

How climate change has been addressed by forest policy in the WB region

Bosnia and Herzegovina: Federation of Bosnia and Herzegovina

13th – 15th of November,
Skopje, North Macedonia

HAS CLIMATE CHANGE BEEN RECOGNIZED AS A PROBLEM FOR FORESTRY?

WHAT FIGURES OR STUDIES PROJECT CHANGES IN KEY FOREST PARAMETERS LIKE PRECIPITATION AND TEMPERATURE?

THE 2020-2030 CLIMATE CHANGE ADAPTATION AND LOW EMISSION DEVELOPMENT STRATEGY FOR BOSNIA AND HERZEGOVINA

December, 2020



- FAO 2015: The Forest Sector in Bosnia and Herzegovina
- THE 2020-2030: Climate change adaptation and low emission development strategy for BiH
- The BiH Environmental Strategy and Action Plan 2030+
- Fourth national communication of BiH under the United Nations Framework Convention on Climate Change
- Bosnia and Herzegovina National Adaptation Plan-NAP
- Nationally determined contribution of BiH (NDC) For the period 2020-2030
- Climate Change Adaptation and Low Emission Development Strategy for BiH
- General Part of the Federation of Bosnia and Herzegovina Forestry Program
- Law on forest FBiH

Bosnia and Herzegovina
National Adaptation
Plan – NAP
with proposed measures



FOURTH NATIONAL COMMUNICATION
OF BOSNIA AND HERZEGOVINA
Under the United Nations Framework Convention
on Climate Change

October, 2021



The Forest Sector in
Bosnia and Herzegovina

Preparation of IPARD Forest and Fisheries Sector Reviews
in Bosnia and Herzegovina

22 January 2015



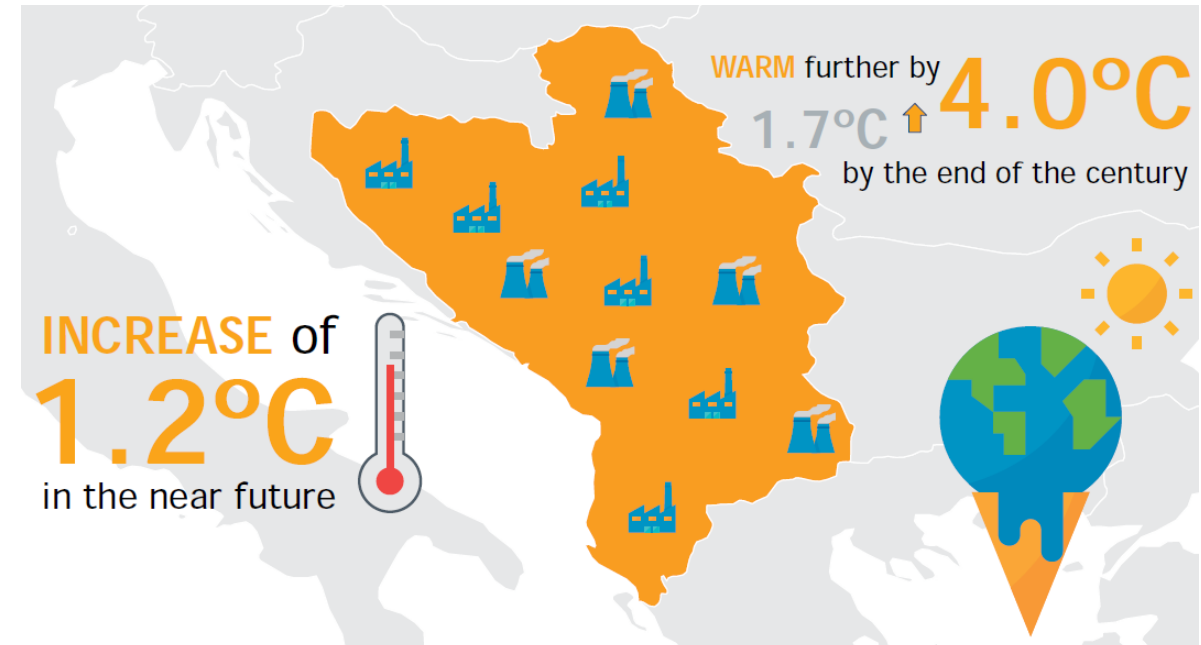
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SEE2020 SERIES

