

EU Green Week  
**PARTNER EVENT**

# Building Climate resilience in the Mediterranean Region: Albanian case

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#WaterWiseEU



# Climate change in water



FLOODS

DROUGHTS



ENERGY

HEALTH

TOURISM

AGRICULTURE

ENVIRONMENT

DAMS

WATER SUPPLY

IRRIGATION

RIVERS

AQUIFERS

COAST LINE



# Climate change in WB



## Climate change hotspots

### Change in annual precipitation by the 2050s

- Increase
- Decrease
- Temperature increase by 1.7-2.3°C by 2050 across the region (depending on the model and scenario)

### Present risks intensified by climate warming

- Risk of forest fires
- Risk of desertification
- Risk of decreasing farming productivity and risk of failures of rain-fed crops
- Sea level rise impacts on coastal erosion and salt water intrusion

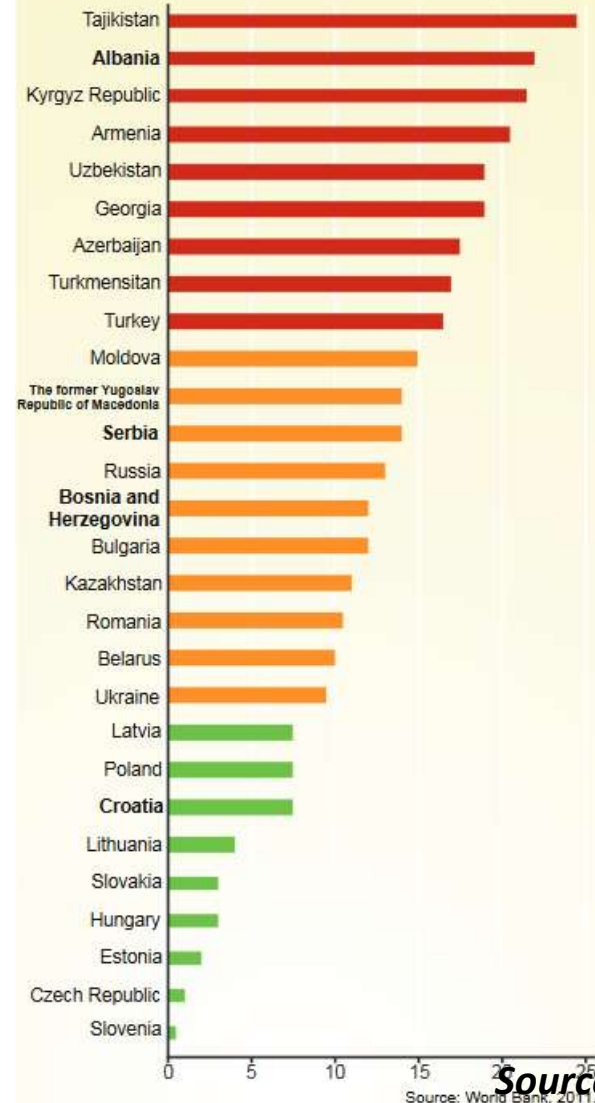
### Risk of floods

- Drought and heat waves

### Projected change in mean seasonal and annual river flow between 2071-2100 and the reference period 1961-1990

- Increase
- Stable
- Decrease

## Vulnerability index



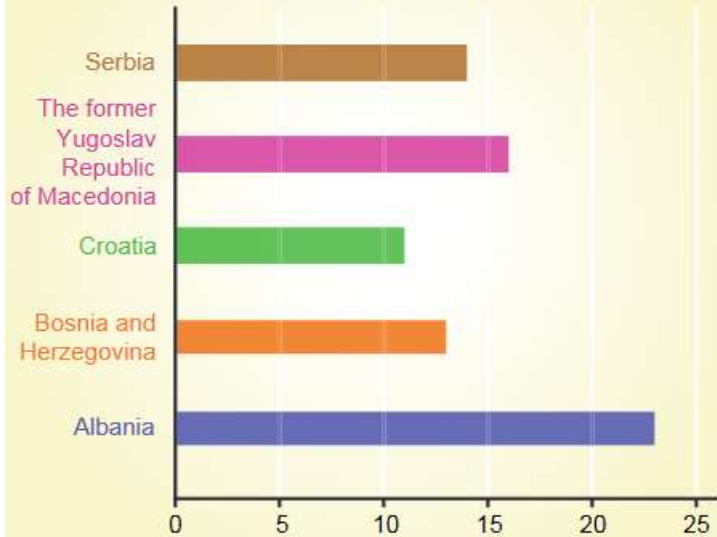
Source: World Bank, 2011.



