Annex 2h

Legal Analysis & Opinion on the Potential Alternatives for the Sector Reform of Hydro-met Services in Albania

to the GCF Funding Proposal (Simplified Approval Process)

ALBAdapt – Climate Services for a Resilient Albania

14 January 2024

Version 1

Submitted by:

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

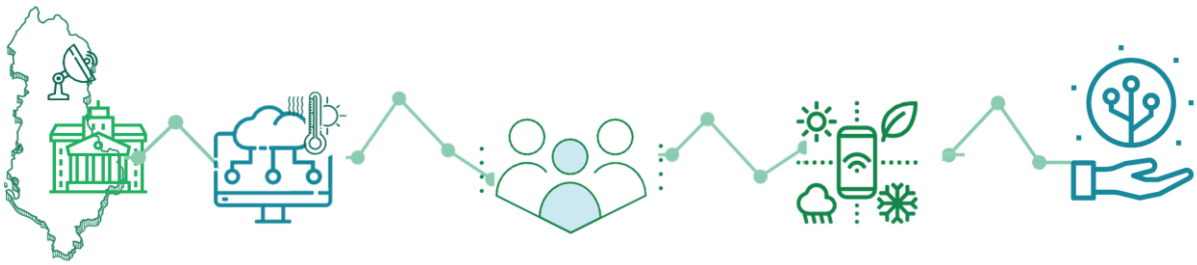

Table of Contents

List of Tables

Abbreviations and Acronyms

ASIG	National Authority for Geospatial Information
CIEWS	Climate Information and Early Warning System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GoA	Government of Albania
EC	European Commission
EU	European Union
DCM	Decision of the Council of Ministers
DRR	Disaster Risk Reduction
GFDRR	Global Facility for Disaster Reduction and Recovery
EUMETSAT	European Agency for Exploitation of Meteorological Satellites
ECMWF	European Center for Medium-Range Weather Forecasts
IGEWE	Institute of Geosciences and Energy, Water, and Environment
IGEO	Institute of Geosciences
INSPIRE	Infrastructure for Spatial Information in the European Community
MHEWS	Multi-Hazard Early Warning System
MMS	Military Meteorological Service
NCPA	National Civil Protection Agency
NEA	National Environmental Agency
NDC	National Determined Contribution
NFCS	National Framework for Climate Services
NMHS	National Meteorological and Hydrometeorological Service
NPEI	National Plan for European Integration
NSDEI	National Strategy for Development and European Integration
SIDA	Swedish International Development Cooperation Agency
WB	World Bank
WMO	World Meteorological Organization

Executive Summary

Albania is a country vulnerable to a wide range of natural hazards, including floods, droughts, heavy rainfall, snowfall, heat waves, landslides, forest fires, all of which are closely linked to hydrological, meteorological and weather conditions. These hazards pose continuous threats to both human lives and the country's economy, necessitating robust disaster risk reduction measures and an improved hydro-meteorological service.

Climate changes does not relate only with the environment. Instead, it has a great impact on the sustainable management of natural resources, the agricultural sector, the energy sector, tourism and on the broader socio-economic development of the country. Critical sectors of the economy in Albania face significant susceptibility to hydro-meteorological hazards and climate change. Given that a substantial portion of Albania's economic activities relies heavily on the utilization of water resources, the nation's economic stability is notably sensitive to the effects of hydro-meteorological conditions and the ever-evolving patterns of climate variability and change.

The meteorological and hydrological services in Albania confront a range of challenges that are predominantly associated with the organizational aspects of the hydro-meteorology service but also terminology and ownership of key assets such as hydro-meteorological stations. The responsibility for meteorological and hydrological services is mainly divided among three institutions: the Institute of Geoscience under the Polytechnic University of Tirana, the Military Meteorological Service (MMS), and the Meteorological Services of Civil Aviation. Even the official reference to the institution serving as the National Meteorological and Hydro-meteorological Service is somewhat perplexing. Although the legal name of this institution has been the "Institute of Geosciences and Energy, Water, and Environment" (IGEWE) since 2011, it is referred to as the "Institute of Geoscience" (IGEO) on its official website and in some reports and studies.

Furthermore, it is worth noting that 40 of the hydro-meteorological stations operated by IGEO actually belong to the National Civil Protection Agency (NCPA). The decision to place these weather stations on the property of the NCPA appears to have been made without careful consideration and might be considered a short-term, hurriedly implemented solution. This is primarily because NCPA's core responsibilities and budget allocations do not inherently cover the maintenance and upkeep of physical infrastructure such as hydro-meteorological stations, potentially leading to maintenance challenges and inefficiencies. Instead, the primary focus of NCPA's responsibilities and budgetary allocations is centred around the coordination and collaboration of various institutions and structures within the civil defence system, both at the central and local levels. Therefore, it is important to reassess this arrangement and consider whether a more suitable entity or mechanism should be responsible for the maintenance of these stations to ensure their continued functionality and reliability for meteorological and hydrological services in Albania.

These issues encompass various aspects of the service, from data collection and analysis to dissemination and response. When the organisational structure is not effectively designed and coordinated, it can lead to shortcomings in the assessment of weather and hydrological conditions. This, in turn, affects the preparedness and ability to respond to weather-related events, including floods, droughts and extreme weather events. Inefficient organisation can hinder the timely provision of accurate information to stakeholders, such as government agencies, disaster management authorities and the public, which is crucial for making informed decisions and mitigating risks.

In light of these considerations, and as recommended by several studies and assessments, it is imperative to take proactive measures by establishing and making substantial investments in a robust 24/7 hydro-meteorological service infrastructure. This infrastructure should encompass both technical and human resources to effectively boost risk assessment and early warning systems. By doing so, it will facilitate operational monitoring, timely warning dissemination, accurate forecasting and comprehensive mapping of meteorological, hydrological, and climate-related hazards. Such an investment is crucial to enhance the resilience of communities and promote preparedness for natural disasters and extreme weather events.

In the field of hydro-meteorology, a wide range of expertise and specialised tools is essential for accurate data collection, analysis and forecasting. However, in Albania's context, these responsibilities and resources tend to be somewhat fragmented, spanning various institutions, including governmental bodies and external organisations such as universities. This dispersion of expertise and tools has

created challenges in coordinating efforts, sharing data and achieving a cohesive and efficient hydro-meteorological service.

