
APELE ROMANE
National Administration
BUCHAREST - 2014
www.rowater.ro

Romania – general information

- Location: S-E Europe
- Surface: 238,391 skm
- Population : 21.5 millions
- Administrative division: 41 counties and Bucharest municipality
- Relief: 31 % mountains, 36 % hills and plateaus and 33% plains
- Land use: 61.7% agricultural land, 28.2 % forests, 3.6 % waters and ponds

97.8 % of Romania surface is in the Danube river basin

30% of Danube river basin is in Romania

Reference points of the activity

Legal framework	Water management concept	Administrative framework
•1924 – first Water Law	•1924 – 1974 – *Quantitative management*	•1956 - State Water Committee ⇒ the River Basin Management principle has been applied
1974 – Water Law •1996 – Water Law	•1974 – 2000 - *Quantitative and qualitative water management*	•1956-1989 – Ministry (State Water Committee; National Water Council)
		•1990 - 2005 – "Apele Romane" (National Authority, National Company)
•2004, 2006, 2010 – Water Law modified and completed	•2000 - *Sustainable water management - quantitative and qualitative control for water and healthy ecosystems*	•Since 2005 – National Administration "Apele Romane" (Public institution)

MAIN ACTORS IN WATER FIELD

1st Level	2nd Level	3rd Level
Ministry of Environment and Climate Change	National Administration Romanian Water	End Users
Department of Water Forestry and Fisheries		
Policies and Strategies in water field (national and international)	Implementation of policies and strategies	Operators in water field -Public authorities -Commercial companies -Administrations

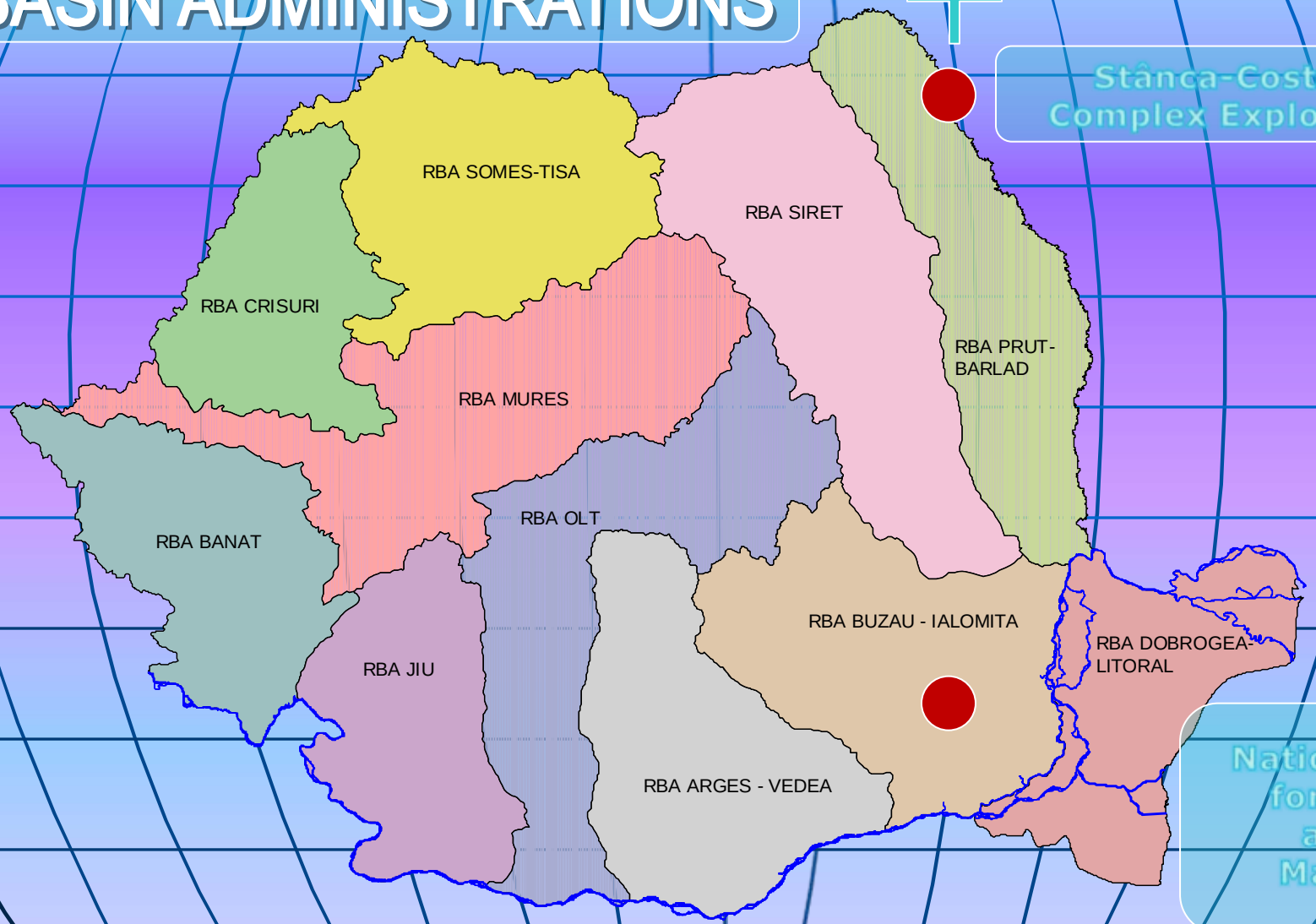
Romanian Waters

- Legal:
  - Institution of national public interest
  - Under coordination of the Ministry of Environment and Climate Changes

- **Administrative:**
  - Headquarter
  - 11 River Basin Administrations
    - Water Management Systems
  - National Institute of Hydrology and Water Management
  - Stânca-Costeşti Complex Hydrotechnical Works Management

- **Technical :**
  - **Strategic Departments:**
    - River Basin Management Plans
    - Development and Investments
  - **Operative Departments:**
    - Water Resources Management
    - Hydraulic Works Management
    - Emergency Situations

11 BASIN ADMINISTRATIONS



Stânca-Costești Complex Exploitation

National Institute for Hydrology and Water Management

OPERATED PATRIMONY

- 78,905 km watercourses
- 122 natural lakes
- 324 permanent reservoirs
- 11,151 km dikes for cities, villages, land protection
- 21,000 km of river bank stabilization and regulation works
- The patrimony value is 5.542.951.166 EURO

Responsibilities

A) IMPLEMENTING POLICIES AND STRATEGIES OF WATER MANAGEMENT AT NATIONAL LEVEL:

- Management of water resources in the Danube river basin and its tributaries;
- Management of the water management infrastructure;
- Coordination and operation of water infrastructure at national and basin level;
- Management of flood protection;
- Implementation of 60/2000/CE, 60/2007 and other EU Directives in water field;
- Implementation of the development programms of flood management infrastructure.