Climate Change in WB  
Climate ADAPT EU webpage

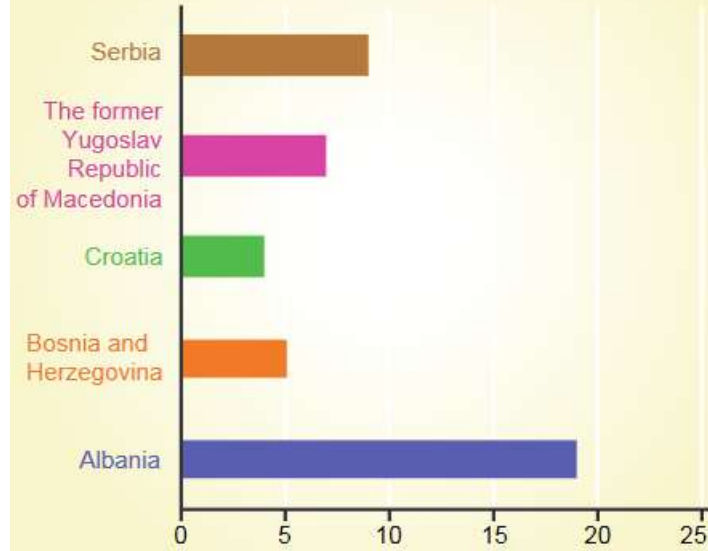
# Climate change in Albania

## Exposure index



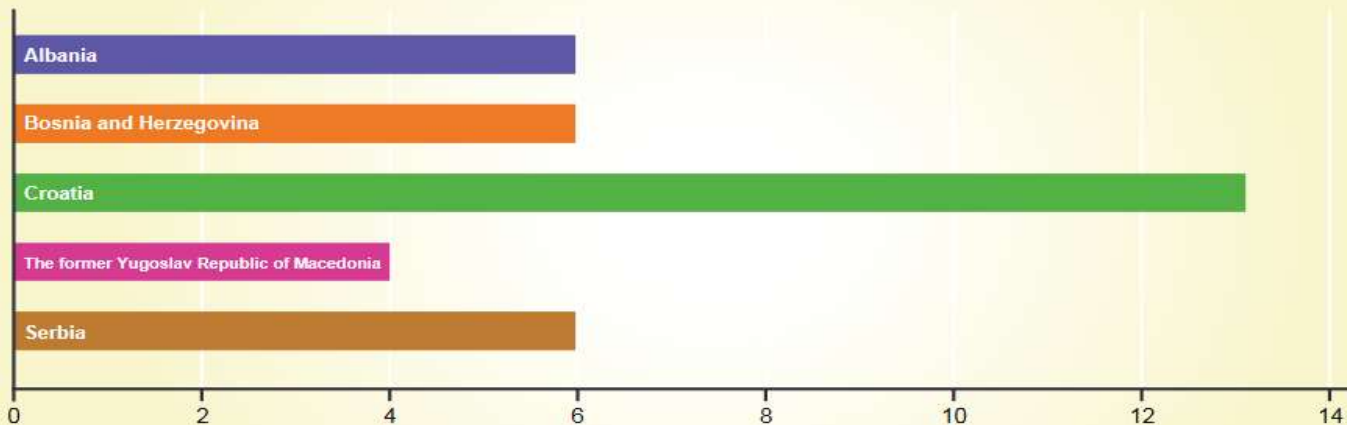
Note: no information available for Montenegro. Source: World Bank, 2011

## Sensitivity index



Note: no information available for Montenegro. Source: World Bank, 2011.

## Adaptive capacity index



## Main conclusions of the study report

### Temperature:

- Projections indicate an increase in average temperatures by up to 2.5°C by 2050, with more extreme heat events expected.

### Precipitation:

- Winter precipitation is projected to increase by up to 10-20%, while summer precipitation may decrease by up to 20-30%, leading to higher risks of both flooding and droughts.

### Water Availability:

- Runoff is expected to decrease by approximately 20% by 2050, impacting hydropower production and irrigation for agriculture.

### Sea Level Rise:

- Sea levels along the Albanian coast could rise by up to 0.8 meters by the end of the century, affecting coastal infrastructure and ecosystems.

**Source:** *Climate Change in WB*  
*Climate ADAPT EU webpage*

# Albania ranking on: Global Hospital Infrastructure Physical Climate Risk Report 2023

The table below shows the increase in risk of damage to hospital infrastructure from 2020 to 2100 under two different emission scenarios – RCP 8.5 (high) and RCP 2.6 (low).

