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## Regional Roundtable
## "Water, Food, Energy and Environment Nexus in Southeastern Europe"

## Zagreb, Croatia
## 9-10 December 2014

# Experiences from The Sava River Basin NEXUS Assessment


by

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International Sava River Basin Commission


In the framework of:

**South East Europe 2020 Strategy**

**Petersberg Phase II / Athens Declaration Process**

**UNECE Water Convention**

**Mediterranean Component of the European Union Water Initiative**

**Environment and Security Initiative, SEE Region**

ENVSEC Environment & Security


with funding from Austrian Development Cooperation


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# Overview

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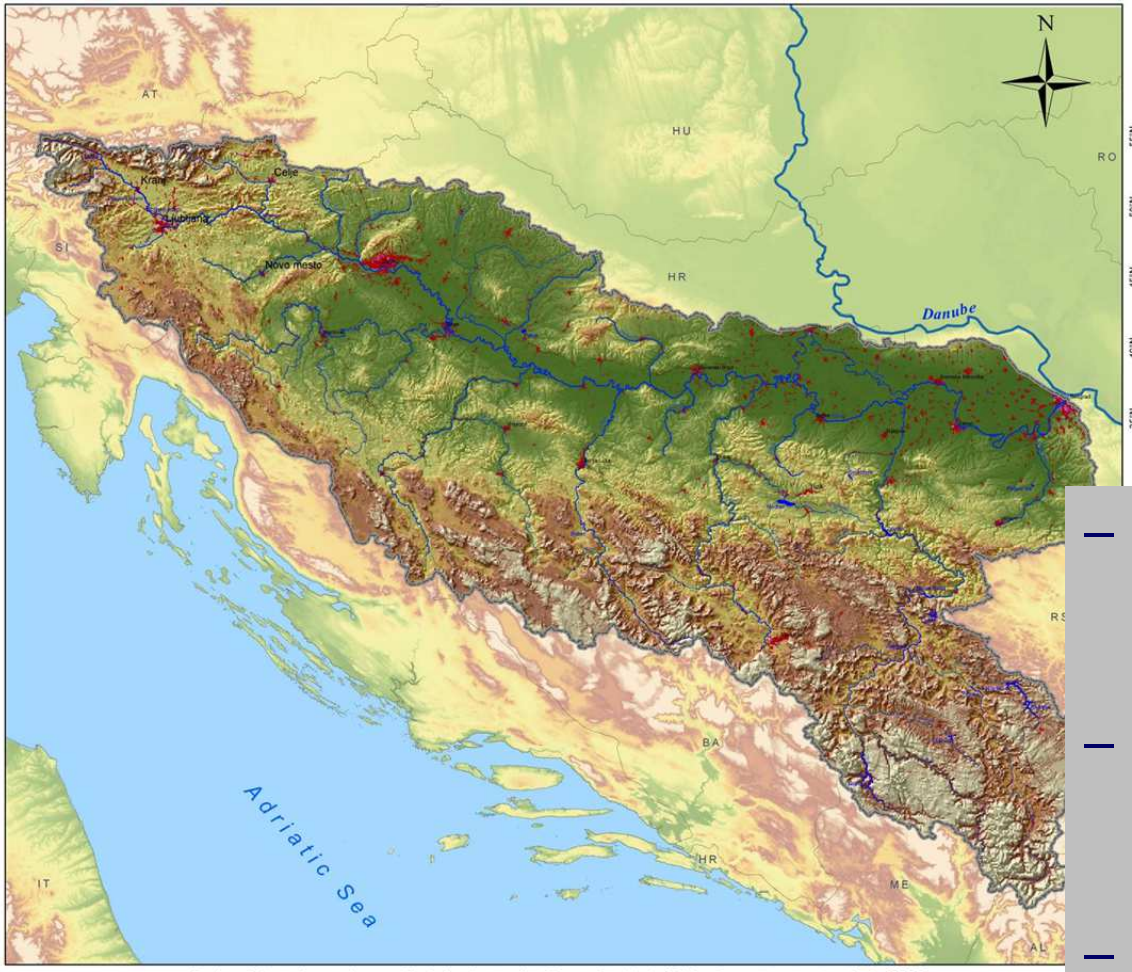
- Sava river basin
- Sava nexus assessment (Objectives/expectations)
- Emerging issues
- Potential solutions
- Ongoing activities
- Challenges
- Further activities
- Recommendations