B) APPLICATION OF POLICIES AND STRATEGIES OF WATER MANAGEMENT AT DANUBE BASIN LEVEL:

- Implementation of 60/2000/CE, 60/2007 and other EU Directives in water field;
- Reports elaboration to European Commission regarding implementation mode of the directives;
- Participation at water management agreement implementation with neighboring countries

WATER MANAGEMENT RESOURCES

Principles:

1. Water is a finite and vulnerable resource
2. Water is a resource of strategic interest
3. Water creates an economic value
4. Water is not a commercial product
5. Water management organized in each river basin
6. Sustainable development (quantity, quality, ecosystem)
7. Basin solidarity
8. Water resources free access
9. Beneficiary pays
10. Polluter pays

Policies:

- ADMINISTRATION: knowledge, sustainable development and use of water resources
- MANAGEMENT AND DEVELOPMENT of the national water management system infrastructure
- FINANCIAL: implementation of the economic mechanism for costs recovery
- INSTITUTIONAL: collaboration with all state institutions and water users
- INTEGRATION: implementation of European Union directives
- PARTICIPATION: River Basin Committees and public information
- HUMAN RESOURCES: assuring and training the staff
- DECENTRALIZATION: strengthening the authority at basin and local level

Main objectives

- Permanent knowledge of water resources
- Conservation and protection of water resources
- Assurance, allocation and optimal use of water resources
- Protection and improvement of water quality
- Water management infrastructure operation
- Coordination of actions and measures in water management field
- Prevention and defense against destructive action of water and accidental pollution;
- Achievement and updating River Basin Management Plans;
- Developing and updating basin development schemes;
- Completing and adapting the institutional and legislative frame at European Union requirements;
- Strengthening collaboration and international cooperation;
- Public awareness and participation

ROMANIAN WATER RESOURCES

- Romania is relatively poor in water resources, the available resource being of 40 billions m^3 and 1700 m^3/inh/year
- High variability in space
  - mountain area is very important for runoff formation
  - 50% out of the total water resources are formed on 17% out of the total Romanian surface
  - specific discharge is:
    - less than 1 l/s.km^2 in Romanian Plain, Dobrogea, Timis and Arad plains
    - 40 l/s/km^2 in the high area of Fagaras and Retezat mountains
- High variability during the year
  - important floods in spring, beginning of summer, succeed by long drought:
  - high torrential regime
  - Qmin/Qmax------1/1000 – 1/2000

- Romania has a theoretical yearly water potential of about 134 x 10^3 millions m^3 (multi-yearly average stock) of which:
  - 40 x 10^3 mn. m^3 from the inner rivers;
  - 85 x 10^3 mn. m^3 from Danube river ;
  - 9 x 10^3 mn. m^3 from ground water.

- The amount of technical resource that can be used is about 61 x 10^3 millions m^3 per year, some 1700 m^3 per year and inhabitant.

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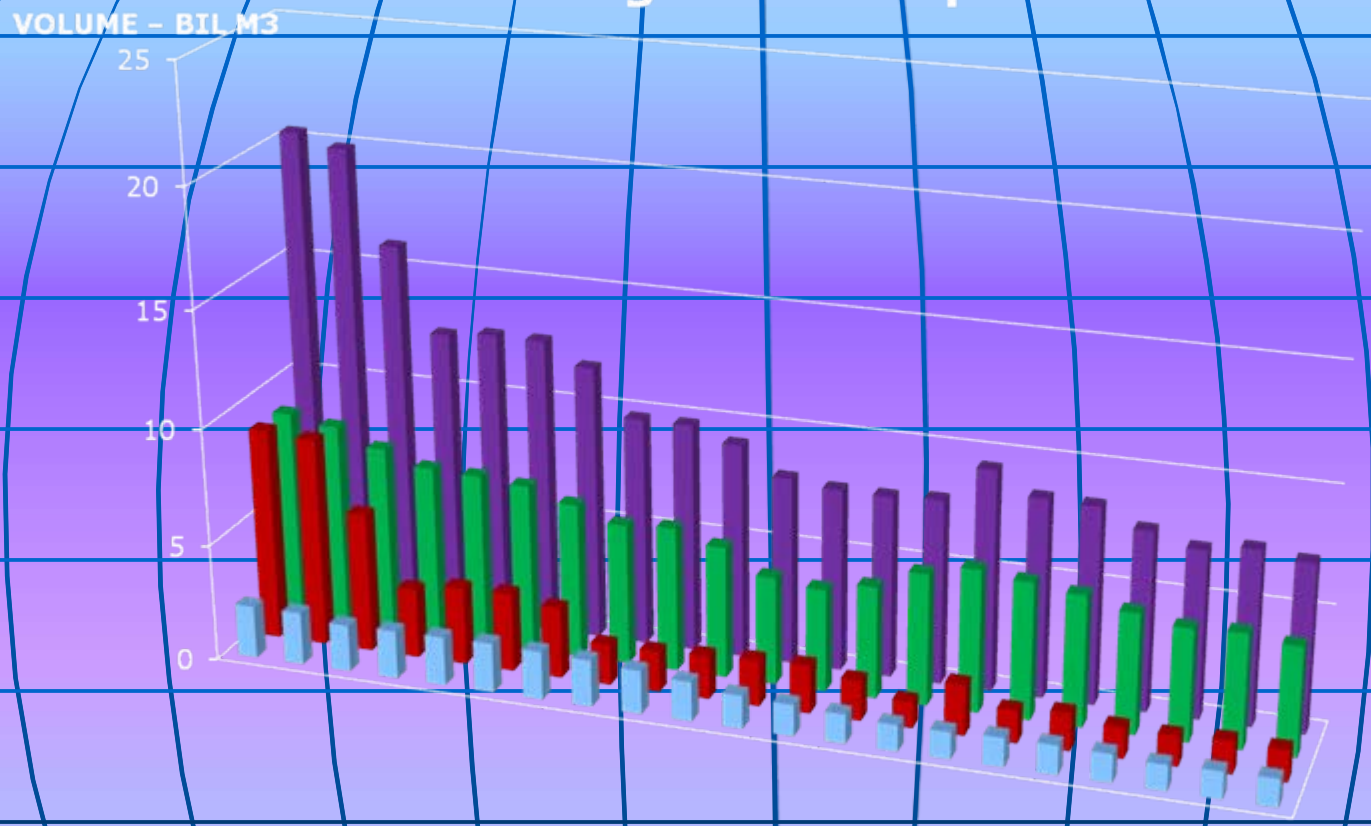
EVOLVING OF THE WATER REQUIRMENT IN ROMÂNIA
according with the operable catchment capacities



