

5th Drin Stakeholders Conference

**FLOODS IN THE WHITE DRIN BASIN, THEIR
OCCURRENCE EFFECTS AND RISKS**

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21 – 22 November 2017
Podgorica

Hydrography of Kosovo

- Hydrographically the surface waters of Kosovo are divided into 5 river basins:
- Drini i Bardhë ;
- Ibri;
- Morava e Binçës;
- Lepenci ;
- Plava

The White Drin Basin

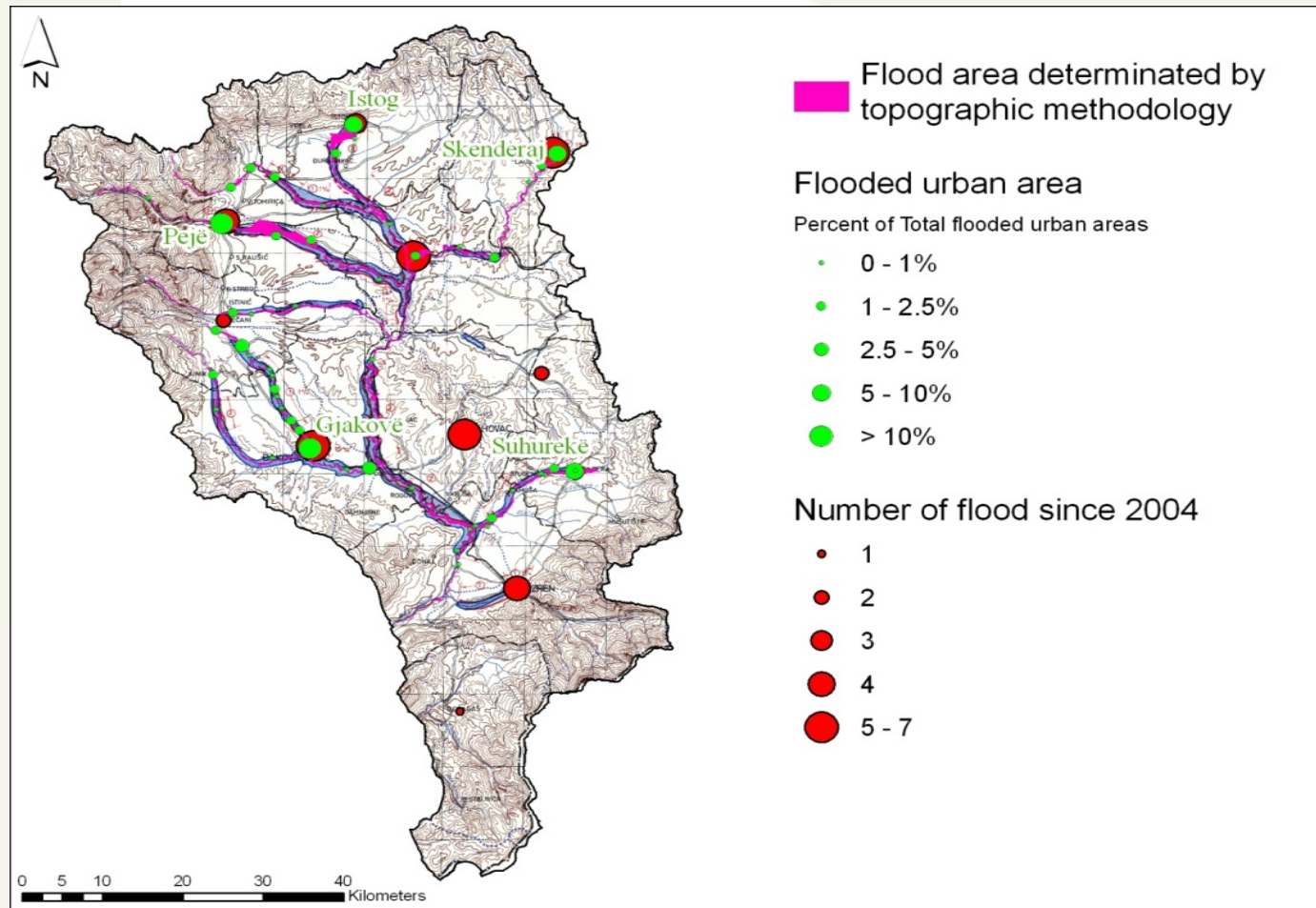