STUDY ON CLIMATE CHANGE IN THE WESTERN BALKANS REGION



Alarming increase of temperature in the Western Balkans with observed temperature increase of **1.2°C** in the near future (-2035) and destined to warm further by **1.7–4.0°C** by the end of the century, depending on the global effort in GHG emission reduction

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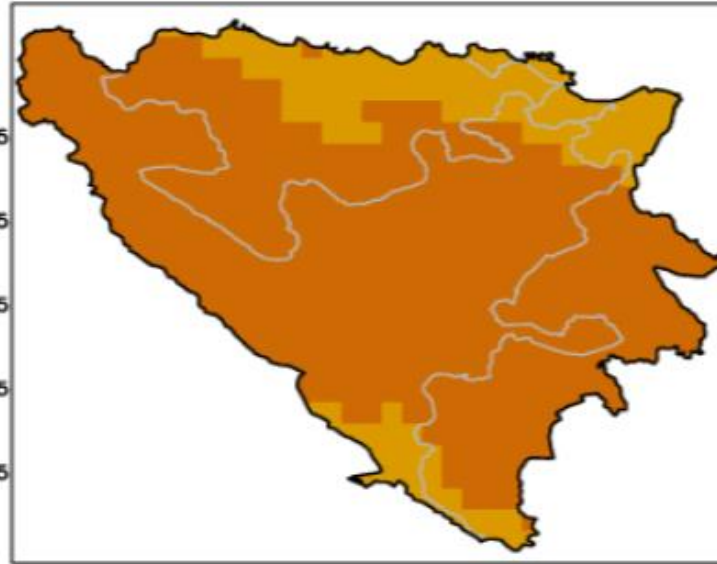
WHAT FIGURES OR STUDIES PROJECT CHANGES IN KEY FOREST PARAMETERS LIKE PRECIPITATION AND TEMPERATURE?

CHANGE IN MEAN DAILY TEMPERATURE (IN °C) IN RELATION TO THE REFERENCE PERIOD 1986-2005

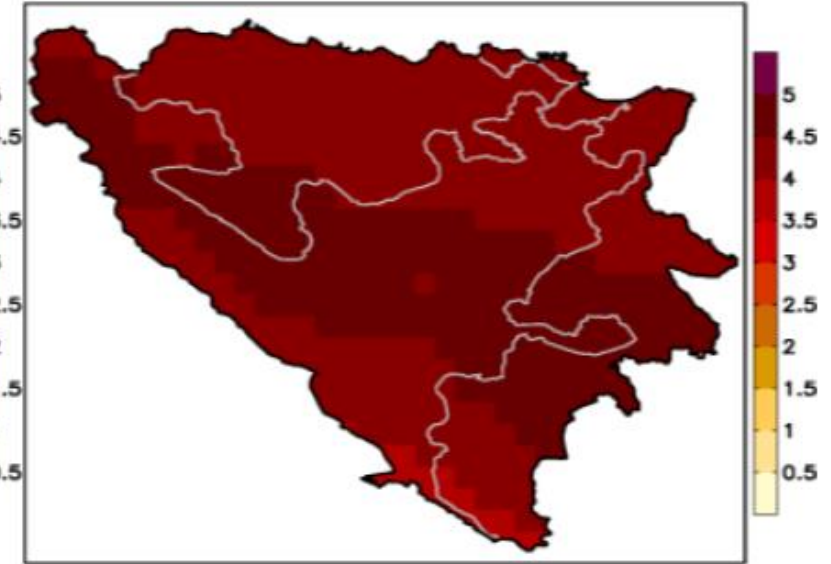
2016-2035



2046-2065



2081-2100



THE 2020-2030 CLIMATE CHANGE ADAPTATION AND LOW EMISSION DEVELOPMENT STRATEGY FOR BOSNIA AND HERZEGOVINA

According to the most extreme scenario, by 2035 the average temperature in BiH will be higher by **+0.5 to +1.5 °C**.