	1990	1993	1995	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Population	2.25	2.25	2	2.05	2.08	2.11	2.07	2	1.86	1.69	1.42	1.35	1.26	1.13	1.15	1.24	1.25	1.22	1.10	1.16	1.19
Agriculture	9.1	8.95	5.98	2.98	3.33	3.36	3.03	1.74	1.75	1.86	1.98	2.05	1.72	1.13	2.18	1.39	1.59	1.32	1.28	1.41	1.36
Industry	9.06	8.74	8.02	7.43	7.35	7.18	6.64	6.04	6.17	5.64	4.62	4.4	4.8	5.64	6.11	5.87	5.61	5.16	4.81	4.91	4.67
TOTAL	20.4	19.9	16	12.46	12.67	12.65	11.74	9.78	9.78	9.19	8.02	7.8	7.78	7.9	9.44	8.5	8.45	7.7	7.19	7.48	7.22

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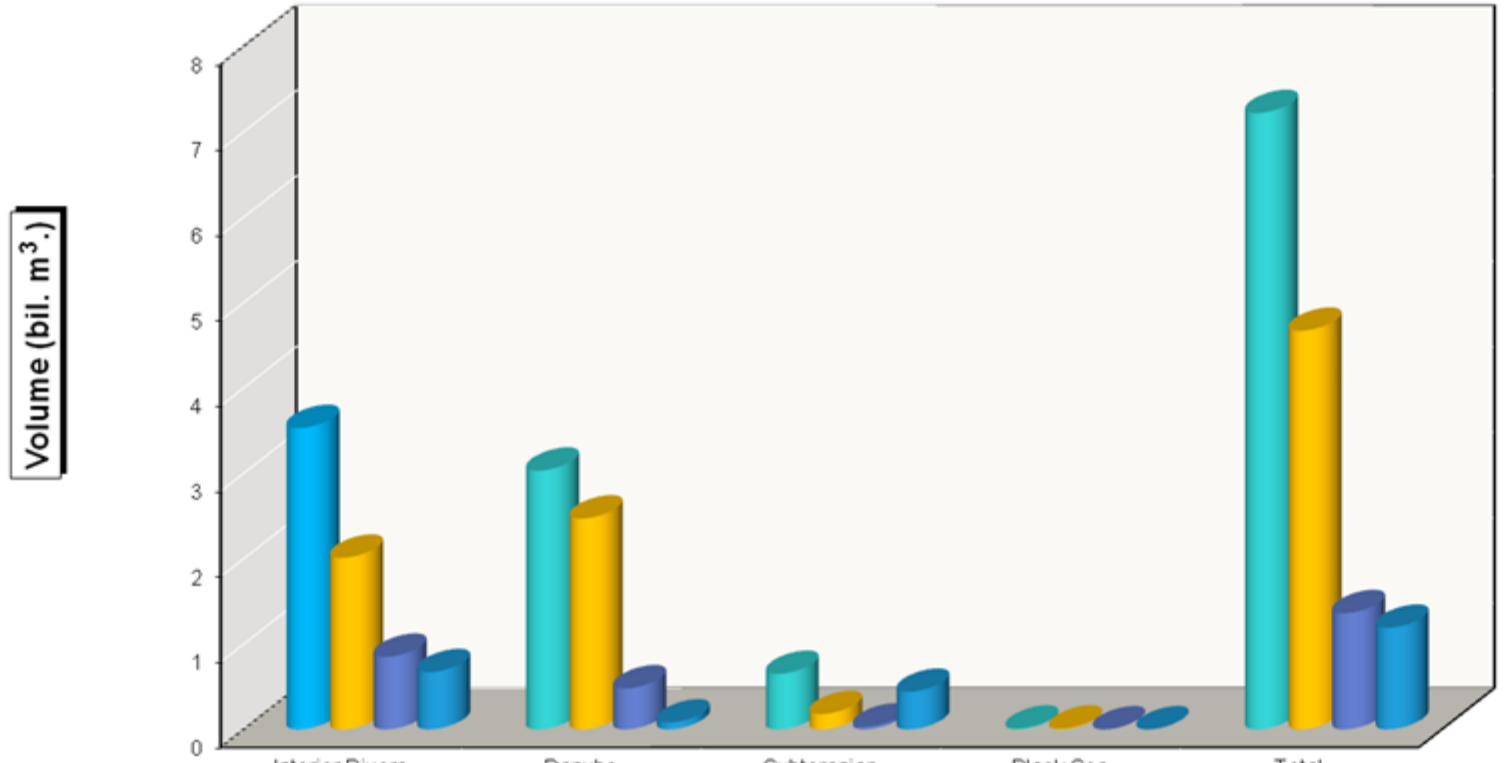
Total requirement of water in 2014, in terms of sources and destination, and according with the operable catchment capacities



	Interior Rivers	Danube	Subteranian	Black Sea	Total
Total	3.53	3.03	0.65	0.009	7.22
Industry	2.01	2.47	0.18	0.009	4.67
Agriculture	0.85	0.48	0.03	0.00	1.36
Population	0.67	0.08	0.44	0.00	1.19