The White Drin Basin is 4682 km²

Branches of the White Drin Basin are: Lumëbardhi i Pejës, Lumëbardhi i Deçanit, Lumi Erenikut, Lumëbardhi i Prizrenit, Lumi Toplluha, Lumi Mirusha, Lumi i Klinës dhe Lumi Istogut;

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FLOODING AREAS IN THE WHITE DRIN BASIN

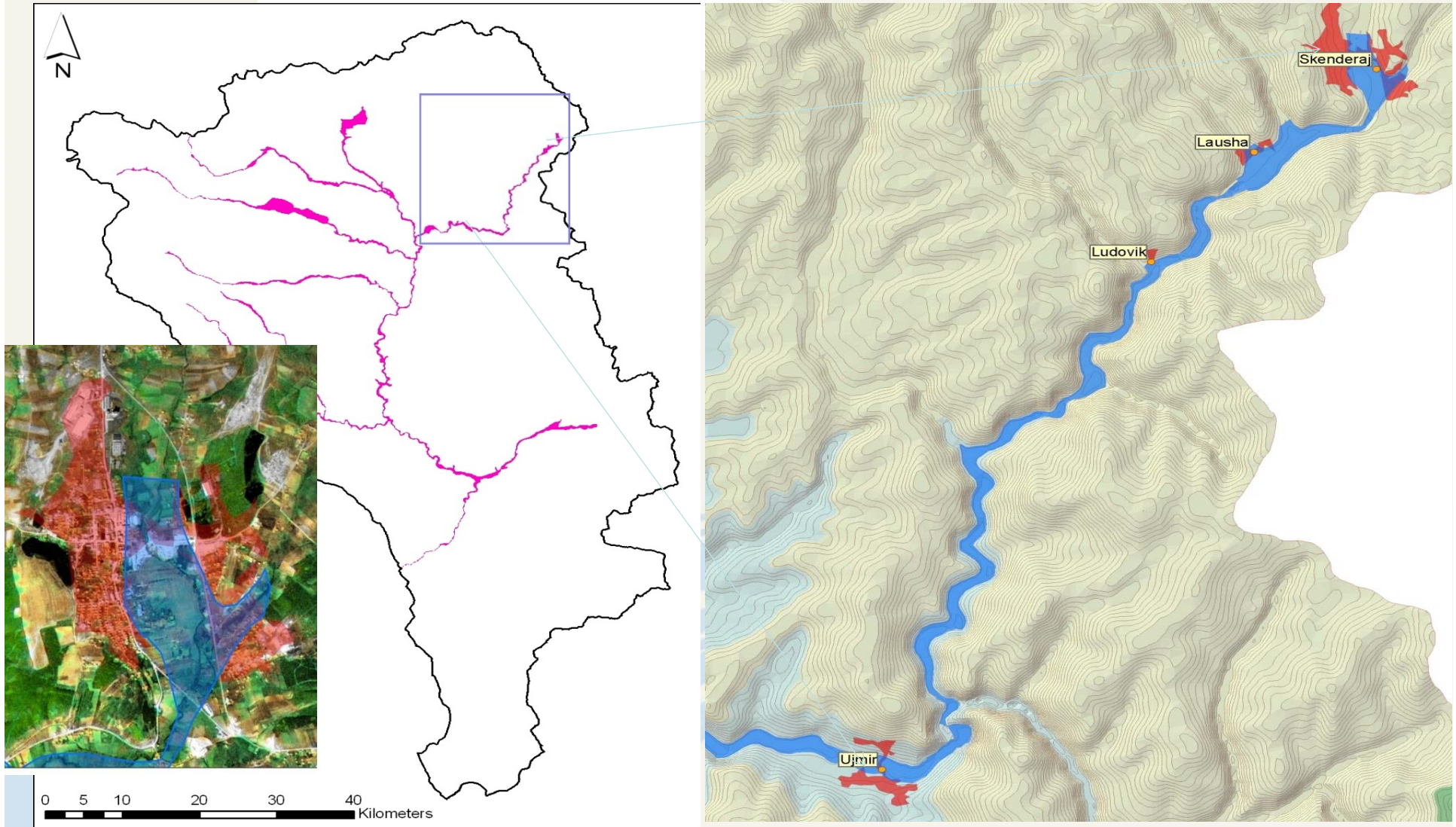
➤ new flooding areas have been shown and an increase of flooding surface