For the period 2046–2065. changes range from **1.5 to 3 °C**,
for the period 2081–2100. temperature rise ranges from **2.5 to 5 °C**.

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Projected temperatures in this way (**with +5 to -20% precipitation**) suggest that drastic changes would occur in forest ecosystems. The predicted scenario would have incalculable consequences for forest ecosystems.

By increasing average annual temperatures, fundamental changes in forestry, land use and management can be expected and demanded.

It cannot be determined exactly which change is more likely in terms of: **yield, mortality, stock change or outlook for economically important species.**

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BiH is a country of high bio-ecological potential located at one of the global biodiversity hotspots

Forestry is considered one of the most important sectors in terms of mitigating climate change, as well as more vulnerable sectors in terms of adapting to climate change.

The composition of forests divided into four ecological-vegetation areas is the result of habitat conditions and can be characterized as partly favorable from the aspect of climate change.

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Presentation of key impacts in the forestry sector until 2030 in accordance with predicted climate changes:

- Shifting of the boundaries of certain types of forests in relation to latitude and altitude, that is, the retreat of certain communities under the pressure of others;
- Changes in the areas of individual species (ecotypes) of flora and fauna (eg common fir as an economically important species);
- Extinction or drastic reduction of the range of certain species (eg Pančić's spruce as a protected and rare species);
- Changes in the qualitative and quantitative composition of biocenosis;
- Habitat fragmentation;
- Changes in ecosystem functioning;
- Soil erosion as a result of a lower degree of "coverage" or fire;
- Reduction of the productivity of some forest ecosystems (eg oak forests);
- Reduction of biodiversity - ecosystem, species and genetic (taking into account the key messages of the report of the European Environment Agency), and thus the preservation of biological and genetic diversity is more difficult;



DOES A CLIMATE CHANGE ACTION PLAN EXIST, AND HOW IS FORESTRY ADDRESSED IN IT?

No.	Measure	Indicators	Estimated costs (BAM)	Implementation timeframe	Responsible institution	Type of measure
Forestry and forest resources						
3.34	Detailed mapping of forest species composition (field survey, remote sensing and GIS mapping project) (forest inventory)	Unique forest inventory in the entire territory of BiH (by entities and BD)	2,000,000	2020-2025	RS Ministry of Agriculture, Forestry and Water Management, FBiH Ministry of Agriculture, Water Management and Forestry, scientific research institutions	R&D
3.35	Research into species selection based on modelled climate change	1 research programme with 10 species trials	500,000	2020-2030	RS Ministry of Agriculture, Forestry and Water Management, FBiH Ministry of Agriculture, Water Management and Forestry, scientific research institutions	R&D
3.36	Monitoring plots established in vulnerable eco-types to assess changes, disease, mortality and succession; (budget includes monitoring over entire period).	Installation of 2 towers with all measuring instruments plus 20 monitoring plots	5,000,000 with 50,000 BAM/annual maintenance	2020-2030	RS Ministry of Agriculture, Forestry and Water Management, FBiH Ministry of Agriculture, Water Management and Forestry, scientific research institutions	R&D
3.37	Education of forestry employees, raising public awareness of the importance of forests and sensitivity to climate change	30 seminars, 10 promotional videos, 50 TV reports	1,000,000 for 10 years	2020-2030	RS Ministry of Agriculture, Forestry and Water Management, FBiH Ministry of Agriculture, Water Management and Forestry, scientific research institutions, public and private TV and radio broadcasting services	EI
3.38	Laws and bylaws adjusted to the effect of climate change in order to synchronise habitat capacity, felling volume and wood processing capacity	Adoption of new and amendments to existing laws and bylaws related to forests and climate change in order to define management systems adapted to climate change	-	2020-2023	RS Ministry of Agriculture, Forestry and Water Management, FBiH Ministry of Agriculture, Water Management and Forestry	R
3.39	Improve forest fire protection system; on the ground forest management (firebreaks, re-structuring, fire-fighting equipment, observation and real-time monitoring).	1 forest fire protection system, formation of bioindication points, formation of a network of observation posts for monitoring fire hazards	4,000,000 (3,000,000 BAM initially for the formation of a network of bioindication points, the formation of a	2020-2030	RS Ministry of Agriculture, Forestry and Water Management, FBiH Ministry of Agriculture, Water Management and Forestry, public and private forest management companies	I