SURFACE WATER QUALITY

- Water Framework Directive 2000/60/EC defines:

„surface water body" = a discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water

"Good surface water status " ⇒ the status achieved by a surface water body when both its ecological status and its chemical status are at least "good"

Ecological Status

⇒ an expression of the quality of the structure and functioning of aquatic ecosystems associated with surface waters, classified in accordance with Annex V

⇒ evaluation is done by integrating all quality elements, biological, hydromorphological and physico-chemical by applying the principle of "*one out - all out*"

⇒ 5 ecological water status: High, Good, Moderate, Poor and Bad

Chemical Status

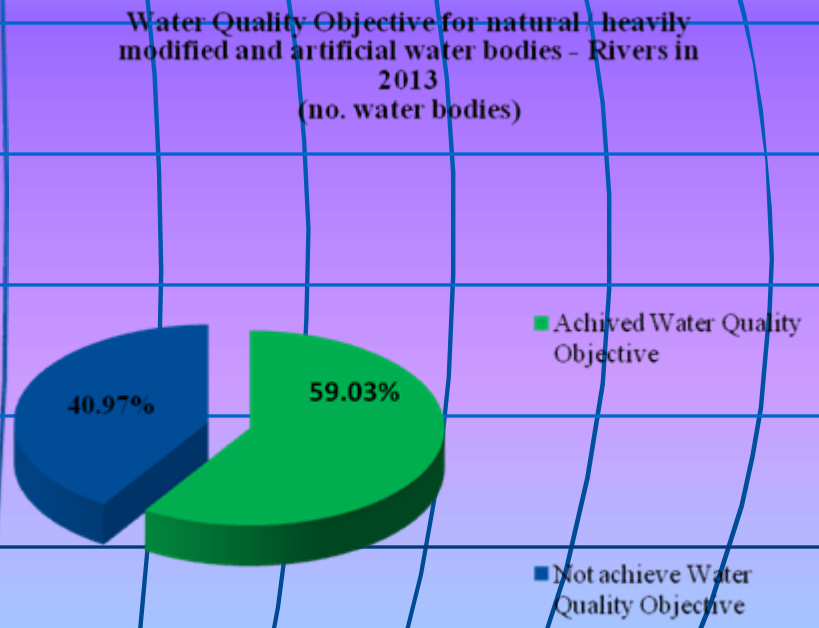
⇒ evaluation is performed for **priority substances** (heavy metals and organic micropollutants) **laid down in Directive 2008/105/EC** *on environmental quality standards in the field of water (EQS),* **and identified** in surface water bodies.

⇒ quality objective is achieved if **all priority substances monitored** not exceeding EQS laid down in Directive 2008/105 / EC for both annual average concentration (**AA-EQS**) and the maximum allowable concentration (**MAC-EQS**)

⇒ 2 chemical water status: Good and Bad.

Evaluation of ecological water status / ecological potential of monitored water bodies – Rivers, in 2013 (No. water bodies)

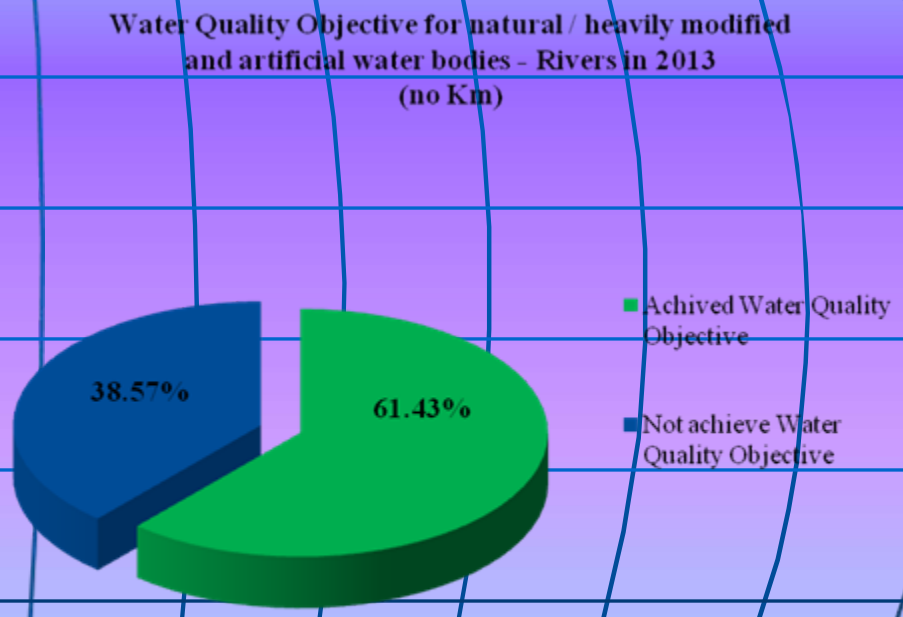
River Basin	Achieve Water Quality Objective	Not achieve Water Quality Objective			Water Bodies
	High/ Good/ Good and above	Moderate/Moderate	Poor	Bad	
Tisa	16	2	0	1	**19**
Someş	27	19	0	1	**47**
Crişuri	44	25	0	0	**69**
Mureş	69	42	0	2	**113**
Aranca	0	1	0	0	**1**
Bega-Timiş-Caraş	35	13	0	0	**48**
Nera - Cerna	13	1	0	0	**14**
Jiu	32	11	0	0	**43**
Olt	67	39	0	0	**106**
Argeş	39	29	0	0	**68**
Vedea	4	14	0	0	**18**
Buzău	7	10	0	0	**17**
Ialomiţa	23	20	0	0	**43**
Siret	40	16	0	0	**56**
Prut	5	17	0	0	**22**
Bârlad	1	8	0	0	**9**
Dunăre	3	23	2	0	**28**
Litoral	8	6	0	0	**14**
Fluviul Dunărea	5	2	0	0	**7**
TOTAL	**438**	**298**	**2**	**4**	**742**



Evaluation of ecological water status / ecological potential of monitored water bodies – Rivers, in 2013

(No. Km)