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ENLARGEMENT OF FLOODING AREAS

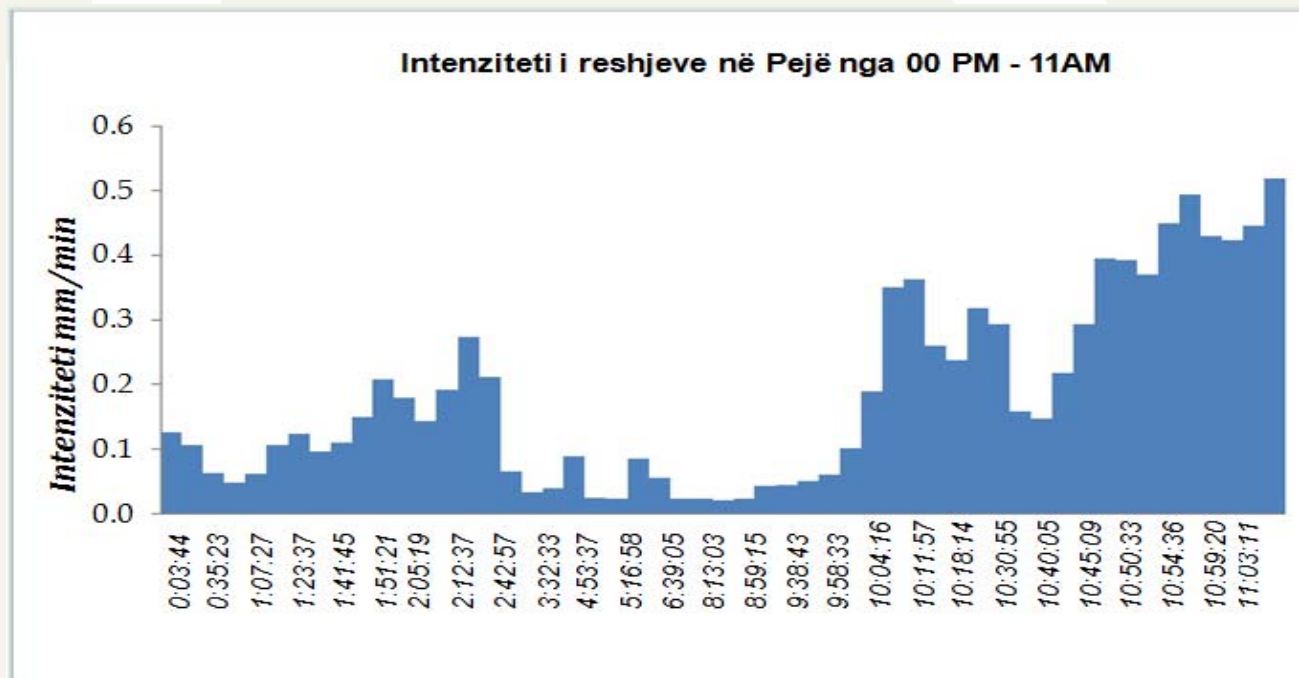
- Expansion of flooding area in river Klina in Skenderaj