## Sava River Basin overview map


- **Area:** 97 713 km$^2$ (the second largest Danube sub-basin; share: 12%)
- **Average flow** at mouth: 1722 m$^3$/s (the largest Danube tributary; contribution: 25%)
- **River length:** 940 km (594 km of which is the waterway)
- **Population:** approx. 8.5 million

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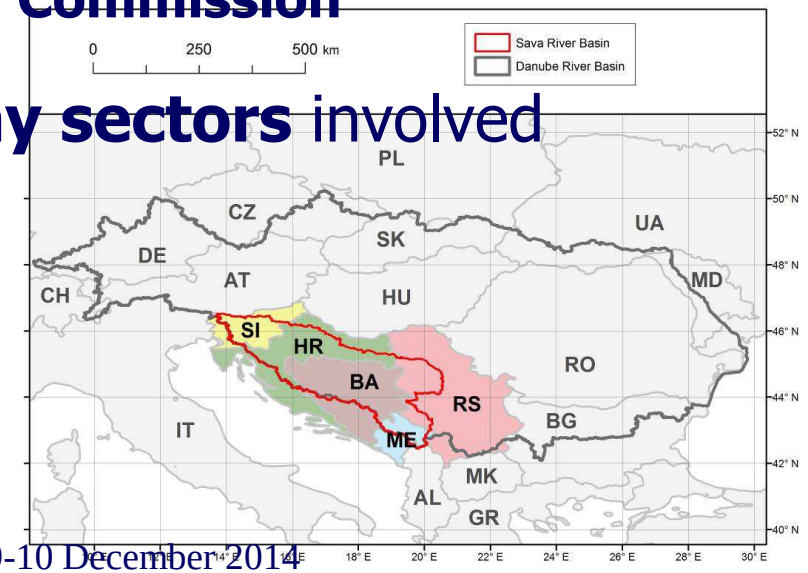
# Sava river basin

- **Challenges**
  - **Use of resources:** development and protection
  - **Management of resources:** national → transboundary
- **Legal and institutional framework** for cooperation
  - **Framework Agreement** on the Sava River Basin
  - **International Sava River Basin Commission**
- **Broad scope** of work → **Many sectors** involved



# Sava nexus assessment

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- **Objectives/expectations** – to contribute to:
  - **Dialogue** with sectoral stakeholders
  - **Integration** of policies
  - Inter-sectoral **coordination**
  - **RBM planning**




# Introductory workshop

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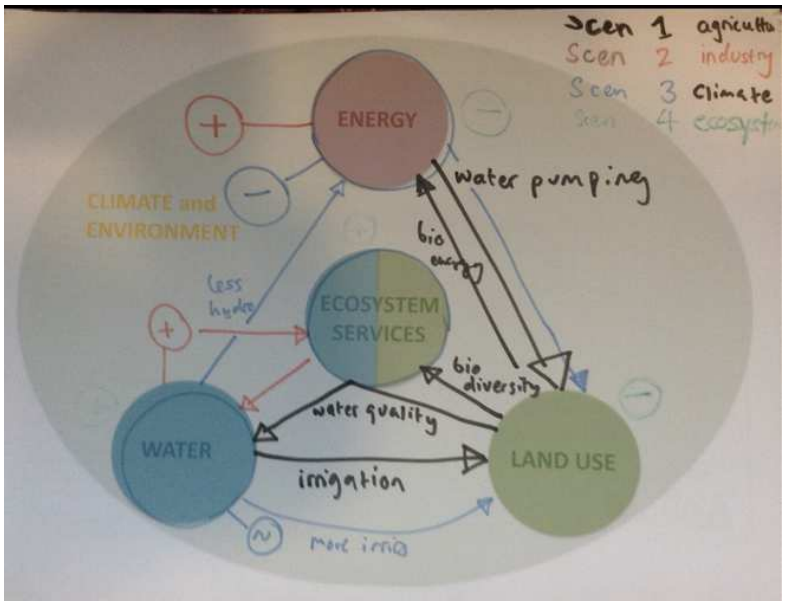
- **Development plans** and **sectoral goals** shared (national & basin level)
- Key **intersectoral linkages** identified (future development of sectors; climate change)
- **Scenarios** discussed
  - **Hydropower** development
  - **Agriculture** expansion
  - **Climate change**



