

Implementing monitoring programmes in the Sava River Basin

**Expert Meeting on Monitoring, Assessment and Data Exchange
13 – 14 April 2022, Geneva (CH)**

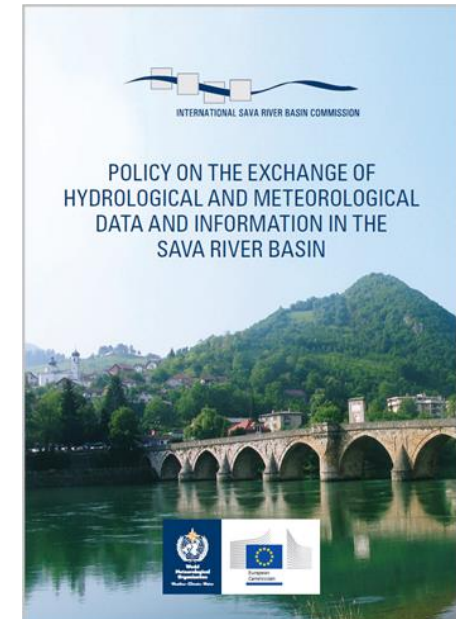
Samo Grošelj,
International Sava River Basin Commission

Legal background

- **Framework Agreement on the Sava River Basin (FASRB)**
 - Signed by SI, HR, BA and RS (entered in force in 2005)
 - ISRBC its implementation body
- **FASRB: Article 4: Exchange of Data and Information**
 - the Parties shall, on a regular basis, exchange information on the water regime of the SRB and
- **Protocols to the FASRB**

PROTOCOLS to the FASRB	Signed	In force
Protocol on the Navigation Regime	December 3, 2002, Kranjska Gora	Dec. 29, 2004
Protocol on Prevention of the Water Pollution caused by Navigation	June 1, 2009, Beograd	Oct. 08, 2017
Protocol on Flood Protection	June 1, 2010, Gradiška,	Nov. 27, 2015
Protocol on Sediment Management	July 6, 2015, Brčko	Oct. 08, 2017