REASONS OF FLOODS AND EXPANSION OF FLOODING AREA

➤ Natural factors as:

- Atmospheric conditions, intensive melting of snow, and high intense rainfall
- Orography of the land



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Secondary causes of floods:

➤ Anthropogenic factors as:

- ✓ Degradation of rivers' bed from the exploitation of inert (gravel);
- ✓ Narrowing of water flow from illegal buildings in the river coast;
- ✓ Constructions and road infrastructure out of standards;
- ✓ Blockage of rivers' bed with solid residues and construction waste;
- ✓ Shortage of elementary protective measures to water flows;



lovemk

IMPACTS OF FLOOD

The occurred floods had triple effect:

- Impact on people lifestyle due to damage to agricultural land and small businesses;
- Impact on infrastructure, including damage to streets and holding walls; and
- Impact on environment.

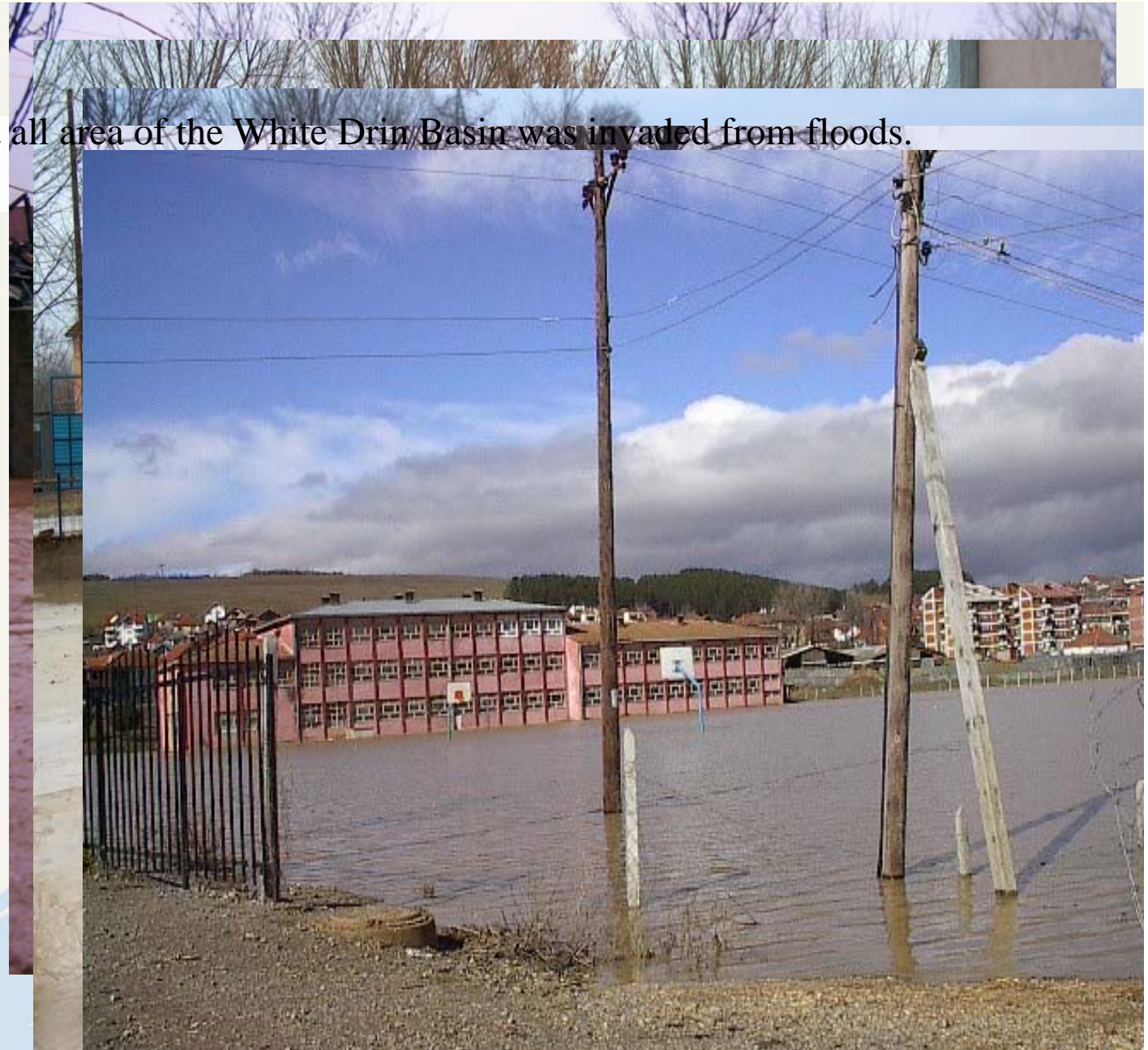
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FACTS OF OCCURRED FLOODS IN THE PAST - FEBRUARY 2006