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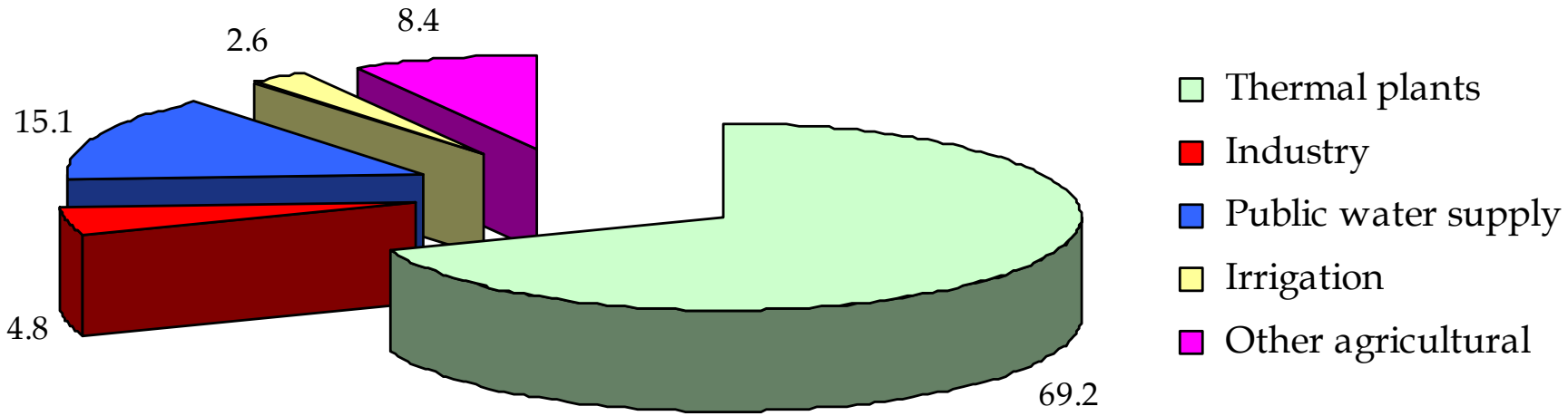
# Emerging issues

- **Hydropower expansion** upstream and on tributaries
- Need for **flood protection measures** and related transboundary coordination


# Emerging issues

- **Agricultural land expansion** (irrigated)
- **Dependence on energy production**
  from thermal power plants (using water for cooling)



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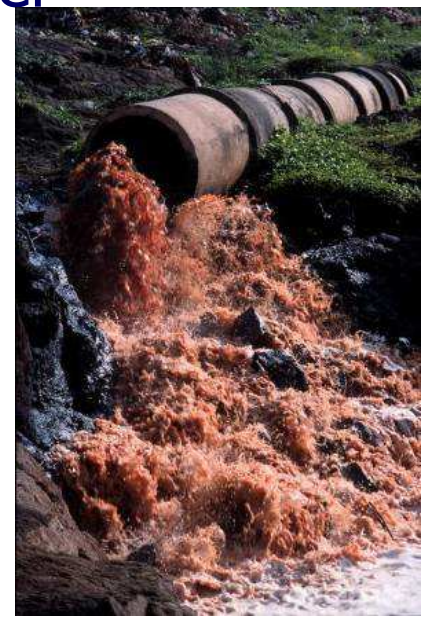
# Emerging issues

