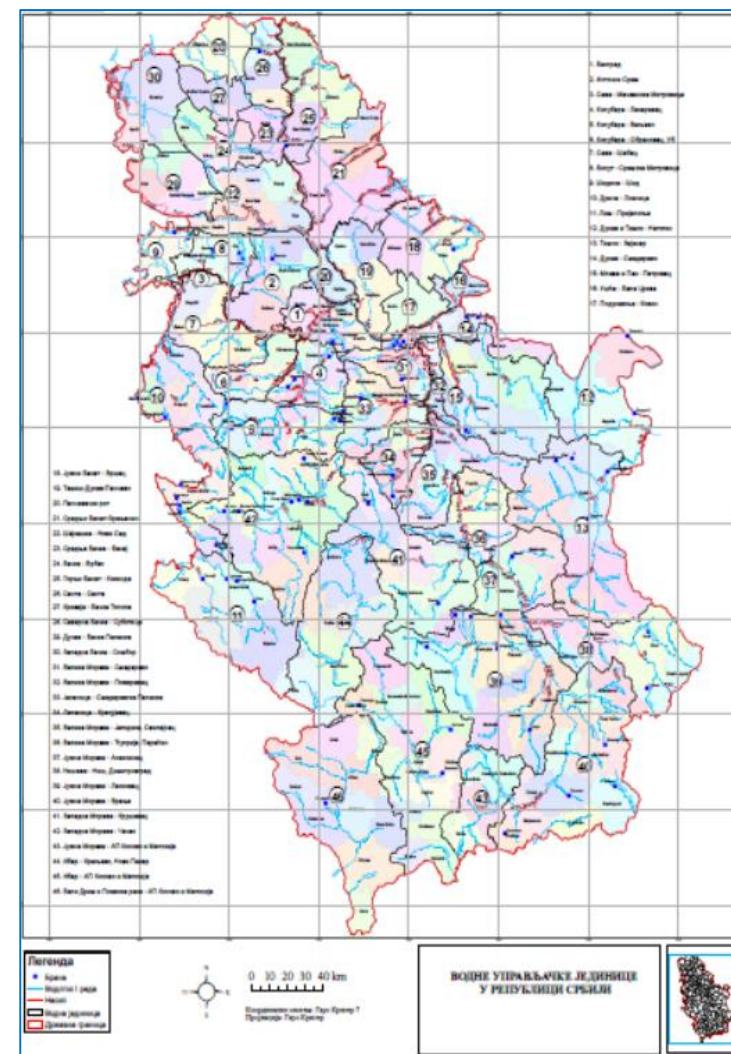
Coordination with EU Directive 2000/60/EC