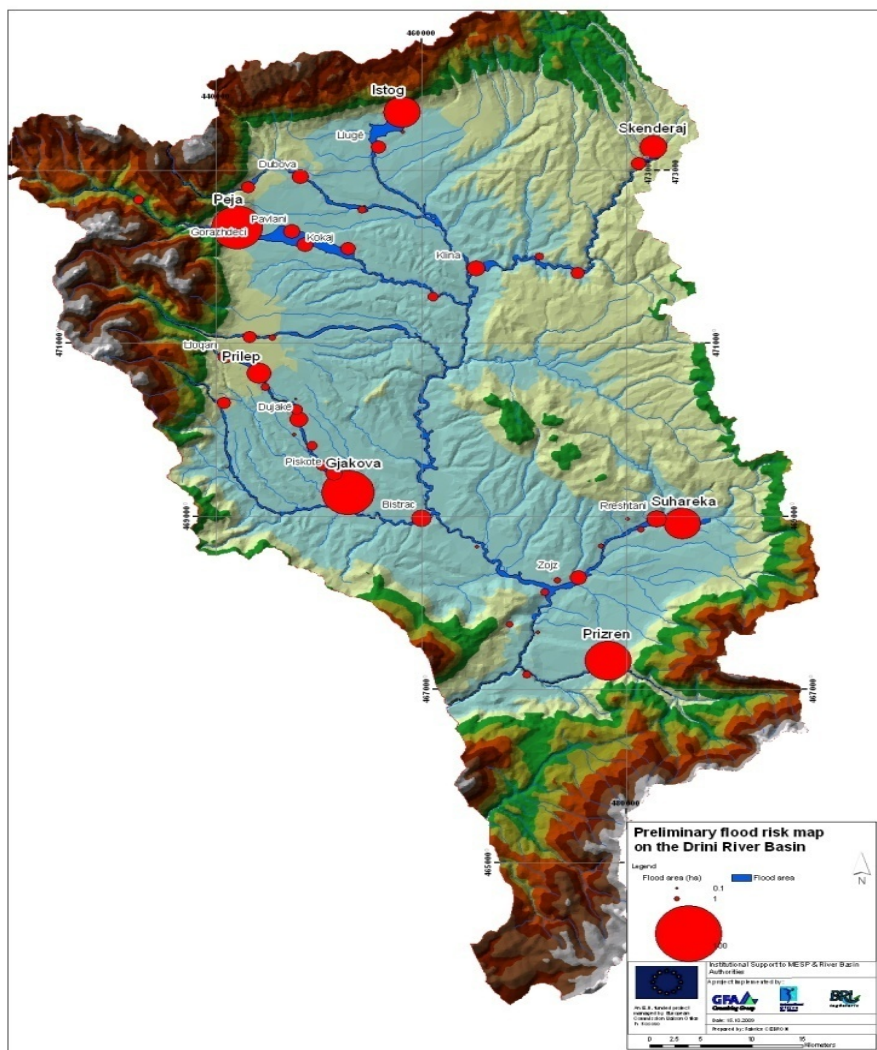
On February 2006 almost all area of the White Drin Basin was invaded from floods.