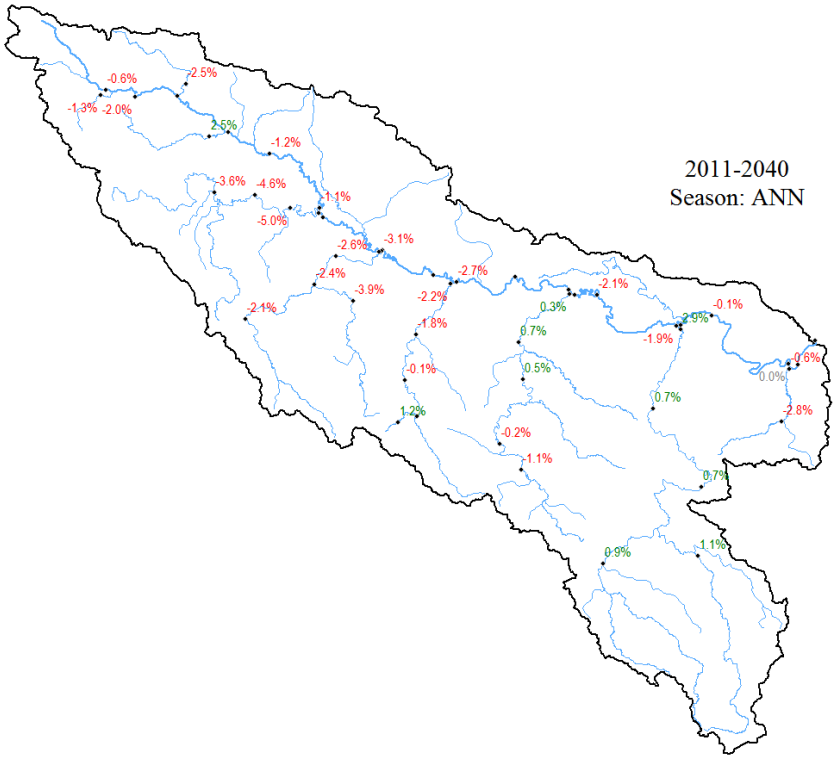
- **Point source pollution** (lack of wastewater treatment) and **diffuse pollution** (from agriculture, in particular)
- **Sedimentation and erosion** (depending on land use and practices)
- **Hydromorphologic alterations** of the river
- **Pressure on groundwater** (increasing)

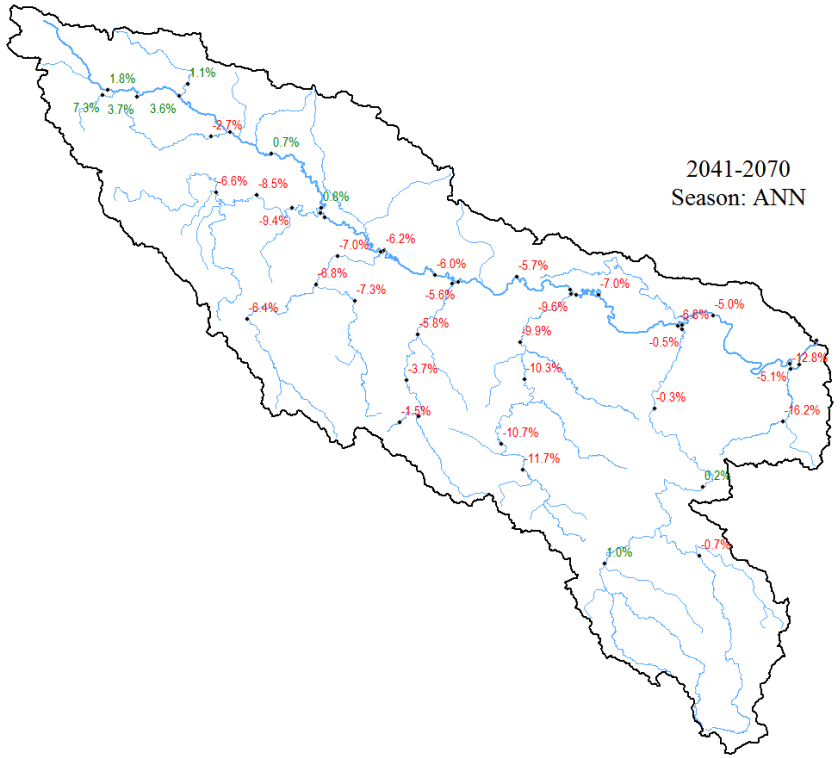


# Emerging issues

- **Climate change** (*Water & Climate Adaptation Plan for SRB*)