River Basin	Achieve Water Quality Objective	Not achieve Water Quality Objective			Km
	High/Good Good and above	Moderate /Moderate	Poor	Bad	
Tisa	1058,0	49,0	0,0	26,0	**1133,0**
Someş	1637,0	1049,0	0,0	10.0	**2696,0**
Crişuri	1277,4	1101,3	0,0	0,0	**2378,7**
Mureş	3239,9	944,0	0,0	67,1	**4251,0**
Aranca	0,0	126,8	0,0	0,0	**126,8**
Bega-Timiş-Caraş	1276,7	503,8	0,0	0,0	**1780,5**
Nera - Cerna	598,2	5,9	0,0	0,0	**604,1**
Jiu	877,1	406,6	0,0	0,0	**1283,7**
Olt	2054,5	1200,0	0,0	0,0	**3254,5**
Argeş	1319,1	912,1	0,0	0,0	**2231,2**
Vedea	130,6	786,6	0,0	0,0	**917,2**
Buzău	244,5	402,0	0,0	0,0	**646,5**
Ialomiţa	734,7	713,1	0.0	0,0	**1447,8**
Siret	3353,1	963,3	0,0	0,0	**4316,4**
Prut	729,3	822,3	0,0	0,0	**1551,6**
Bârlad	122,9	522,1	0,0	0,0	**645,0**
Dunăre	67,9	858,1	82,3	0,0	**1008,2**
Litoral	224,0	136,0	0,0	0,0	**360,0**
Fluviul Dunărea	645,5	615,0	0,0	0,0	**1260,5**
TOTAL	**19590,3**	**12116,9**	**82,3**	**103,1**	**31892,6**



WATER RESOURCES PLANNING

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SCHEME OF DEVELOPMENT AND MANAGEMENT
- components-

QUANTITY WATER MANAGEMENT

QUALITY WATER MANAGEMENT

RIVER BASIN DEVELOPMENT PLAN (RBDP)

GOAL and OBJECTIVES

Basis for measures, actions , solutions and works in order to achieve the major objectives:

- Achievement and stabilizing of balance between water use demand and available water resources
- Diminishing of negative effects of extreme natural phenomena (floods, droughts, soil erosion, etc.)
- Use of water potential (hydropower, navigation, tourism, etc.)
- Meeting environmental demands on water resources

Deadline: 2009, 2015, 2021 (updating each 6 years)

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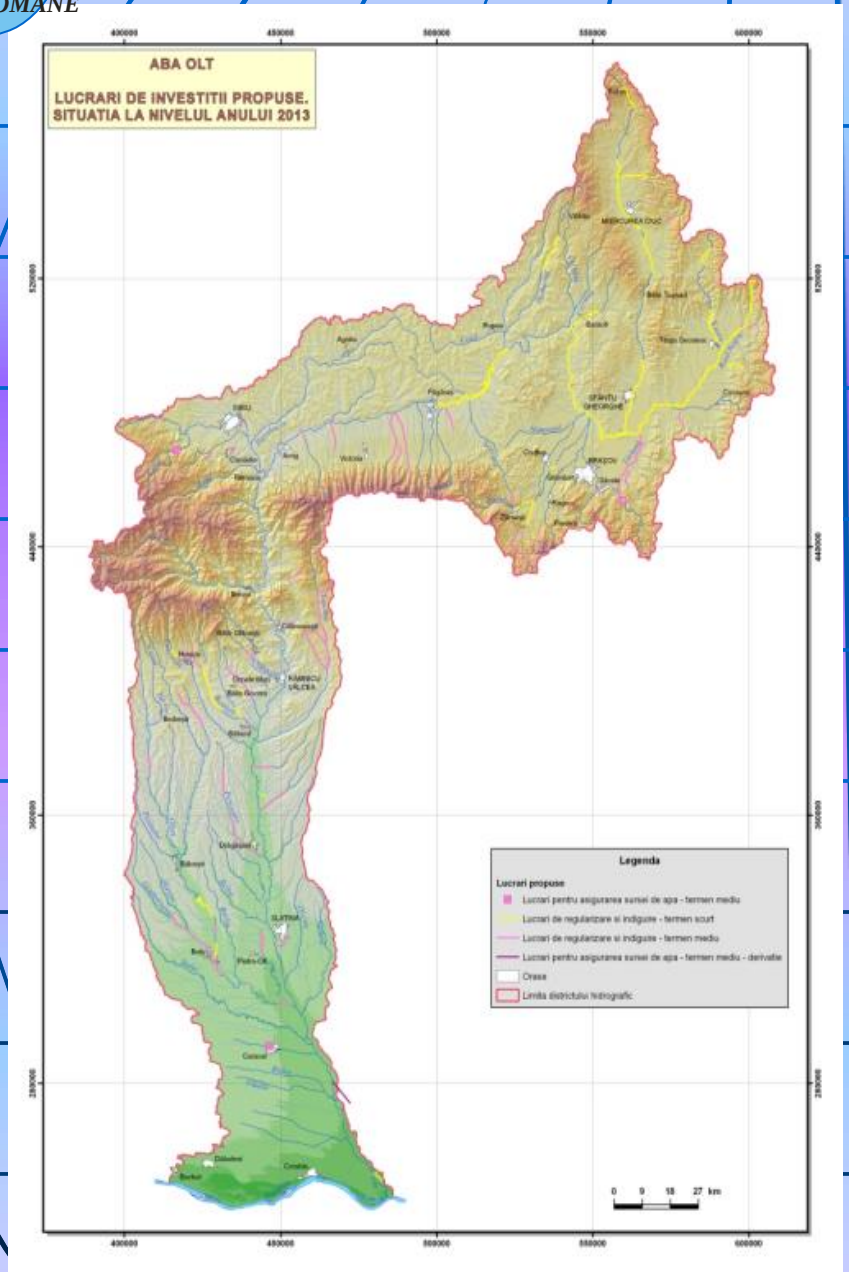