Efficient collaboration among these institutions is equally vital to ensure that hydro-meteorological data is collected, analysed and disseminated effectively. The limited collaboration to date has resulted in inefficiencies, duplication of efforts and a fragmented approach to addressing weather- and climate-related challenges. In this respect, until a better and more sustainable solution is determined, fostering collaboration and coordination among the involved entities is essential for the optimal functioning of the hydro-meteorological service and its ability to provide accurate and timely information to relevant stakeholders and the public.

A complete overhaul of the National Meteorological and Hydrological Service's (NMHS) institutional framework offers a strategic vision for Albania to upgrade its hydro-meteorological services, equipping the nation with a dedicated, well-resourced institution capable of addressing current and future challenges, meeting international commitments and enhancing resilience in the face of climate-related threats.

1. Introduction

As climate patterns continue to evolve, addressing the aforementioned challenges becomes paramount. Sustainable adaptation strategies, combined with enhanced capacities and warning systems, are essential components in safeguarding territory, economy and communities, even in the face of mounting climate-related pressures.

This analysis is undertaken in the framework of the ALBAdapt – Climate Services for a Resilient Albania project, which aims to increase the adaptive capacity and climate resilience of Albania, particularly of its coastal zone, through generation, coordination and effective use of climate data, information and services. It seeks to transform the entire climate services value chain: from the reform of the NMHS and the establishment of a National Framework for Climate Services (NFCS) to the building of a multi-hazard early warning system (MHEWS) for early action and adaptation measures. To reduce the impacts of climate-induced hydro-meteorological hazards, timely access to a joined-up Climate Information and Early Warning System (CIEWS) and delivery of targeted measures and investments will be significantly enhanced through the project.

As a result, vulnerable Albanian communities and decision-makers will be able to take early action, make informed climate financial decisions and be more resilient to climate change impacts, particularly those resulting from water-related hazards in the coastal areas.

The project focuses on three components, covering climate information, the multi-hazard early warning system and climate-informed investment decisions. In the framework of this annex, GIZ has contracted a legal expert to provide an initial legal analysis and legal opinion on the potential alternatives for the sector reform of the hydro-meteorological services in Albania.

The legal expert is tasked to prepare a thorough assessment of the existing legal framework in place for the hydro-meteorological sector in Albania. In addition, the consultant will provide an analysis of three scenarios, with respective argumentation for each of them, and a roadmap for the necessary institutional, legal and administrative steps to be followed for the realisation of the reform of the hydro-met services in Albania.

By thoroughly examining the current legal landscape, this analysis aims to identify potential deficiencies and challenges that may impede the effective delivery of hydro-met services and the timely response to climate-related hazards.

2. Disaster risk reduction and early warning state of affairs

Numerous reports and assessments emphasise Albania's high susceptibility to climate change impacts, which encompass sea-level rise, floods and droughts. Given this vulnerability, adaptation efforts are deemed essential.

The assessment conducted for Albania on improving disaster risk and loss information[1] identifies the country's exposure to various natural hazards, including earthquakes, floods, landslides, forest fires, and droughts, positioning it as one of the most disaster-prone countries in Europe. This document finds that the hydro-meteorological sector in Albania currently faces significant challenges, characterised by a lack of organisation and limited technical, human and financial resources. These constraints hinder its ability to adequately meet the growing demand for hydro-meteorological services, which are crucial for providing essential information and products to the government and society, and for safeguarding human lives and the environment. Consequently, the sector struggles to fulfil its international obligations related to the generation of hydro-meteorological data, impeding regional and global cooperation in the advancement of hydro-meteorological modelling and services.

In 2021, the World Bank (WB) and the Global Facility for Disaster Reduction and Recovery (GFDRR) conducted an Emergency Preparedness and Response Assessment for the country. This assessment comprised five main components, one of which focused on evaluating climate data provision, information management and information dissemination[2]. The assessment found that in Albania there exists a partially functional early warning system, but its effectiveness is hindered by the inadequate maintenance of monitoring stations. To address this issue, there is a pressing need for a comprehensive strategic plan aimed at modernising the system. Furthermore, greater inter-agency collaboration among various forecasting and early warning entities is a critical requirement for enhancing the country's disaster preparedness. While IGEO serves as the official hydro-meteorological agency, its capacity to coordinate the entire system and collaborate effectively with NCPA and other relevant institutions remains limited. Even though Albania has taken important steps in developing its early warning system services, further efforts are needed to improve coordination, maintenance and capacity-building to enhance the country's resilience to meteorological hazards.

In May 2020, AMBU, with the financial support of WB and the Swedish International Development Cooperation Agency (SIDA), undertook an assessment for the establishment of institutional and regulatory platforms for the governance and functioning of the National Water Cadastre. Among other deliverables, a thorough analysis of the hydro-meteorological network as the main provider for the water quantity data needed for the cadastre was undertaken. In the final report, it is stated that "the condition of the network of hydrological and meteorological stations is significantly deficient"[3]. The same report identifies the need for the "establishment of a hydro-meteorological service as an independent institution financed by the state budget and dedicated to hydro-meteorological services".

In the context of European Union (EU) accession, the 2020 progress report from the European Commission (EC) reaches the conclusion that, amongst other things, "the administrative capacity, infrastructure and systems for early warning, prevention, preparedness and response are inadequate". The same report states that Albania "still needs to regulate its early warning and hydrometric-meteorological services"[4] and that the "lack of specific administrative structures and available staff for handling climate change issues are a matter of serious concern".

According to the EC 2022 country report[5], Albania has demonstrated a certain level of preparedness in addressing climate change concerns; however, alignment with the EU standards remains somewhat limited. The report recommends a series of critical actions for strengthening Albania's civil protection system, urging substantial investments in operational capacities, infrastructure and early warning systems to effectively manage climate change issues. This entails enhancing flood management in compliance with the EU Floods Directive and adopting innovative measures to mitigate flood-related

[1] Improving Disaster Risk and Loss Information in Albania, May 2022, developed by Global Facility for Disaster Reduction and Recovery (GFDRR), World Bank Group, available at https://documents1.worldbank.org/curated/en/099430106142216471/pdf/P172145046dbf40a5093060a6deca58f620.pdf checked on August 31 (Last accessed: 31.08.2023).

[2] Diagnostic Report, Emergency Preparedness and Response Assessment, Albania, World Bank and GFDRR, available at https://www.gfdrr.org/en/publication/emergency-preparedness-and-response-assessment-albania, (Last accessed: 15.09.2023)

[3] Final report on establishment of institutional and regulatory platform for the governance and functioning of the National Water Cadaster reference WRIP/WMA/3/CS/006

[4] Name of report See URL: albania_report_2020.pdf (europa.eu) (Last accessed: 23.10.2023).