(mean flow reduction; increase in frequency of extreme events)



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# Potential solutions

- **Multipurpose** use of the existing and planned **infrastructure** (including dams) across countries (example from Croatia and Slovenia)
- **Navigation & sediment control** at the basin level
- Targeting **energy efficiency** (proposal from Energy Community)
- Further **integration of the energy and agriculture sectors** in the RBM planning and implementation process

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# Potential solutions

- Improvement of **flood protection infrastructure** and **flood management** (e.g. operation of reservoirs and dams)
- **Economically valuing ecosystems** (proposal from WWF)
- **Drought resilience** – water management and in particular demand for cooling water in power plants
- Development of **renewable solutions** to supply local demand (solar and wind integrated with hydropower)

# Ongoing activities

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| No | Activity | Activity holder | Outcome |
|---|---|---|---|
| **0** | **Development of methodology** | KTH | Methodology of Nexus assessment |
| **1** | **Data collection** | | |
| | Analysis of data needs | KTH, JRC | List of data needs |
| | Analysis of data existence | National facilitators | List of existing data |
| | Consultation of data availability | Countries experts | List of available data |
| | Provision of available data | Countries | |
| **2** | **Modeling, analysis** | KTH, JRC | Draft Nexus Report<br>Hydro-economical models |

# Challenges (data collection)

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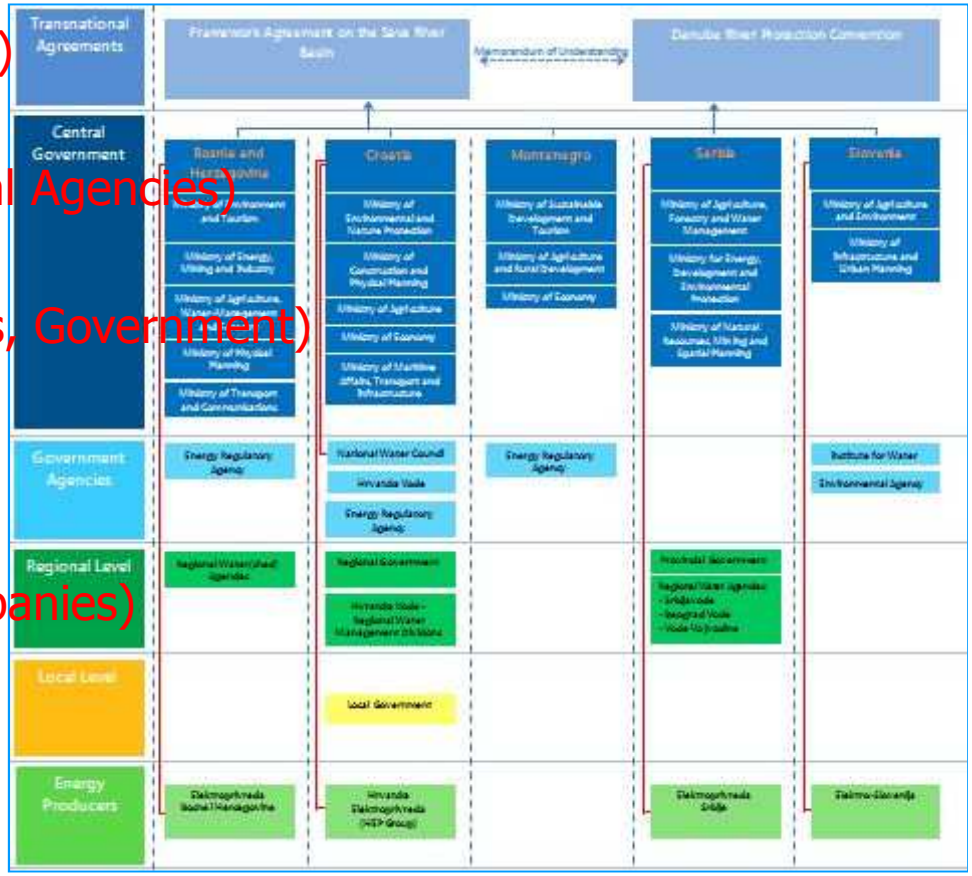
- **Considerable amount of data** needed
- Data owned by **many institutions**
- **Different level of the data availability** in the countries
- Difference between **data existance** and **data availability**
- Data collection is **not an easy process**
- **Consultation** with national experts