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			network of observation posts, with 100,000 BAM/year for monitoring)			
3.40	Legislation and bylaws adapted to the effects of climate change in order to improve 'adaptive forest growing and planning systems'	Law on Forests and related bylaws amended in order to align with EU practices	-	2020-2023	RS Ministry of Agriculture, Forestry and Water Management, FBiH Ministry of Agriculture, Water Management and Forestry	R
3.41	Identification of protected areas for a larger area of 'adaptive forest ecosystems'	100 ha/year on average new protected areas or a total of 1,000 ha	100,000 BAM/year or total 1,000,000	2020-2030	RS Ministry of Spatial Planning, Construction and Ecology, FBiH Ministry of Environment and Tourism	I

How is the role of forestry distinguished in other sectoral policies? Can you provide examples?

- Forestry plays a vital role in policies on biodiversity and conservation. **National Biodiversity Strategy and Action Plan** recognizes forests as critical habitats for biodiversity, emphasizing sustainable forest management (SFM) to protect habitats and prevent degradation.
- In line with BiH's **National Adaptation Plan and Nationally Determined Contributions** (NDCs) under the Paris Agreement, forestry is crucial for climate mitigation and adaptation strategies. Forests are seen as carbon sinks and as buffers against extreme weather, which is increasingly relevant given BiH's vulnerability to climate impacts like floods and droughts. Policies here call for afforestation, reforestation, and fire management programs to increase forest resilience and adaptive capacity, distinguishing forestry as a key sector in climate change.
- Forestry contributes to water retention, watershed protection, and soil erosion control, especially in mountainous regions where forest cover supports the hydrological cycle. This role is recognized in water management policies, such as the **Water management strategy of the FBiH 2010-2022..** Forestry practices, especially those minimizing deforestation and soil disturbance, are promoted to protect water quality, stabilize riverbanks, and reduce sedimentation in water bodies, highlighting forestry's importance in **sustainable water management**.
- Biomass from forests, primarily firewood, remains an essential energy source for rural households. Recognizing this, the **Renewable Energy Action Plan for BiH** includes forestry as part of its strategy for bioenergy development. Sustainable harvesting and management practices are promoted to ensure that forests continue to supply renewable energy without compromising ecosystem health, emphasizing forestry's role in the national energy mix.

How is the role of forestry distinguished in other sectoral policies? Can you provide examples?

- Forests support rural livelihoods by providing non-timber forest products (NTFPs) like mushrooms, berries, and medicinal plants, in addition to timber resources. Rural development policies, particularly within the framework of **BiH's Rural Development Strategy**, integrate forestry to support sustainable livelihoods and reduce rural poverty. Incentives for community-based forest management, agroforestry, and ecotourism projects distinguish forestry as a key component for economic diversification and resilience in rural areas.
- Forestry also contributes to disaster resilience, especially regarding landslides and soil erosion, which are common in BiH's hilly and mountainous terrains. **The Disaster Risk Reduction (DRR) approach** incorporates forestry by promoting afforestation and erosion control to stabilize slopes, reduce flood risks, and protect vulnerable communities. Forested areas are recognized as natural barriers that can mitigate the impacts of landslides and flooding, distinguishing forestry as crucial in DRR efforts.



Is climate change recognized by forest policy, and if so, how?