[5] Name of reportSee URL: https://neighbourhood-enlargement.ec.europa.eu/system/files/2022-10/Albania%20Report%202022.pdf (Last accessed: 30.08.2023)

damage. Specifically, it calls for Albania to concentrate on enhancing “flood forecasting capabilities, ensuring the sustainability of its national monitoring station network, and expeditiously regulating early warning and hydrometric-meteorological services.”

3. Assessment of the legal framework linked to hydro-meteorology and the hydro-met service

3.1 Policy framework

Resilience and adaptation towards climate change are amongst the government's main policy goals, as outlined in the current National Strategy for Development and European Integration[6] (NSDEI). This document, which is the umbrella policy document in all areas, recognises the pressing need to enhance preparedness towards disasters and risk management capacities through adequate and responsive systems and procedures as well as increasing institutional capacities for reducing and managing risks from disasters. The strategy identifies that sustainable management of Albania's natural resources – and, in particular, water resources – depends upon several critical factors, such as policy reforms, regulatory framework enhancements, capacity building for climate change adaptation and mitigation, effective disaster risk management and community preparedness to respond to emergencies and disasters.

Lessons drawn from recent disaster events have been considered, heightening policymakers' awareness of the impacts of climate change on water-related aspects, presenting an elevated risk to human health and safety, particularly among vulnerable populations. Likewise, the profound influence of climate change on water resources, in the form of increasingly extreme weather events, such as floods, which have the potential to devastate critical infrastructure and disrupt essential water supply and sanitation services, have been flagged in this strategy for carrying increasing risks.

Being identified as one of the challenges in the NSDEI, resilience and adaptation towards climate change have become imperative. One of the primary objectives of the National Climate Change Policy is to safeguard Albania from the adverse impacts of climate change, with a particular emphasis on protecting the coastal areas. The strategy places a significant emphasis on priority measures that involve the reformation and strengthening of administrative structures and institutions. This entails allocating essential resources, both in terms of finance and human capital, to enable the generation and dissemination of public information concerning climate patterns and their consequences across key sectors of the economy, public safety and the well-being of the population. The strategy also aims to establish a national information and service platform dedicated to climate-related data. Furthermore, it underscores the importance of reinforcing disaster risk management through the implementation of advanced early warning systems. In line with these policy goals, Albania is committed to working towards strengthening its climate resilience and preparedness. The focus on the coastal regions is particularly crucial, given their vulnerability to rising sea levels and extreme weather events. To achieve these objectives, the identified interventions include institutional and organisational reforms within government structures. The strengthening of disaster risk management systems, particularly early warning systems, is another key component of the strategy.

Furthermore, the present National Plan for European Integration[7] (NPEI) acknowledges the country's slow progress in early warning and hydro-meteorological services. It also emphasises the imperative to strengthen administrative and infrastructure capacities and elevate the early warning system to improve prevention, preparedness and response measures.

The National Disaster Risk Reduction Strategy and its associated disaster risk reduction (DRR) Action Plan[8] reiterate the finding that technical and operational capacities of the institutions for hydro-meteorological data collection, forecasting, monitoring and early warning are insufficient, lacking also the necessary investments in early warning systems. In addition to the aforementioned issues, the document highlights the critical need for the modernisation and rehabilitation of the national weather station network, regular maintenance of equipment, reliable and regular internet connectivity, recruitment of qualified staff, such as hydrologists and meteorologists, and digitisation of data to improve the early warning system.

This National DRR strategy underscores the critical need to enhance collaboration and operational integration with European meteorological infrastructure organisations such as the European Center for Medium-Range Weather Forecasts (ECMWF) and the European Agency for Exploitation of

[6] DCM No. 88, dated 22.02.2023 "For the approval of the National Strategy for Development and European Integration 2022-2030".
[7] DCM No. 122, dated 01.03.2023 "For the approval of the National Plan for European Integration 2023-2025".
[8] DCM No. 94, dated 22.02.2023 "For the approval of National Strategy for Risk Mitigation from Disasters 2023-2030 and Action Plan".

Meteorological Satellites (EUMETSAT). Currently, meteorological services are fragmented across various institutions operating at distinct levels, presenting challenges not only in fostering inter-agency interaction but also in facilitating cooperation between these organisations. Moreover, this fragmentation of responsibilities across multiple institutions, lacking a hierarchical relationship and clear leadership regarding hydro-meteorological services, hampers the impact of ongoing projects in the region aiming to establish weather and hydrological monitoring networks that adhere to the World Meteorological Organisation (WMO) standards, along with a network of hydro-meteorological stations to ensure compliance with the EU Water Framework Directive and EU Floods Directive.

When examining the Action Plan of the national DRR strategy, it becomes evident that the proposed measures, backed by identified projects, clearly outline the necessary steps for climate information and early warning systems. However, it is important to note that the responsible institutions for implementing these actions differ. Specifically, the action plan designates the ministry responsible for environment, among other unnamed entities, as the responsible body for ensuring timely access to climate information and early warning systems, as well as for coordinating targeted measures and investments to support proactive climate-related decisions and enhance resilience.

Conversely, within the framework of integrated cross-border flood risk management in the Drin river basin, the ministry responsible for agriculture and the Water Resources Management Agency have been entrusted with tasks such as reviewing data collection procedures and their quality, evaluating requests for the monitoring network's strategic flood risk management, and assessing institutional capacities for monitoring the hydrometric network, in addition to developing an operational reporting plan.

3.2 Legal and institutional framework

In 2019, Albania adopted a new Law on Civil Protection[9], which is partially aligned with a set of EU directives and decisions and offers a new approach to disaster management. The Law's primary goal is to reduce disaster risks, with a particular emphasis on monitoring, risk assessment and early warning systems. It envisions the monitoring and notification as a dedicated system designed to forecast and track various natural phenomena and enabling swift communication with relevant authorities and the community in the event of an impending threat arising from identified hazards, also providing guidance on the actions to be taken in response to these warnings.

In addition, the Law provides for the meaning of "early warning system" by defining it as an integrated system of hazard monitoring, forecasting, risk assessment and communication processes. The purpose of such a system is to facilitate timely actions by individuals, communities, governments, businesses and other stakeholders to proactively mitigate disaster risks before hazard events occur. Moreover, the Law provides for the term "risk assessment", whether qualitative or quantitative, to determine the nature and extend of the risk by analysing potential hazards and evaluating the existing conditions of exposure and vulnerability that together could harm the exposed people, property, services and environment.