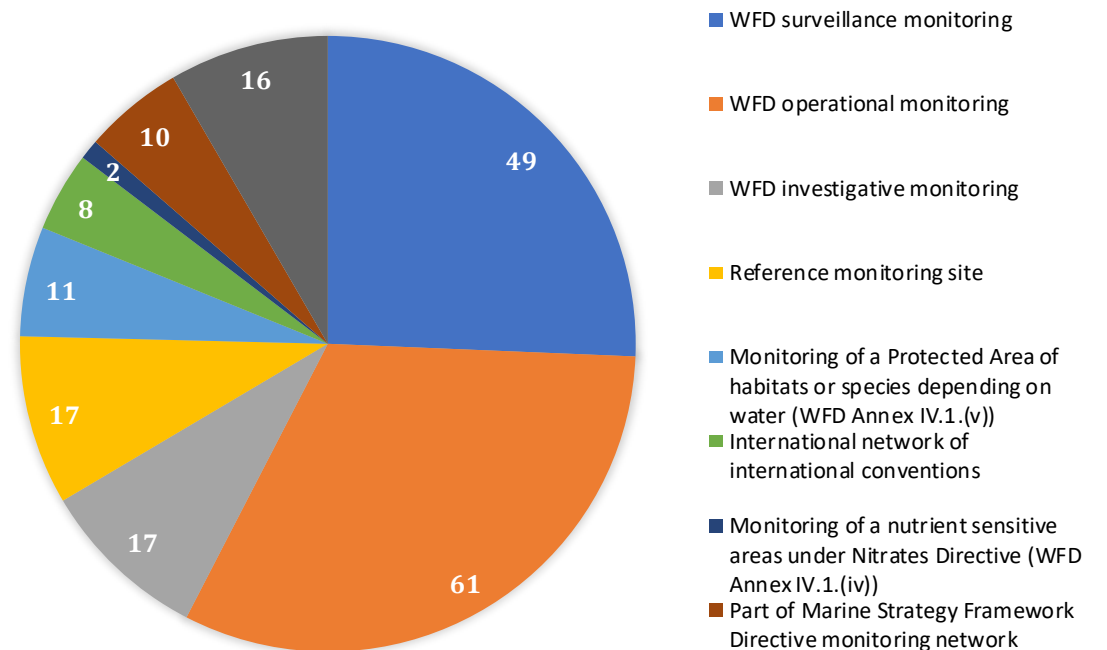
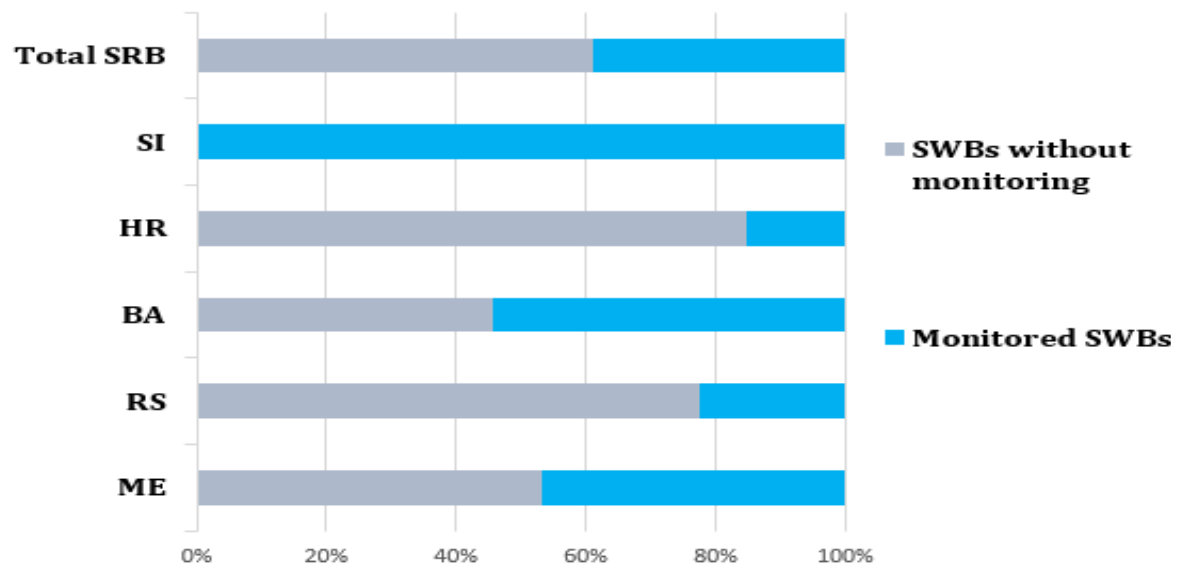
- **Policy of exchange of HM data and information** (signed by HMIs)

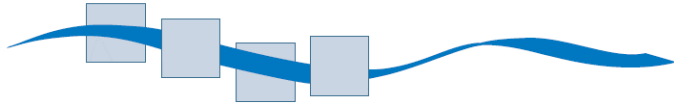


Data and information exchange (water quality)

➤ National monitoring networks

- Executed by national authorities according to national annual/multiannual monitoring programmes
- Surface waters: 127 monitoring sites on 123 surface water bodies