Floods were on:

- ✓ Prizren
- ✓ Rahovec
- ✓ Gjakove
- ✓ Kline
- ✓ Malisheve
- ✓ Skenderaj



Scale of occurred floods (in terms of flooded areas, population impacted etc)



Town	Flood area (ha)
Gjakova	64.40
Peja	58.63
Prizren	48.10
Istog	30.57
Suhareka	30.36
Skenderaj	18.06
Prilep	13.05

Town	No. of house flooded
Skenderaj	23
Gajkove	232
Prizren	3
Suharek	8
Rahovec	42
Malisheve	33
Total	341

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Remediation

Cofinancing Government and local level- Project for "River bed regulation inside the town Skenderaj" - River Klina



FACTS OF OCCURRED FLOODS IN THE PAST - Januar 2016

On January 2016 same area of the White Drin Basin was covered from floods. Floods were on:

- Malisheva;
- Suhareka;
- Rahoveci;
- Prizreni



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AFFECTED POPULATION, DAMAGES TO ECONOMY, AGRICULTURE, INFRASTRUCTURE

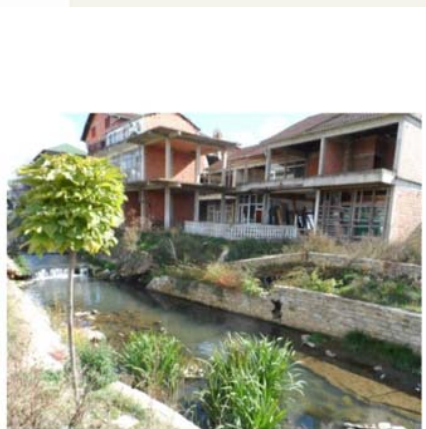
Tab. Damages in Malisheva from floods in 2016

Ekonomi familjare	196,000.00 €
Infrastrukturë (rrugë, penda, ura, kanalizim)	410,000.00 €
Biznese të vogla	225,000.00 €
Objekte bujqësore (duke përfshirë të mbjellat dhe kulturat bimore)	104,000.00 €
Gjithsej	935,000.00 €

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INTERVENTIONS

UNDP- Project for "River bed regulation in River Mirusha inside Malishevë Municipality" after floods of 2016