Country	# Hospitals analysed	RCP 8.5	RCP 8.5	RCP 2.6	RCP 2.6
		% damage risk increase 2020-2050	% damage risk increase 2020-2100	% damage risk increase 2020-2050	% damage risk increase 2020-2100
Albania	101	33%	909%	15%	374%
Andorra	11	25%	64%	12%	15%
Austria	191	29%	93%	12%	23%
Belarus	865	13%	212%	6%	51%
Belgium	295	185%	560%	98%	275%
Bosnia and Herzegovina	94	20%	56%	9%	13%
Bulgaria	597	24%	99%	10%	37%
Croatia	149	86%	187%	40%	71%
Czechia	364	17%	80%	6%	19%
Denmark	171	102%	1000%	50%	468%

Country	Driving hazard 2020	Driving hazard 2050	Driving hazard 2100
Albania	<ul style="list-style-type: none"> <li>Riverine Flooding</li> <li>Surface Water Flooding</li> <li>Extreme Wind</li> </ul>	<ul style="list-style-type: none"> <li>Surface Water Flooding</li> <li>Riverine Flooding</li> <li>Extreme Wind</li> </ul>	<ul style="list-style-type: none"> <li>Coastal Inundation</li> <li>Surface Water Flooding</li> <li>Riverine Flooding</li> </ul>

The table below shows the number of high risk hospitals and (ii) the percentage of high risk hospitals by 2100. High risk hospitals face unacceptable risk of partial or total shutdown

Country	# Hospitals analysed	# High risk hospitals by 2100 RCP 8.5	% High risk hospitals by 2100 RCP 8.5
Albania	101	6	5.9%
Andorra	11	1	9.1%
Austria	191	4	2.1%
Belarus	865	18	2.1%
Belgium	295	23	7.8%
Bosnia and Herzegovina	94	16	17.0%
Bulgaria	597	44	7.4%
Croatia	149	12	8.1%
Czechia	364	5	1.4%
Denmark	171	12	7.0%
England	1,539	72	4.7%
Estonia	57	-	0.0%
Finland	401	20	5.0%
France	2,321	103	4.4%
Germany	2,506	82	3.3%
Greece	413	16	3.9%
Greenland	21	12	57.1%
Hungary	366	21	5.7%
Iceland	31	9	29.0%
Ireland	198	5	2.5%
Italy	2,527	137	5.4%
Kosovo	238	13	5.5%

The table below shows the percentage increase in modelled risk of damage to hospital infrastructure already expected to have occurred between 1990 (baseline year) and 2020 due to global warming.

Country	% damage risk increase 1990-2020
Albania	20%
Andorra	11%
Austria	23%
Belarus	9%
Belgium	38%
Bosnia and Herzegovina	14%
Bulgaria	21%
Croatia	59%
Czechia	20%
Denmark	23%

Source: [Climate ADAPT EU webpage](#)  
[XDI Cross Dependency Initiative](#)



# Albania strategic response to Climate Change



- ✓ **2014** Established the Interinstitutional Working Group for Climate Change, by order of PM no 155 dated 25.4.2014
- ✓ **2015** Albania adopted by DCM the Intended Nationally Determined Contributions INDC under UNFCCC for the objective under 2°C
- ✓ **2016** Albania launches plan to prepare for climate change impacts through its National Adaptation Plan (NAP)
- ✓ **2017** Mainstreaming adaptation into Albania's Medium-Term Budget Process 2018-2020 *(The obligation of the ministries to identify climate adaptation measures at the program/objective/project/product and activity level became part of the annual guideline for the preparation of MTBP 2018–2020 issued by the Minister of Finance. Between March and May 2017 (as the first phase of MTBP process), climate adaptation-related prevention and resilience measures were identified among existing government program policies and projects, and additional adaptation outputs were set.*
- ✓ **2019** National Strategy on Climate Change (NAP) was adopted by government through DCM 488 dated 3.7.2019
- ✓ **2023** [Albania's National Adaptation Plan: First progress report](#) was delivered by Ministry of Tourism and Environment.