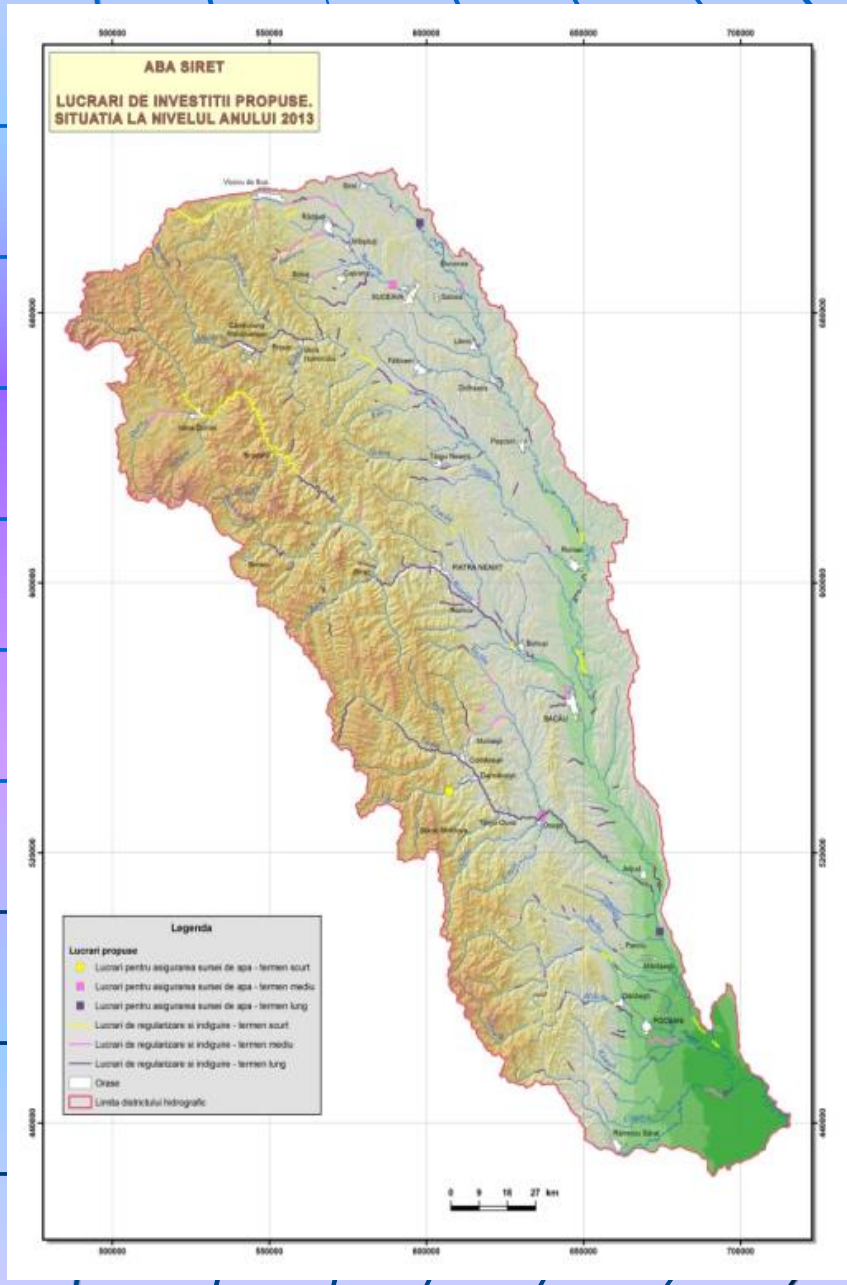

RIVER BASIN MANAGEMENT PLAN (RBMP)

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RIVER BASIN MANAGEMENT PLAN

GOAL and OBJECTIVES

Setting of measures, actions, solutions and works for protection of surface and ground waters through:

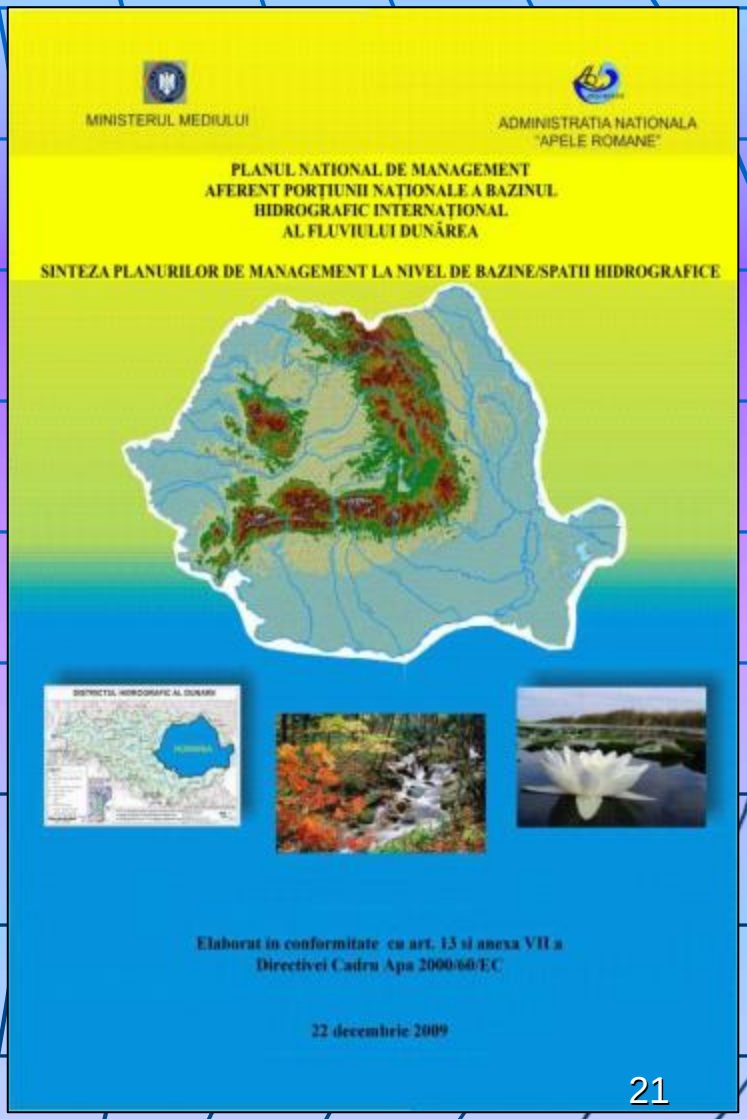
- prevention of further deterioration and reaching and maintaining of good status of aquatic ecosystems
- promotion of sustainable water use
- progressive reduction of pollution from priority substances and ceasing out of discharges, emissions and losses of priority hazardous substances
- progressive reduction of groundwater pollution and further
- pollution prevention