A crucial aspect of this Law lies in the delineation of the roles and responsibilities assigned to various institutions and structures within the civil protection system, aiming to ensure a cohesive and well-coordinated response, and promoting the effective functioning of the system. However, the way the Law has defined the responsibilities of the institutions involved in civil protection, particularly regarding monitoring, early warning and notification, is imprecise and often confusing. This may be a reason why, even though the Law has been in effect for more than three years, its implementation by institutions is lagging and challenging. According to the finding of the gap analysis developed by GFDRR[10], the reforms and initiatives expected upon enactment of the Law on Civil Protection remain unimplemented as national institutions and local authorities face challenges in fulfilling their responsibilities assigned by the Law.

The Law tasks ministries and central institutions with organising and maintaining monitoring, early warning, notification and alarm systems, within their respective scope of responsibility[11]. At the local level, the Law assigns duties to counties and municipalities. The counties and municipalities[12] are

[9] Law No. 45/2019 "On Civil protection".
[10] Improving Disaster Risk and Loss Information in Albania, May 2022, developed by Global Facility for Disaster Reduction and Recovery (GFDRR), World Bank Group, available at https://documents1.worldbank.org/curated/en/099430106142216471/pdf/P172145046dbf40a5093060a6deca58f620.pdf (Last accessed: 31.08.2023).
[11] Article 22, point 2, letter c) of the Law No. 45/2019 "On Civil protection".
[12] Article 28, point 2, letter e) of the Law No. 45/2019 "On Civil protection".

responsible for ensuring the operation of the monitoring, early warning, notification and alarm system within their jurisdictions, and promptly informing the at-risk community, neighbouring jurisdictions and the NCPA.

On the other hand, Article 46 of the Law stipulates that early warning, monitoring and notification are carried out by designated institutions and structures, whose organisation and functioning are regulated by various legal and sub-legal acts. It also lists the tasks that these institutions must perform within the framework of civil protection. These tasks encompass the identification, collection, processing, analysis and communication of data, as well as the identification and monitoring of phenomena presenting a risk, and the notification of relevant institutions and of the NCPA in each case. In addition, these structures and institutions provide advice to NCPA.

The Law envisions a role also for higher education and scientific research institutions, as well as for other public and private entities which shall convey to NCPA the results of their scientific research findings related to risk mitigation of disasters and civil protection. They may also conduct scientific research and promote activities related to civil protection, engage technical and human resources serving to necessities of civil protection structures and, upon the request of NCPA, inform other related structures on their findings.

The above analysis of the Law on Civil Protection highlights a noteworthy concern related to the allocation of responsibilities among institutions, both at the central and local levels, engaged in civil protection, particularly in the domains of monitoring, early warning and notification, which is in the focus of this assessment. These institutions have been entrusted with tasks that, while generally related to monitoring, early warning and notification, lack clear delineation, specificity or a designated coordinating authority. Not even the NCPA has a distinct guiding, coordinating and monitoring role concerning the establishment and operation of monitoring, early warning and notification systems. Instead, the agency has the general responsibility[13] to coordinate the work for risk analysis and assessment of natural disasters.

This situation paints a picture where the responsibility for these critical tasks is diffused across multiple entities, resulting in a lack of centralised leadership and accountability. It seems as though these tasks are distributed broadly, with no single entity assuming primary responsibility or ownership. Consequently, this lack of clarity regarding who holds the main responsibility hampers the effective coordination and oversight of monitoring, early warning and notification systems. Furthermore, the inadequacy of resources, especially at the local level, further compounds these challenges, making it difficult for both national institutions and local authorities to fulfil their designated obligations as outlined in the Law. The interplay between imprecise responsibilities and resource constraints poses a challenging barrier to the effective and timely execution of the civil protection framework.

To address this issue and enhance the effectiveness of civil protection efforts, there is a need for a comprehensive review and potential revision of roles and responsibilities among the involved institutions, by establishing a clear guiding and coordinating authority to ensure efficient collaboration, resource allocation and monitoring of systems aimed at safeguarding communities from hazards and disasters in general and hydro-meteorology in particular. This authority could play a pivotal role in streamlining efforts, fostering collaboration and, ultimately, improving the overall responsiveness of the civil protection system.

The Law on Climate Change[14] has in its objectives enhancing the capacity to effectively respond and adapt to the adverse impacts of climate change. This is of paramount importance, and it extends across multiple levels of governance, encompassing the national, county and local levels. This entails strengthening not only the ability to mitigate the immediate consequences of climate change but also to build resilience, develop adaptive strategies and implement sustainable practices that can withstand and mitigate the long-term challenges posed by shifting climate patterns. Achieving this goal requires coordinated efforts, resource allocation and the implementation of a comprehensive approach that extends from the national government down to regional and local authorities.

The Law on Climate Change specifically mandates that IGEO[15], alongside other scientific research institutes, both public and private, engaged in climate-related measurements, research or studies, must ensure the accessibility of their findings and data to the ministry responsible for climate change and to the National Environmental Agency (NEA). This provision highlights the importance of transparency

[13] DCM No. 747, dated 20.11.2019 “For the organization and functioning of National Civil Protection Agency”.
[14] Law No. 155/2020 “On Climate Change”.
[15] Article 23, point 1, letter e) of the Law No. 155/2020 “On Climate Change”.

and cooperation among these institutions. This sharing of information aims to facilitate better policy-making, enhance the nation's understanding of climate-related challenges, and support evidence-based decision-making for effective environmental management and climate adaptation strategies. However, the actual situation differs, and in practice such information exchange hardly occurs.

The Law also entails fostering awareness, education and engagement at the community level to ensure that climate mitigation and adaptation become an integral part of society's collective response to the global climate challenge.

In accordance with the Law on Climate Change, Albania has adopted its **National Determined Contribution** (NDC)[16] document, which represents an expansion of climate action measures compared to the previous version (which was limited to addressing only two sectors). The updated NDC includes measures across five sectors, emphasising the importance of adaptation measures along the Albanian coast and reinforcing the institutional framework for climate action. One notable aspect of this document is its call for generating scientific evidence to inform decision-making for climate change adaptation. This scientific evidence is crucial for effective communication of monitoring information to sector-specific and territorial stakeholders. Additionally, the NDC outlines plans to establish an early warning system aimed at preventing flooding and fires in ecologically sensitive areas, particularly in the sectors related to lagoons and wetlands.