# River Basin Management Plans WFD in Albania

**2 RBMPs**  
 Adopted by the Council of Ministers. Implementation started 2021

**3 RBMPs**  
 Adopted by the Council of Ministers. Implementation started 2024

**2 RBMPs**  
 Still not in place RBMPs for Vjosa and Shkumbini

Level of application of WFD requirements



2 RBMPs to be drafted

Adopted 5 RBMPs under implementation

Vjosa RBMP  
 Shkumbini RBMP

Drin-Buna RBMP  
 Seman RBMP  
 Ishem RBMP  
 Erzen RBMP  
 Mat RBMP



# Implementation of Flood Risk EU Directive in Albania

Prepared  
44/46 Flood Hazard Maps

Krijuar  
për 44 nga 46 Zonat



Shembull: hartë rreziku për propabilitet 1 here në 100 vjet (shtrirja&thellësia) Vjosa 3

Krijuar për ngjarje me probabilitet:

- të ulët ose skenarë të ngjarjeve ekstreme;
- të mesëm (periudha e mundshme e rikthimit ≥ 100 vjet);
- të lartë

Prepared  
39/46 Flood Risk Maps

për 39 nga 46 Zonat



Shembull: hartë risku për propabilitet 1 here në 100 vjet (ndikimi në terren) Pjesë e Zonës Ishmi 3

Krijuar për ngjarje me probabilitet:

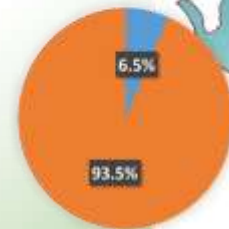
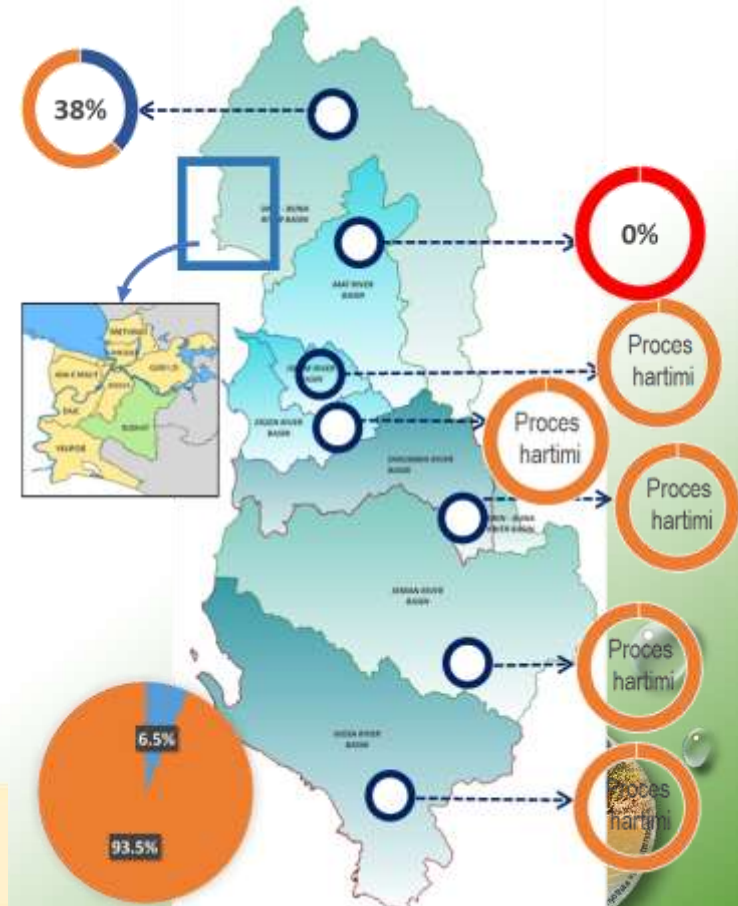
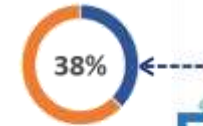
- të ulët ose skenarë të ngjarjeve ekstreme;
- të mesëm (periudha e mundshme e rikthimit ≥ 100 vjet);
- të lartë



krijuar  
jo krijuar



Prepared  
1<sup>st</sup> Flood Risk Management Plan





# Conclusion and challenges

Awareness has been raised regarding the importance of climate change, which is clearly seen from the political will shown by the Albanian government in the last 10 years through the creation of a strategic framework.

Climate change has managed to be included as a concept in most strategic and planning documents, but still is difficult to concretized it in specific actions, as the specific indicators for assessing the impact are also difficult to be defined and measured.

Regarding capacities and human resources, there is a limited understanding of the practical application of climate change, and this is perhaps a global problem.

So far, we can say that a top-down approach has been followed; meanwhile, to achieve effectiveness and results, the climatic elements in the bottom-up approach need to be strengthened, and sectors need to be interconnected at the operational level.

The most practical and tangible element that can be understood by everyone regarding climate change are water resources. In this aspect, special attention is needed to be concretize as many elements of climate change as possible into concrete projects in the water sector.

# Thank you for your attention!

Lisbon, 4.6.2024, ARDUEN KARAGJOZI  
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