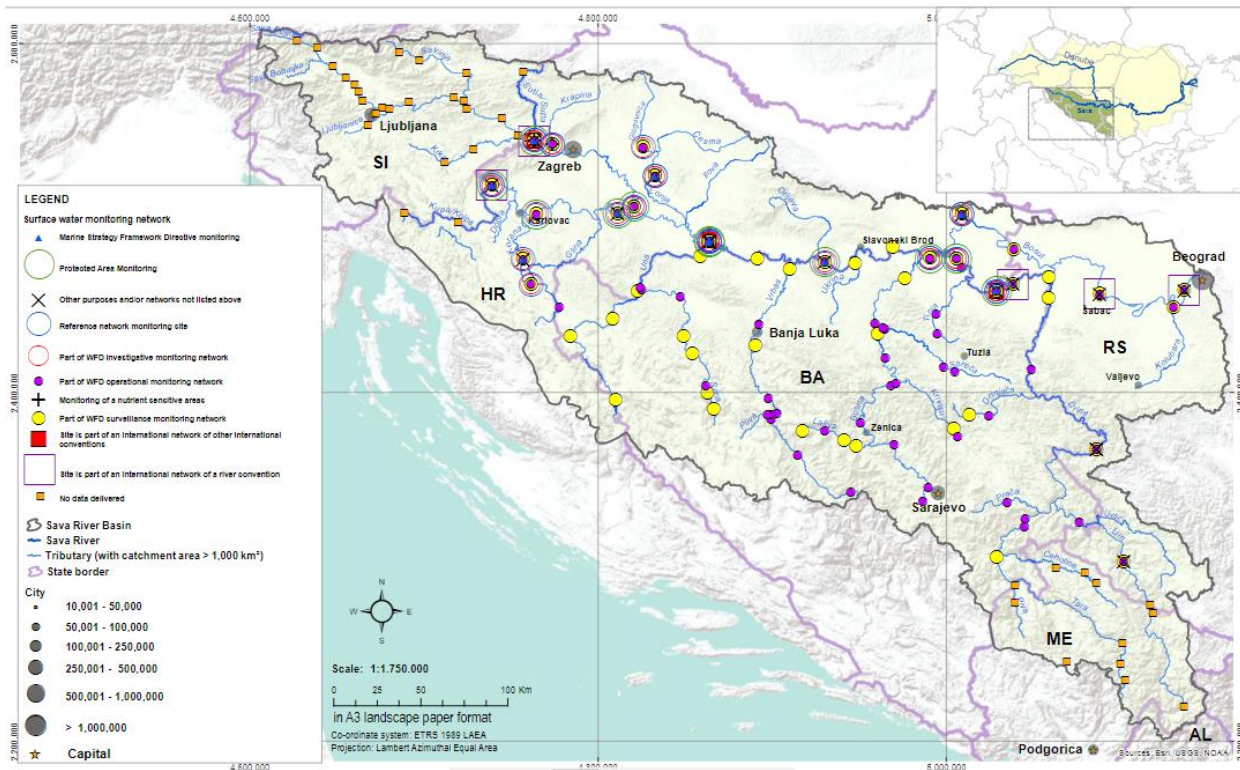


INTERNATIONAL SAVA RIVER BASIN COMMISSION

Data and information exchange (water quality)

➤ Trans-National Monitoring Network (TNMN)

- Functioning since 1996
- Data regularly gathered by the Danube/Sava countries and merged at Central Point at SlovakHMI
- TMNM Yearbooks are available at the [ICPDR website](http://www.icpdr.org)