The need for implementing measures for the effective mitigation of floods and droughts, as an essential aspect of climate resilience and disaster risk reduction, is also emphasized by the **Law on Integrated Management of Water Resources**[17]. One key aspect of flood and drought mitigation is the development of comprehensive risk assessments and early warning systems. These systems involve monitoring weather patterns, river and sea levels and other relevant indicators to predict and provide advance notice of potential flooding or drought events.

The legal analysis identifies two primary entities with broader responsibilities in the areas of civil protection and geospatial information. The first is the NCPA, which operates under the Ministry of Defence and serves as the primary agency responsible for the management and mitigation of risks associated with national disasters and civil protection. NCPA's functions encompass coordinating various stakeholders, developing the National Strategy for Disaster Risk Reduction, formulating the National Plan for Civil Emergencies, and conducting central-level disaster risk assessments.

Additionally, the National Authority for Geospatial Information (ASIG) operates as a decisive, executive and coordinating entity entrusted with the responsibility of making determinations concerning the acquisition, processing and enhancement of geospatial data obtained from public authorities. These determinations are guided by specific thematic considerations. Notable among the public authorities responsible for geoinformation[18] are IGEO, which oversees hydrology and meteorology data, the Albanian Hydrographic Service under the Sea Force Command, which handles data related to the seas, and the Water Resources Management Agency, responsible for hydrography-related information.

[16] DCM No. 581, dated 06.10.2021 "For the approval of the National Determined Contribution Document".
[17] Law No. 111/2012 "For the Integrated Management of Water Resources", as amended.
[18] The list available at https://geoportal.asig.gov.al/sites/default/files/2023-03/Autoritetet%20Publike%20Pergjegjese%20per%20temat%20e%20informacionit%20gjeohapesinor%20per%20publikim_0.pdf, (Last accessed: 01.09.2023).

4. Potential scenarios on reorganisation of the hydro-meteorological service

4.1 Historical background

In 2007[19], the government decided to restructure the hydro-meteorology service, as part of a broader administrative reform effort. This involved merging of the former Institute of Hydrometeorology with the former Hydraulic Research Centre of the Academy of Sciences. As a result, the Institute of Energy, Water and Environment (INEUM) was established, as a main unit at the Polytechnic University of Tirana. All governmental services carried out by the merging institutions become part of the mission and tasks of the newly created Institute.

Concurrently, IGEO was created[20] as a main unit at the Polytechnic University of Tirana. This merger combined the Institute of Seismology from the Academy of Sciences with the Directorate of Territory Administration and Mineral Resources, the Directorate of Geo-Informatisation and the Directorate of Applied Geophysics and Topo-Geodesy, all of which were previously part of the Albanian Geological Service.

Another institutional reform affected these institutions in 2011. The government opted to reverse the 2007 reform by revoking the decision of the council of ministers (DCMs)[21] that had been approved at that time. The Ministry of Education was entrusted with implementing the new DCM but lacked any specific guidance for the future course of the institutions involved or established, including the hydrometeorology service.

The reorganisation process that took place in 2007 involved the integration of three entities previously affiliated with the Academy of Sciences and three units of the Albanian Geological Service, resulting in the establishment of two institutes, as primary units at the Polytechnic University of Tirana. However, the subsequent approval of DCM no. 490 in 2011 simply abolished DCM no. 560 and 561, without including any provisions for the future of these institutions. The absence of regulations addressing the future of these institutions following the abolition of reorganisations and mergers originating from different entities is considered a significant legal and institutional gap.

DCM no. 490 only tasked the Ministry of Education and the Polytechnic University of Tirana with implementing this decision, but it did not empower them to undertake further reorganisational actions for the institutions subject to DCMs 560 and 561. Regardless of this, two weeks later, the Minister of Education issued an instruction[22] for the creation of IGEO as a main unit at the Polytechnic University of Tirana. IGEO merged the two institutes created in 2007 by DCMs 560 and 561, decisions that were repealed in 2011. In an incoherent manner, the process of reorganisation was administered with a normative act of a lower level, specifically the Minister's instruction, which ordered the merger of two institutes that were assumed not to exist since the DCM that had created them had been abolished.

On the other hand, the Minister's instruction was not authorised by any legal or sub-legal act, in accordance with Article 118, point 2 of the Constitution, which stipulates that the issuance of a sub-legal act must be authorized by defining the competent body and the matters to be regulated. Furthermore, the Minister's instruction reorganised institutions that originated from entities not within the field of responsibility of that ministry.

In essence, the restructuring efforts kept the focus geared toward academic and teaching functions. However, IGEO inherited and took over all the tasks and services offered by the previous institutes, including the ones related to hydro-meteorology. Subsequently, IGEO inherited the issues related to the insufficient financial resources, leaving the monitoring network vulnerable to operational challenges and potentially impacting its ability to effectively provide hydro-meteorological services. The challenge

[19] DCM No. 560, dated 22.08.2007 "On the merger of several institutes and research units, their organization into the Institute of Energy, Water, and Environment, at the Polytechnic University of Tirana, and the functioning of the institute in the transitional period", as amended by DCM No. 64, dated 28.01.2008.
[20] DCM No. 561, dated 22.8.2007, "On the merger of several institutes and research units, their organization into the Institute of Geosciences, at the Polytechnic University of Tirana, and the Functioning of the Institute in the Transitional Period".
[21] DCM No. 490, dated 06.07.2011 "For the abolishment of decisions no. 560 and no. 561, dated 22.8.2007 of the Council of Ministers "On the merger of some institutes and research units, their organization at the Institute of Energy, Water And Environment, at the Polytechnic University of Tirana, and their functioning of the institute in the transitional period" and "On the merger of several institutes and research units, their organization in the Institute Of Geosciences, at the polytechnic university of Tirana, and the functioning of the institute in the transitional period"
[22] Order of the minister of Education and Science No. 371, dated 28.07.2011 "On the establishment of the Institute of Geosciences and Energy, Water, and Environment (IGEWE/IGJEUM), at the Polytechnic University of Tirana."

to maintain a balance between academic pursuits and service-oriented functions continues to impact the sustainability and reliability of hydro-meteorological services in Albania.