Identification of River Basin Districts

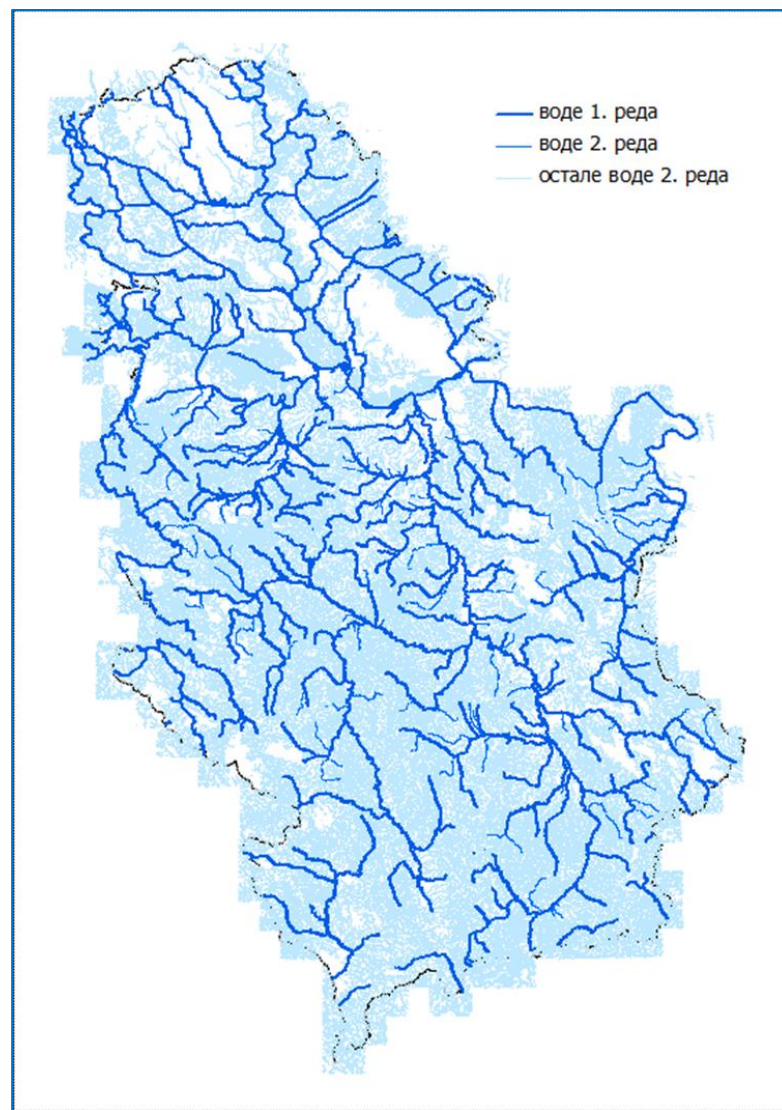


Identification of Units of Management

46 units



River 1st & 2nd order



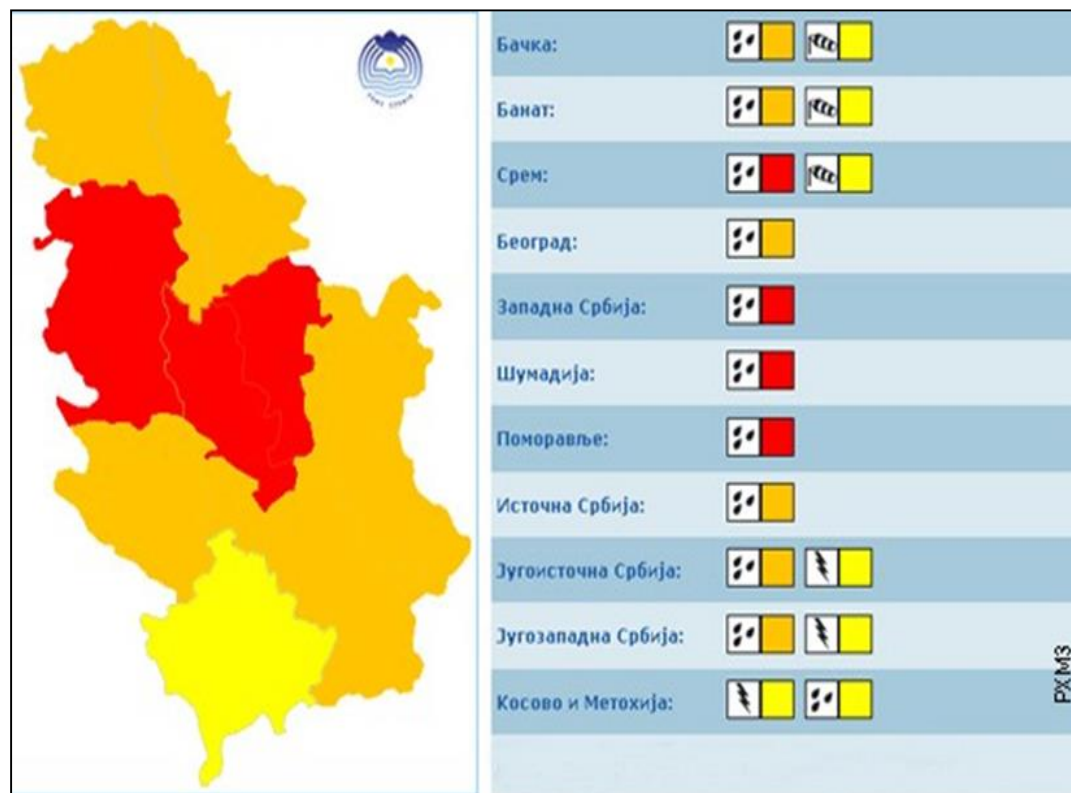
Flood defense facilities



Flood event 2014

Red meteorological alarm on 12th May

RHMSS

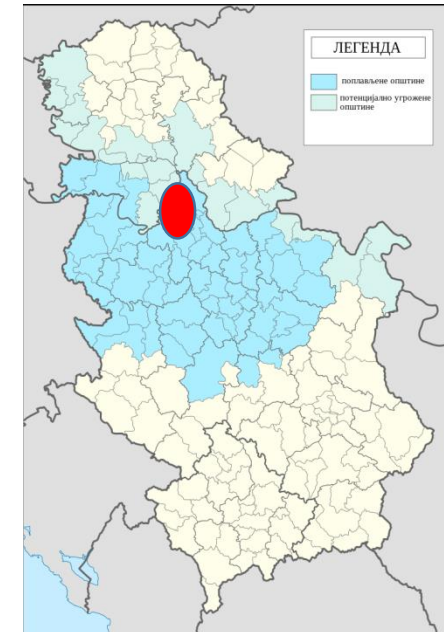


Flood event 2014

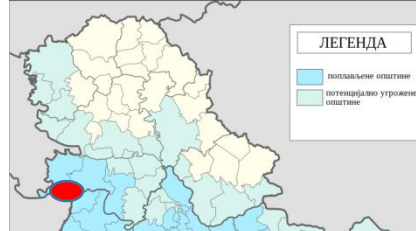
Kolubara river

- ✓ 80% territory of Obrenovac city was flooded
- ✓ Water depth in some parts was 5m
- ✓ Evacuated: 25,000
- ✓ Partially or totally devastated houses: more than 1,000
- ✓ Damage to transport and communications: 17,000,000 €
- ✓ Endangered TPP Nikola Tesla (the largest in Serbia, installed power 1.650 MW)

Marina Babic Mladenovic, 2014 Presentation ICPDR



Flood event 2014



Sava river
Sremska Mitrovica
Jamena village



Flood event 2014



Reasava river
Svilajnac city



Krupanj / Likodra river



Šabac /Sava river





www.minpolj.gov.rs
www.rdvode.gov.rs
vodoprivreda@minpolj.gov.rs

Instrument =
symbol for the EU FD implementation in Serbia



André Rieu and
Johan Strauss Orchestra

Thank you