# Challenges (Institutions considered)

- Transnational agreements
  (FASRB, Danube River Protection Convention)
- Central Government (Ministries)
- Government agencies (National Agencies)
- Regional level (Regional Agencies, Government)
- Local level (Government)
- Energy producers (Electro Companies)



# Future activities - proposed

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| No | Activity | Activity holder | Outcome |
|---|---|---|---|
| **3** | **Consultation on Draft Nexus Report** | | |
| | Consultation on ISRBC web- site | Countries' experts | Comments submitted |
| | Final consultation workshop | Countries' experts | Agreement on the stakeholders' input for finalization of the Report |
| **4** | **Finalization of the NEXUS Report** | KTH (JRC) | |
| **5** | **Review and endorsement** | Nexus Task Force *(April 2015)* | |

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# Recommendations

- **Templates for data collection**
  - Keep them as simple as possible
  - Make clear what the data will be used for
- **National 'facilitators'**: give them a more important role in the process (more responsibility, more time)
- **Plan a consultation meeting** on the data to be used for the assessment (moderate costs, considerable benefit)
- **Plan an additional workshop** at the end of the consultation process on the draft assessment report (best feedback of the countries, best outcome of the assessment)

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# Contact information


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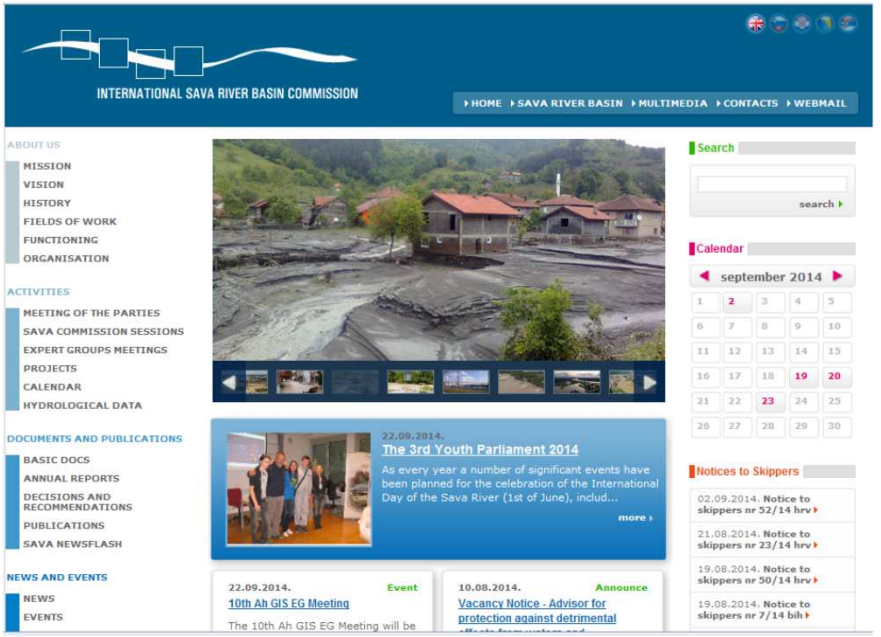


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