November 20

		Calculate SPI										Apply B&W Formatting															
4	ID :	1012 (t	2005	WGS84.	0	Note 2																					
5	Data Source :	Meteorological Year Books, HMIK/AMMK, Ministry of Environment - Prishtine																		Note 3							
6		SPI-1	SPI-1	SPI-1	SPI-1	SPI-1	SPI-1	SPI-1	SPI-1	SPI-1	SPI-1	SPI-1	SPI-2	SPI-2	SPI-2	SPI-2	SPI-2	SPI-2	SPI-3	SPI-3	SPI-3	SPI-3	SPI-4	SPI-4	SPI-4	SPI-4	
7	H Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct-Nov	Dec-Jan	Feb-Mar	Apr-May	Jun-Jul	Aug-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Jan	Feb-May	Jun-Sep	Oct-Nov
86	2003-2004	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	
87	2004-2005	-99	-99	-99	-99	-99	-99	-99	-99	-99	1.33	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	
88	2005-2006	-99	0.03	1.16	-1.15	1.30	0.57	0.61	-0.64	-0.24	0.18	1.56	-0.23	-99	0.58	1.33	0.01	-0.08	1.33	-99	0.75	-0.42	0.85	-99	1.28	0.46	-99
89	2006-2007	-1.79	-0.81	-0.90	1.13	-0.50	-0.08	-1.79	1.25	-0.10	-2.71	0.01	1.06	-1.46	-0.13	-0.60	0.01	-1.01	0.68	-2.30	0.08	-0.32	-0.19	-2.10	-0.79	-0.23	-1.7
90	2007-2008	0.62	0.99	-0.83	-0.98	-1.86	1.42	-1.68	-1.80	1.08	0.55	-0.32	0.10	0.91	-1.32	0.37	-2.70	1.03	-0.52	0.39	-0.11	-1.07	0.21	-0.12	-1.59	0.63	0.1
91	2008-2009	-1.50	-0.37	1.07	0.49	-0.20	0.24	-0.42	0.37	1.38	0.72	1.32	-1.29	-1.01	1.07	-0.15	-0.23	1.34	0.03	-0.01	0.04	0.89	0.57	0.05	-0.58	1.02	-0.0
92	2009-2010	0.56	0.23	0.69	0.86	1.64	-0.16	0.88	-0.43	0.32	0.94	-0.76	-0.30	0.37	0.97	1.20	0.40	0.75	-1.09	0.81	1.28	0.43	0.20	1.35	1.44	0.23	1.6
93	2010-2011	0.75	1.56	0.65	-1.44	-0.34	-0.58	-0.18	0.65	-0.98	0.17	-1.01	0.48	1.38	0.08	-0.88	0.14	-0.48	-0.56	1.76	-1.37	-0.71	-0.05	1.75	-0.90	-0.44	0.7
94	2011-2012	-0.72	-2.34	0.46	0.84	0.13	-2.08	0.52	1.00	-1.78	-0.93	-0.94	1.19	-1.57	0.80	-1.18	0.91	-1.70	0.23	-0.91	-0.46	0.01	-0.15	-0.83	-0.25	-0.68	-1.2
95	2012-2013	0.58	0.00	0.38	0.38	0.32	1.03	0.35	0.78	-1.43	-0.76	-1.38	-1.38	0.24	0.52	0.83	0.62	-1.40	-1.38	0.50	0.77	-0.27	-3.06	0.65	1.22	-2.77	0.9
96	2013-2014	-0.47	-0.18	0.54	-0.67	-1.71	-0.58	1.84	0.02	1.53	0.65	-0.39	0.91	-0.41	0.22	-1.66	1.66	1.42	0.23	0.03	-1.66	2.75	0.61	-0.50	0.42	1.13	-1.1
97	2014-2015	-0.44	-0.06	0.18	-0.19	0.63	0.80	0.43	-1.89	-0.17	-0.52	1.09	1.09	-0.31	0.11	0.87	-0.71	-0.45	1.77	-0.14	0.60	-1.13	0.78	-0.52	0.20	0.44	0.3
98	2015-2016	1.39	-0.44	-0.97	1.73	0.64	0.84	-0.79	0.93	0.47	0.43	0.95	0.05	0.47	-0.17	0.91	0.02	0.53	0.71	-0.65	1.45	0.17	0.69	0.20	0.80	0.63	0.7
99	2016-2017	1.03	1.44	-0.97	-1.02	0.03	-1.45	0.29	-0.18	-0.07	0.22	0.19	-1.00	1.41	-2.62	-1.05	-0.05	0.05	-1.02	0.54	-1.37	-0.36	-0.28	0.08	-1.25	-0.28	-0.5
100	2017-2018	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99
101	2018-2019	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99
102	2019-2020	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99
103	2020-2021	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99
104	2021-2022	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99
105	2022-2023	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99
106	2023-2024	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99

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MANAGEMENT PLAN OF RISK FROM FLOODS - ABSENT

Part of this plan is monitoring and Early Warning System for flood

HMIK is establishing the early warning system through GIZ project.