ELABORATION DEADLINE

22 December 2009

UPDATE

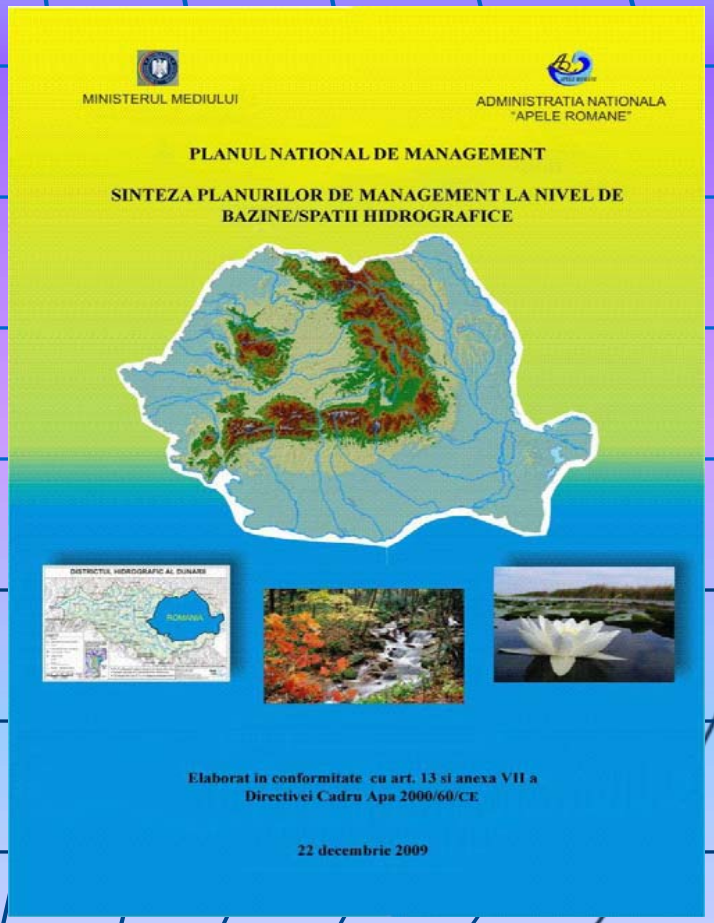
each 6 years

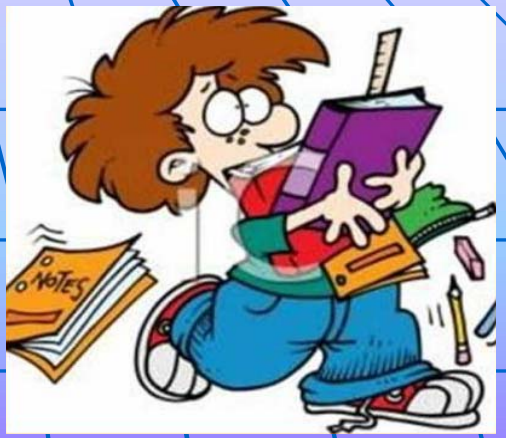


The main steps through WFD implementation

2004	2006	2007	2009	2013	2015
Characterisation Art.5	Monitoring Program	SWMI	First River Basin Management Plan	Art. 5 and SWMI	Good Status
					Second River Basin Management Plan

- National Management Plan represents the synthesis at the national level of 11 River Basin Management Plans (RBMPs)
- Elaboration at 22 December 2009
- RBMPs were presented, discussed and approved in the River Basin Committees
- Reporting to European Commission at 22 March 2010
- Approved through Governmental Decision 80/2011 after SEA procedure

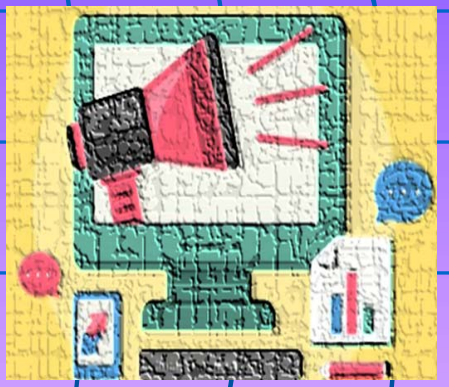




- **2012:** Elaboration and reporting to the EC of a interim report on PoM implementation

- **2013:**
  - Update of characteristics of the river basins, review of the environmental impact of human activity and economic analysis of water uses (Art. 5 of WFD)
  - Interim overview of significant water management issues at the river basin level

  (22.12.2013 – 22.06.2014) – public consultation process!



current and next steps

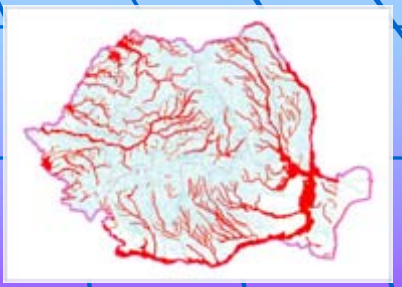
- **2014 – 2016:** Elaboration, approval and reporting of the second River Basin Management Plans and of the second National Management Plan

FLOOD RISK MANAGEMENT PLAN (FRMP)

Implementation stage of the 2007/60/EC Directive in Romania

2011

- Preliminary Flood Risk Assessment
  - 39 events at national level (for internal rivers)
  - 3 events for Danube (1998,2006, 2010)
- Areas with Potential Significant Flood Risk in Romania
  - 375 APSFR for internal rivers – L = 16.400 km (~20 % of cadastred river length of Romania)
  - 24 APSFR for Danube – L = 1100 km



22.03.2012

- Reporting of the required information to the E.C. (GIS maps, data, methodologies) uploaded on the EIONET web site