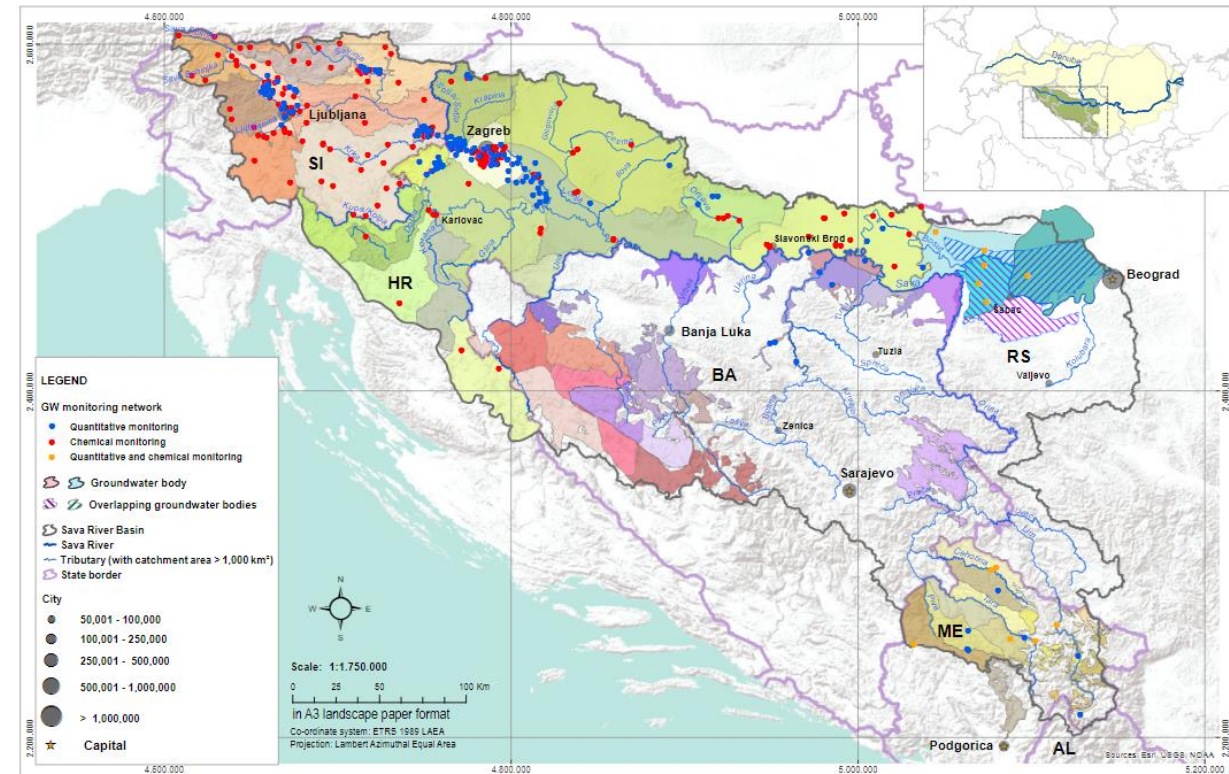
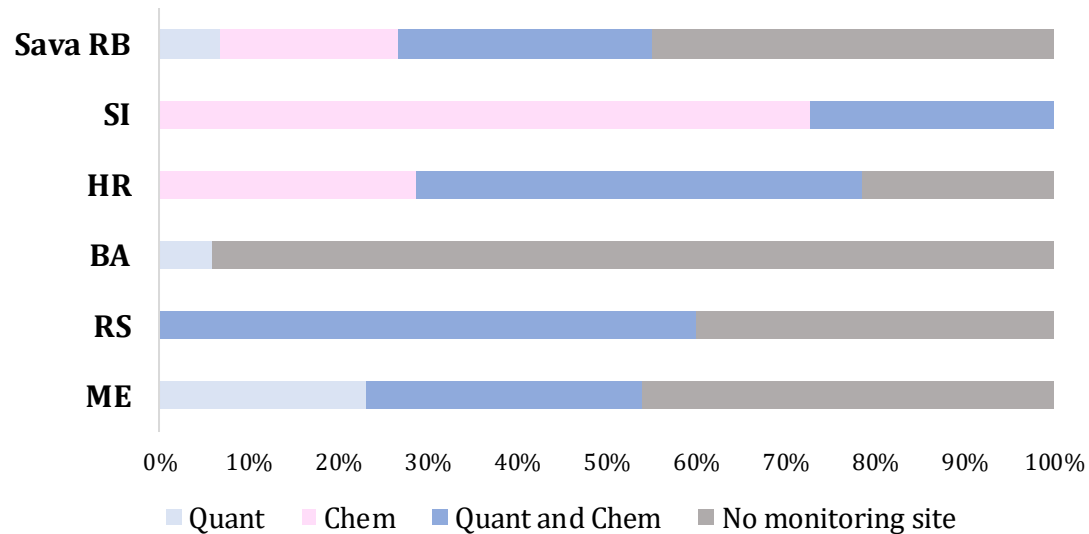