Through this project a regional model will be built for forecast and warning of floods

Currently HMIK is a member of the network of institutions that forecast floods (EFAS)

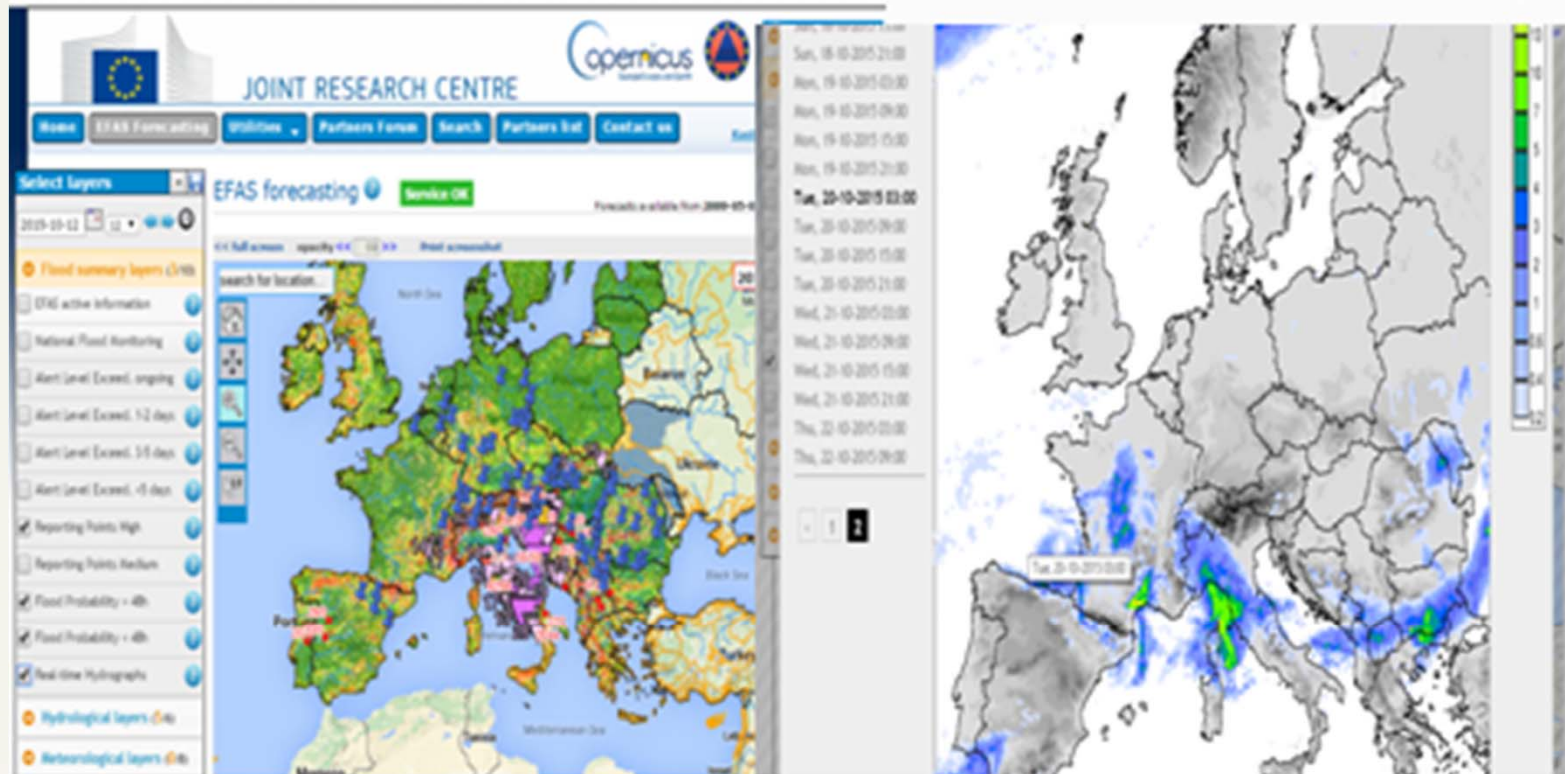
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HYDROLOGICAL MONITORING NETWORK



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EFAS – Early warning for floods and amount of precipitations



https://www.efas.eu/index.php?option=com_user&view=login&return=aHR0cHM6Ly93d3cuZWZhcy5ldS9lZmFzLWZvcmljYXN0aW5nLmh0bWw=

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THANK YOU FOR YOUR ATTENTION

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