4.2 Mission and key responsibilities of IGEO

IGEO is entrusted with a multifaceted mission that encompasses scientific research, comprehensive education for students and emerging scientists, and the dissemination of knowledge and technology. Operating on a national scale, IGEO specialises in a diverse range of fields, including seismology, hydro-meteorology, natural resource management, geo-risk assessment, geoengineering, geoinformation systems, climate studies and environmental research. Its overarching mission is to advance knowledge through rigorous research, provide extensive educational opportunities and contribute significantly to the nation's understanding and effective management of critical issues within the realms of geosciences and environmental sciences.

The primary responsibilities of IGEO encompass the examination and ongoing surveillance of hydrological events, and the timely communication of flood risk information to state agencies responsible for civil emergencies and the general public[23]. Additionally, IGEO is engaged in the research and monitoring of atmospheric weather patterns and climate change, along with providing real-time notifications to relevant authorities and the public regarding extraordinary atmospheric events. Regarding hydro-meteorology, one of IGEO's tasks is to implement and employ information and telecommunication technologies for collecting, transmitting and processing data within digital systems. Furthermore, IGEO holds the official endorsement of the WMO as Albania's National Meteorological and Hydrological Service (NMHS)[24] and its director is the permanent representative of Albania to the WMO.

4.3 Current status

The current state of hydro-meteorological services in Albania reveals a pressing and concerning scenario. Albania, like many regions worldwide, confronts a growing array of challenges brought about by climate change and water-related natural hazards. These challenges encompass a wide spectrum, from floods, droughts and severe weather events to landslides. These events have both direct and indirect repercussions on Albania's socio-economic well-being and environmental safety, necessitating immediate action.

One critical issue is that Albania lacks a 24/7 hydro-meteorological service that can provide essential equipment, data and climate-related services to various institutions and decision-makers, as well as to the public. This absence of round-the-clock service places Albania in a unique position within Europe, as it is the only nation in the region without such a service. Additionally, Albania's non-membership in the European Meteorological Network (EUMETNET) and its associated programmes, including MeteoAlarm, the OSCAR platform, the ECMWF, and the European Forest Fire Information System (EFFIS), further isolates the nation from valuable regional meteorological collaboration.

Another significant concern is Albania's lack of data exchange with the Global Baseline Observation Network (GBON). Despite having seven registered stations on the network, none have received approval due to their non-operational status. Furthermore, a recent diagnostic report conducted by MeteoSwiss for WMO highlights not only the fundamental challenges within Albania's hydro-meteorology sector but also a worsening trend exacerbated by the absence of a robust legal framework in the field.

Despite substantial investments made between 2012 and 2022 in hydro-meteorological stations, computer systems, databases, forecasting models and training, the situation regarding data and services in the country remains largely stagnant. This includes the lack of effective inter-institutional coordination. Various international support initiatives, such as those from the WB, the EU and GIZ, have struggled to yield sustainable results due to institutional arrangements and a lack of dedicated budgets for field measurements and maintenance. Consequently, there is an urgent need to address these systemic challenges to ensure Albania's resilience in the face of climate-related hazards.

Taking measures for effective mitigation of water-related natural hazards involves a multi-faceted approach that combines science, infrastructure, policy and community engagement. These efforts are

[23] Point 3, letter c) of the Order of the minister of Education and Science No. 371, dated 28.07.2011 "On the establishment of the Institute of Geosciences and Energy, Water, and Environment (IGEWE/IGJEUM), at the Polytechnic University of Tirana."
[24] DCM No. 94, dated 22.02.2023 "For the approval of National Strategy for Risk Mitigation from Disasters 2023-2030 and Action Plan".

essential for building climate resilience and reducing the devastating impacts of these hydro-meteorological hazards.

The current state of climate information and warning systems in Albania reveals significant challenges stemming from inadequate institutional structures both within the providers themselves and in their interactions among themselves and with end-users. This situation has thus far hindered the realisation of a fully integrated climate information and warning system, one that has the potential to mitigate climate-related risks and enhance resource management.

The responsibility for continuous study and monitoring of hydrological phenomena and activity, as well as notification, in real time, of state bodies responsible for civil emergencies and the public about flood risks falls under the scope of IGEO. These notifications and warnings shall subsequently be transmitted to the NCPA for further dissemination. Presently, however, a notable gap exists in the level of coordination between IGEO and NCPA. This lack of coordination means that they do not efficiently connect their collective expertise to deliver multi-hazard early warnings that comprehensively encompass all weather and climate-related threats in a systematic and consistent manner. This means that the current warning systems do not systematically and consistently consider all the threats posed by weather and climate-related events.

If we refer to the composition of the Technical Advisory Committee on Risk and Disaster Mitigation[25], there is a very long list of institutions participating in this committee and IGEO participates only upon invitation.

Meteorological services in Albania are not the exclusive responsibilities of just one entity. They are shared between IGEO, the Albcontrol Met Service, the MMS and even the private sector, such as Meteoalb. This fragmented landscape highlights the pressing need for enhanced integration and coordination of responsibilities and interaction among these agencies. Such coordination is imperative to establish a more resilient and comprehensive climate information and warning system.

4.4 Compliance with EU standards on meteorological and hydrological services

Albania's commitment to transpose the EU *acquis communautaire* and standards is a fundamental aspect of its journey towards European integration. Transposing the EU acquis refers not only to the adoption of European legislation but also to its effective and adequate implementation within the country. Albania's obligations in this regard are twofold. First and foremost, the country must align its national laws and regulations with EU standards, ensuring legal harmonisation across various sectors such as environment and climate change, human rights and trade. Second, and equally crucial, is the need for Albania to establish robust mechanisms for the enforcement and application of these aligned laws. This entails building capacity within institutions and fostering a culture of compliance among stakeholders. The successful transposition and implementation of EU standards are not only legal obligations but also strategic imperatives for Albania, as they pave the way for enhanced economic cooperation, improved governance and a more prosperous future within EU.

The EU has established a set of regulations, standards and directives related to hydro-meteorology to ensure the quality, consistency and harmonisation of meteorological and hydrological services across its member states. These regulations and standards are designed to enhance cooperation and coordination among EU member states in the field of hydro-meteorology. The key EU regulations and standards related to hydro-meteorology include the Infrastructure for Spatial Information in the European Community (INSPIRE) Directive[26], the Water Framework Directive[27] and the Floods Directive[28].