Country	River	Town/Location	TNM N Code	Distance (km)	Altitude (m)	Catchment (km ²)	DEFF Code	Loc. Profile
SI	Sava	Jesenice	SI2	729	135	10878	L1330	R
HR	Sava	Jesenice	HR6	729	135	10834	L1220	LR
HR	Sava	Upstream Jasenovac	HR7	525	87	30953	L1150	L
BA	Sava	Gradiška	BA5	457	86	39150		M
HR	Sava	Račinovci**	HR8	254	85	62890	L1060	LMR
HR	Sava	**	HR12	218	78	65638		L
RS	Sava	Jamena	RS13	195	78	64073	L2470	L
BA	Sava	Rača	BA11	190	80	64125		M
RS	Sava	Sremska Mitrovica*	RS14	136	75	87996	L2480	L
RS	Sava	Šabac	RS15	104	74	89490	L2490	R
BA	Sava	Rača	BA11	190	80	64125		M
RS	Sava	Ostružnica	RS16	17	0	37320	L2500	R
BA	Una	Kozarska Dubica	BA6	16	94	9130		M
BA	Una	Novi Grad	BA12	70	137	4573		M
BA	Vrbas	Razboj	BA7	12	100	6023		M
BA	Bosna	Modriča	BA8	24	99	10500		M
BA	Bosna	Usora	BA13	78	148	7313		M
BA	Drina	Foča	BA9	234	442	3884		M
BA	Drina	Pavlovića most	BA10	16	90	19226		M
ME	Lim	Gradac/HS	ME 1					
ME	Čehotina	Dobrakovo/HS	ME 2					

Data and information exchange (water quality)

➤ National monitoring networks

- Executed by national authorities according to national annual/multiannual monitoring programmes
- Groundwaters: out of 60 GWBs 55% covered by monitoring programme

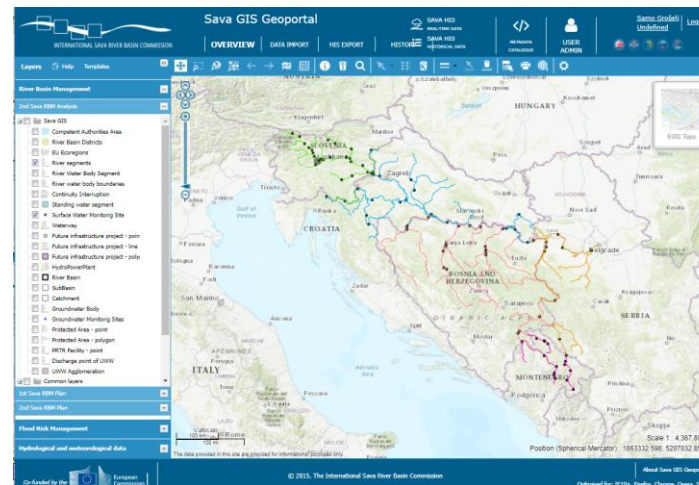
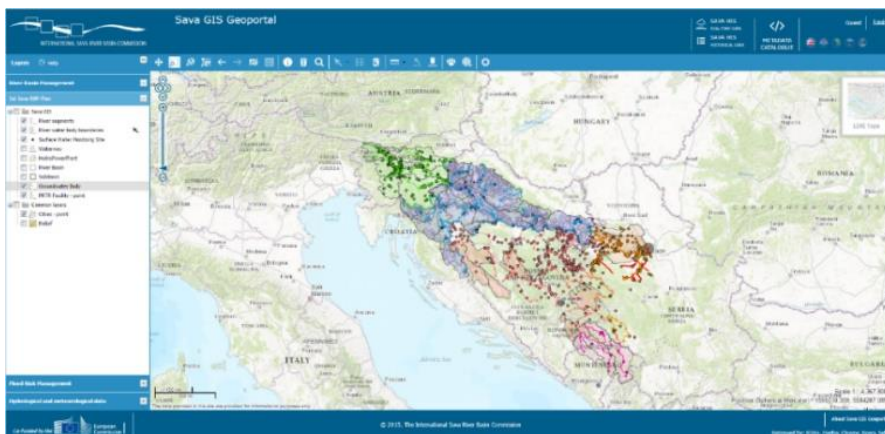


Data and information exchange

➤ Sava GIS (www.savagis.org)

- System fully operational.
- Following modules established
 - River basin management: 1st Sava RBMP, 2nd Sava RB Analysis, 2nd Sava RBMP- for internal use
 - Flood management: 1st Sava PFRA report, 1st Sava FRMP available.
 - Accident prevention and control
 - Navigation