General Part of the FBiH Forestry Program

7. Forest and climate change

7.1. Forest and climate change

7.1.1. Adaptation of ecosystem

7.1.2. Climate change mitigation – Opportunities and constraints

7.1.3. Chances for joint implementation of projects and carbon trading

What measures does forest policy prescribe for climate change mitigation and adaptation? Can you give examples of financial, educational, or legislative instruments?

- Strategic goal 7.1.1. Intensification of international cooperation and involvement of competent institutions from FBiH in international initiatives and processes dealing with the problem of climate change
- Strategic goal 7.1.2. Establishment of a monitoring system and formation of a central database for monitoring climate change at the FBiH level
- Strategic goal 7.1.3. Harmonization of the intersectoral approach in relation to strategy, policy and other aspects related to the relationship between forestry and climate change
- Strategic goal 7.1.4. Creation of a unified policy to combat climate change

What measures does forest policy prescribe for climate change mitigation and adaptation? Can you give examples of financial, educational, or legislative instruments?

Form a fund for karst afforestation	10 000 ha per 5 years	60 000 000 KM
Adopt new Law on forests (adapt existing legislation to forthcoming climate change)	5 years	
Informing the widest possible circle of interested parties about climate change (media campaign - all types of media).	5 years	175 000 KM

Are there secure monitoring and research instruments in place to track climate change? If yes, can you provide examples?

- Reporting and Diagnostic Service has been established within the Public forest companies in FBiH, which partially addresses these aspects.
- Some research institutions and agencies are working on climate change impacts on forests, but there is a need for more extensive and dedicated research plots focused on climate change adaptation and mitigation.
- Use of data collected from regular forest inventories during the preparation of Forest Management Plans to enhance climate change adaptation and forest management strategies.
- There are still gaps in data collection, especially for tracking forest health, biodiversity, and carbon stocks in real-time. This limits the effectiveness of climate adaptation strategies at the national level.

What gaps exist in current forest policy regarding climate change challenges?

- Effective climate adaptation requires up-to-date data on forest health, biodiversity, and carbon stocks, but there are gaps in systematic data collection and monitoring in BiH.
- Forestry program of Federation of Bosnia and Herzegovina is not adopted
- Law on forests in Federation of Bosnia and Herzegovina is not adopted
- There is lack of detailed guidelines on implementing adaptive silvicultural practices across different forest types and regions.
- Although forest policy recognizes the importance of forestry for climate adaptation, there is limited international cooperation and integration with other sectoral policies (e.g., agriculture, water management, and disaster risk reduction) to address climate challenges.
- Forest policy lacks dedicated support for research on climate change impacts specific to the BiH and region's forest ecosystems.



What objectives and measures would you recommend to address these gaps?

- **Enhance systematic data collection and monitoring for climate adaptation** (Establish a national forest monitoring system to collect, update, and analyze data on forest health, biodiversity, and carbon stocks)
- **Adopt the Forestry program of the Federation of Bosnia and Herzegovina**
- **Adopt the Law on forests in the Federation of Bosnia and Herzegovina**
- **Develop guidelines for adaptive silvicultural practices** (Create detailed guidelines for implementing adaptive silvicultural practices tailored to different forest types and regions)
- **Promote international cooperation and cross-sectoral integration for climate-resilient forest management** (Facilitate integration between forest policy and other relevant sectoral policies (e.g., agriculture, water management, disaster risk reduction) to ensure a coordinated approach to climate adaptation)
- **Strengthen support for climate change research and knowledge sharing** (implement policies that support research on climate change impacts specific to BiH and regional forest ecosystems)

Next steps

- Initiate continuous education and long-term training programs for forest experts in BiH, focusing on climate change adaptation and mitigation within the framework of lifelong learning
- Develop and implement collaborative projects with international organizations and funds to enhance climate change resilience in the forest sector, focusing on training forest experts and facilitating knowledge transfer from EU countries.
- Expand research on practical climate change mitigation and adaptation strategies for the forest sector and secure dedicated funding for these activities.
- Adopt the Forestry program of the Federation of Bosnia and Herzegovina
- Adopt the Law on forests in the Federation of Bosnia and Herzegovina