The **INSPIRE Directive** aims to establish a European spatial data infrastructure. It includes provisions for the harmonised collection, management and sharing of spatial data, including data related to meteorology and hydrology. It encourages inter-operability and the use of common standards for geospatial information. Albania has made significant steps in aligning its legislation with the INSPIRE

[25] DCM No. 1020, dated 16.12.2020 "For the composition, functioning and tasks of Technical Advisory Committee on Risk and Disaster Mitigation".
[26] Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)
[27] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy
[28] Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks

Directive, yet further progress is required to achieve full implementation, particularly with regard to the Environmental Liability Directive[29]. Pursuant to the law on Organisation and Operation of the National Geospatial Information Infrastructure[30], the state standards for technical geospatial information specifications in Albania regarding atmospheric conditions and meteorology have been approved[31]. These standards delineate the fundamental principles governing the implementation of the National Spatial Data Infrastructure (NSDI) in Albania, with the overarching goal of fostering a unified and accurate set of geospatial data and services, as responsible public authorities gather, process and maintain geospatial information. Furthermore, these standards are intended to promote enhanced inter-operability among these authorities.

The **Water Framework Directive** establishes a framework for the protection and sustainable management of water resources in Europe. It includes requirements for member states to monitor the status of surface waters and groundwater, assess the ecological and chemical quality of water bodies, and develop river basin management plans. Albania has partially aligned its legislation with this directive.

Hydro-meteorological data, including rainfall and river flow data, play a crucial role in flood risk assessments and management. The **EU Floods Directive** aims to assess and manage flood risks across Europe. It requires member states to establish flood risk maps, flood risk management plans and early warning systems. The Law on Civil Protection is partially aligned with this directive, assigning responsibilities to the ministry responsible for agriculture and to municipalities regarding flood protection infrastructures.

With regard to quality management, the EU regulations also emphasize the importance of quality management systems for meteorological and hydrological services. These systems ensure the accuracy and reliability of data and forecasts. ISO 9001 certification is often sought by hydro-meteorological organisations to demonstrate their commitment to quality management.

The EU collaborates with international organizations such as WMO and ECMWF to ensure the quality and consistency of meteorological and hydrological services. This includes the exchange of data, the use of common standards and participation in international meteorological and hydrological programmes. At European level, the EU promotes the sharing of meteorological and hydrological data among member states and with the public. Open data policies encourage the availability of meteorological and hydrological data to support decision-making, engagement of the public as well as research and innovation.

Another major initiative of the EU for environmental monitoring is the **Copernicus Earth Observation Programme**, also known as Global Monitoring for Environment and Security (GMES), which provides access to a wide range of earth observation data, including meteorological and hydrological data, which can be used for various applications, including flood forecasting, drought monitoring and climate analysis.

4.5 Potential scenarios in organising the NMHS in Albania

To effectively navigate the climate threats and safeguard its communities and resources, Albania must carefully consider a range of options for strengthening its DRR efforts and meteorological services. Below are outlined three distinct scenarios, each with its own approach and level of transformation, to guide the discussions and decision-making in addressing the pressing need in Albania for more resilient DRR systems and more robust hydro-meteorological services, while also considering the country's international obligations and commitments. These scenarios offer valuable insights into the strategic choices that Albania can make to bolster its resilience in the face of an evolving climate and natural hazard landscape.

4.5.1 Scenario Zero – Business as usual

This scenario entails maintaining the current institutional set-up without significant changes. While this may appear to be the easiest path, it has its drawbacks. The existing system may not be equipped to meet the increasing demands for reliable meteorological and hydrological information. Sticking to the

[29] DCM No. 122, dated 01.03.2023 "For the approval of the National Plan for European Integration 2023-2025".
[30] Law no. 72/2012, "On the organization and operation of the National Geospatial Information Infrastructure in the Republic of Albania".
[31] DCM No. 389, dated 09.06.2022 "For the approval of the document "State Standards for Technical Specifications of Geospatial Information in Albania - topics: "Atmospheric conditions" and ""Meteorology".

status quo may hinder the NMHS's ability to modernise its infrastructure, enhance service delivery and fulfil international obligations. It could also result in continued challenges related to limited technical and financial resources. Ultimately, this option may limit Albania's ability to effectively address the growing risks associated with climate change and extreme weather events.

This scenario implies maintaining the status quo without instituting any changes to the existing institutional and legal framework, particularly in relation to the Institute of Geosciences, Energy, Water and Environment and the NMHS, and keeping responsibilities distributed among different meteorological service providers, such as Albcontrol Met Service and the MMS

IGEO is one of the main units of the Polytechnic University of Tirana, which is a higher education institution. According to the Law on Higher Education[32], higher education institutions primarily serve as legal entities dedicated to providing academic education and, depending on their specific classification, may also engage in scientific research within the framework of the higher education system. Their core mission revolves around academic endeavours, rather than providing services of national importance, such as hydro-meteorological services.

From an academic perspective, IGEO plays an essential role. Nevertheless, it is worth acknowledging that its primary focus is not on service delivery. Therefore, entrusting IGEO with the responsibility of representing and leading the NMHS can potentially pose challenges due to the significant obligations associated with this role. Striking a balance between its academic mission and these responsibilities will require careful consideration to ensure effective leadership in the NMHS as well as additional efforts for ensuring collaboration with governmental institutions.

4.5.2 Scenario 1 – amending the current situation

In this scenario, efforts are made to improve the existing institutional framework without a complete overhaul. This could involve targeted reforms to address specific deficiencies, such as enhancing collaboration with other relevant agencies, securing additional funding or strengthening technical capabilities. While this approach may provide some short-term benefits and flexibility, it may fall short in achieving comprehensive and sustainable reform. The risk lies in potential resistance to change within the existing structure, limiting the extent of improvement.

In practical terms, this scenario may consist of a major expansion of IGEO's mandate in the field of meteorology and hydrology and strengthening the IGEO's authority to carry out its coordinating role effectively. Furthermore, it implies placing a primary focus on capacity building, with rigorous training for observation and monitoring personnel to enhance data collection and analysis. It also will require seamless integration with existing response capabilities, including the NCPA Protection and local communities, for rapid responses to threats.

4.5.3 Scenario 2 – reforming the institutional framework

This scenario represents a more comprehensive and progressive approach, offering more sustainable solutions to address the challenges and shortcomings plaguing Albania's hydro-meteorological services. This approach advocates for a substantial overhaul of the NMHS, aligning it with international best practices and standards. The primary objective is to create a dedicated institution equipped with enhanced technical capabilities, a skilled workforce, modernised infrastructure and secure funding mechanisms. Such a transformation would not only empower Albania to meet its current meteorological and hydrological needs but also position the nation to effectively tackle future demands for accurate weather information.