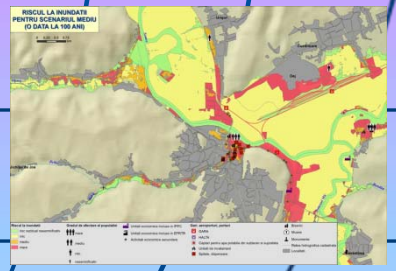
2013

- Flood Hazard Maps - result of the on-going National Program Plan for floods prevention, protection and mitigation (P.P.P.D.E.I.) scenarios : Q 10 %; Q 1 %; Q 0.1 %

  Content: - flood extent
  - water depths
  - the flow velocity where appropriate
- Flood Risk Maps - based on flood hazard map and analysis of data vulnerability
  - pointing-out the following types of consequences :population, economic activity, pollution sources, cultural heritage

22.03.2014

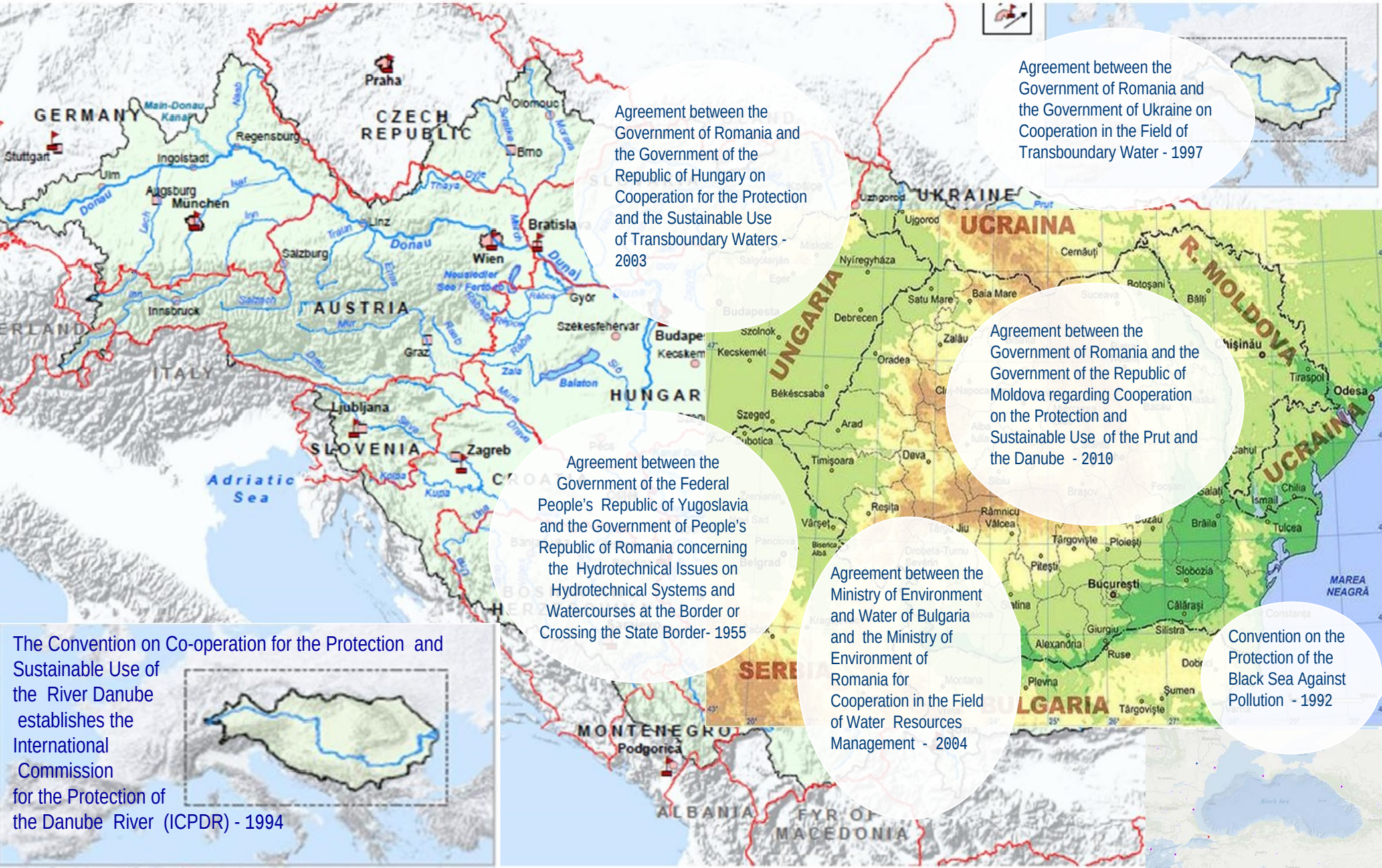
- Reporting of the required information to the E.C. (GIS maps, data, methodologies) uploaded on the EIONET web site:
- Flood Hazard Maps – finalized for the 11 R.B.A. and Danube River (Danubefloodrisk project) – medium scenario (Q1%);
- Flood Risk Maps, according with WISE requirements – for the 11 R.B.A. and Danube River – medium scenario (Q1%);
- Completion of public information dissemination through the portal of NARW



March 2016

- Reporting to the EC of Flood Risk Management Plans at RBA level

DANUBE RIVER – INTERNATIONAL COOPERATION



Agreement between the Government of Romania and the Government of the Republic of Hungary on Cooperation for the Protection and the Sustainable Use of Transboundary Waters - 2003

Agreement between the Government of Romania and the Government of Ukraine on Cooperation in the Field of Transboundary Water - 1997

Agreement between the Government of Romania and the Government of the Republic of Moldova regarding Cooperation on the Protection and Sustainable Use of the Prut and the Danube - 2010

Agreement between the Government of the Federal People's Republic of Yugoslavia and the Government of People's Republic of Romania concerning the Hydrotechnical Issues on Hydrotechnical Systems and Watercourses at the Border or Crossing the State Border- 1955

Agreement between the Ministry of Environment and Water of Bulgaria and the Ministry of Environment of Romania for Cooperation in the Field of Water Resources Management - 2004

Convention on the Protection of the Black Sea Against Pollution - 1992

The Convention on Co-operation for the Protection and Sustainable Use of the River Danube establishes the International Commission for the Protection of the Danube River (ICPDR) - 1994

THANK YOU!