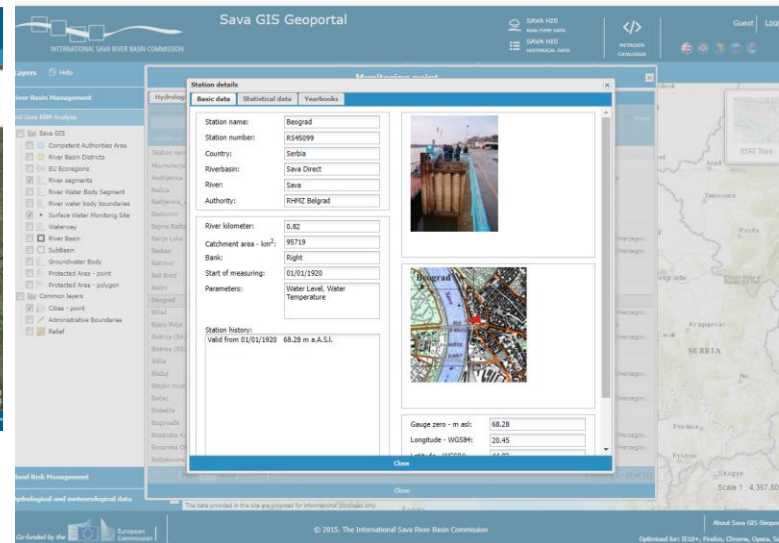
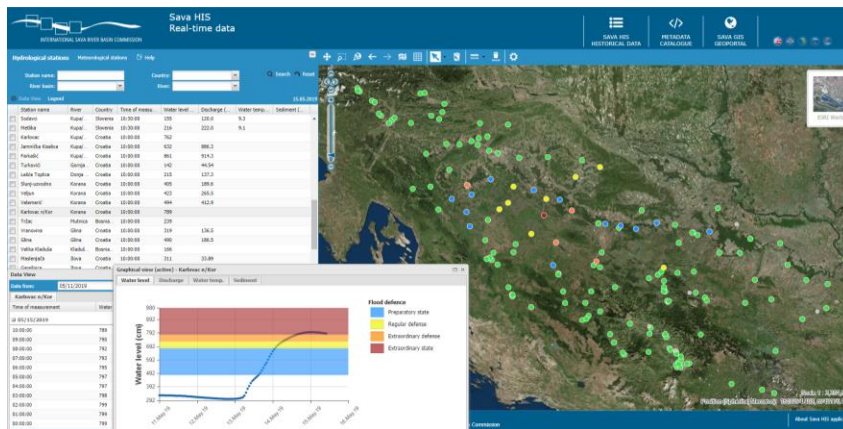
} *will be established within WACOM project*



Data and information exchange (water quantity)

➤ Sava HIS (www.savahis.org)

- System fully operational with about 1200 users per year
- Information (real-time and processed historical data) from more than 300 hydrological and 200 meteorological stations available online
- Sava HIS as Data hub for Sava Flood Forecasting and Warning System (FFWS) and for WACOM
- Historical HM data are also available in Hydrological Yearbooks (*from year 2000 up to 2018*)



Parameter	Temporal Resolution (Statistic)	Units	
P1	Water Stage	Daily (Mean)	cm
P2	River Discharge	Daily (Mean)	m ³ s ⁻¹
P3	Water Temperature	Daily (Mean)	°C
P4	Suspended Sediment Discharge	Daily (Mean)	kg s ⁻¹
P5	Precipitation	Daily (Total)	mm
P6	Air Temperature	Daily (Mean)	°C
P7	Water Stage	Current Stage	cm
P8	River Discharge	Current Discharge	m ³ s ⁻¹
P9	Water Temperature	Current Temperature	°C

Data and information exchange (future steps)

- **Sava - Drina River Corridor integrated development programme** (supported by World Bank)
 - High-level objective:
 - to facilitate integrated transboundary water resources management and development along the Sava and Drina River Corridors.
 - Two phases process over 10 years planning
 - Phase I: to improve flood protection, inland waterway freight transport, and enhance transboundary water cooperation
 - Phase II: to further strengthen regional integration and connectivity