In response to the deficiencies identified within the existing institutional framework, this scenario calls for the establishment of a dedicated institution, operating either independently or as part (potentially) of the ministry responsible for climate change. This new entity would serve as a central reference point for meteorological, hydrological and early warning services. Recognising that the role of the NMHS extends beyond weather forecasts, it would offer a broader spectrum of services, including agro-meteorological, hydrological and climate-related support.

This innovative institution would consolidate the competencies of existing entities involved in meteorological, hydrological and early warning services, harnessing their collective expertise to form a cohesive and efficient organisation. By eliminating parallel structures and fostering coordination, it

[32] Law No. 80/2015 "For Higher Education and Scientific Research in the Institutions of Higher Education in Republic of Albania"

would become a more effective and responsive institution capable of addressing Albania's weather, climate and hydrological forecasting requirements comprehensively.

Table 1 below provides a summary of each scenario described above, outlining the pros and cons for each of them.

Table 1: Summary of the scenarios

Scenarios	Pros	Cons	Rating
Scenario 0 - maintaining the current institutional setup without significant changes	● Easiest path, no additional decision-making efforts and financial implications from the government of Albania (GoA); ● IGEO is a scientific research unit; ● IGEO staff and leadership want to maintain the status quo; ● New innovation can easily take place.	● IGEO's primary focus is not on service delivery; ● Entrusting it with the responsibility of leading the NMHS poses challenges; ● Unusual organisation of NMS under a university, unlike any European model; ● Limited funds for equipment maintenance and service improvement; ● Fragmented responsibilities among institutions and entities providing hydro-meteorological services; ● Lack of harmonisation and standardisation of the products and services offered by each of the entities providing hydro-meteorological services; ● Poor quality of service delivery; ● Insufficient coordination with state actors responsible for civil emergencies and the public; ● Lack of recognition from the government and the public; ● Inability to be held accountable and to hold other stakeholders accountable; ● Inefficiency in utilising previously invested funds for hydro-meteorology infrastructure; ● Incapability of responding to growing demands for reliable meteorological and hydrological data; ● Diminished likelihood of upgrading infrastructure, improving service quality and fulfilling international commitments.	↓
Scenario 1 - improving the existing institutional framework without a complete overhaul	*Note: The following pros are in addition to the ones listed for scenario 0.* ● Targeted reforms can address specific deficiencies; ● Potential for short-term benefits; ● Collaboration with other relevant agencies may be slightly improved; ● Enhancing technical capabilities is a possibility; ● Seamless integration with existing response capabilities.	*Note: The following cons are in addition to some of the cons listed for scenario 0* ● May not achieve comprehensive and sustainable reform; ● Risk of resistance to change within the existing structure; ● Limited extent of improvement; ● Limited impact of training and capacity building activities due to the academic career nature and involvement of the personnel of IGEO; ● Coordination with multiple entities will continue to be complex and challenging; ● Balancing the academic mission of IGEO with NMHS responsibilities requires careful consideration.	→
Scenario 2 - Complete overhaul of the NMHS's institutional framework	● Comprehensive and progressive approach to reforming the NMHS; ● Alignment with international best practices and standards; ● Potential establishment of a dedicated institution with enhanced resources; ● Modernisation of infrastructure for improved services;	● Being a significant reform of the NMHS, may face resistance; ● The process may take longer; ● The establishment of a dedicated institution will involve complex administrative changes; ● Transition and consolidation of competencies may pose initial challenges; ● Implementation may require substantial financial and human resources.	↑

Scenarios	Pros	Cons	Rating
	● Secure funding mechanisms for sustainable operations; ● Capability to meet both current and future demands for meteorological and hydrological information; ● Enhanced fulfilment of international commitments; ● Increased resilience to climate-related challenges; ● Focus on a wider spectrum of services, including agro-meteorology, hydrology and climate-related support; ● Elimination of existing parallel structures; ● Improved coordination and harmonisation of meteorological and hydrological services; ● Enhanced capacity to address Albania's weather, climate and hydrological forecasting needs comprehensively.		

Source: Own elaboration

5. Conclusion and Way Forward

In summary, Scenarios 2 and 3 offer a strategic vision for Albania to restore its hydro-meteorological services, equipping the nation with a dedicated, well-resourced institution capable of addressing current and future challenges, meeting international commitments and enhancing resilience in the face of climate-related threats.

The choice among these three scenarios will have significant implications for the effectiveness and capacity of Albania's NMHS. While the business-as-usual approach may offer short-term stability, it may limit long-term progress. Amending the current situation represents a middle ground, but it may not go far enough in addressing systemic issues. Reforming the institutional framework, while challenging, holds the potential to bring about lasting positive changes and better position Albania to address the pressing issues related to meteorology, hydrology and climate change. Ultimately, the decision should align with the country's strategic goals and its commitment to improving the safety and well-being of its citizens.

Based on this analysis and referring to similar national practices, the development of a Law on Weather, Climate and Hydrological Services in the Republic of Albania could be the entry point for conveying the solutions suggested under scenarios 2 or 3 of this report. The groundwork for this law has already been laid with the establishment of an inter-institutional working group for the preparation of the draft law "On the creation of the Meteorological Service and Albanian Hydrological Service" in 2016. This initiative was encouraged following the challenges identified by donors and various institutions (especially the WB, WMO, EU, AMBU and KESH) during the implementation of various tasks and projects.

Such a law would have the potential to place the hydro-meteorological services in the country back on the right track by delineating the roles, responsibilities and operational guidelines for the involved institutions. It would represent a cornerstone for enhancing transparency, accountability and effective governance within the sector.

To put this scenario in action, the Ministry of Tourism and the Environment could take the initiative and play a leading role in law drafting, adding this law to the list of normative acts to be approved in the following year.

References

Legal sources

Law No. 155/2020 “On Climate Change”

Law No. 111/2012 “For the Integrated Management of Water Resources”, as amended

Law no. 72/2012, “On the organization and operation of the National Geospatial Information Infrastructure in the Republic of Albania”

DCM No. 560, dated 22.08.2007 “On the merger of several institutes and research units, their organization into the Institute of Energy, Water, and Environment, at the Polytechnic University of Tirana, and the functioning of the institute in the transitional period”, as amended by DCM No. 64, dated 28.01.2008

DCM No. 561, dated 22.8.2007, “On the merger of several institutes and research units, their organization into the Institute of Geosciences, at the Polytechnic University of Tirana, and the Functioning of the Institute in the Transitional Period”"

DCM No. 490, dated 06.07.2011 “For the abolishment of decisions no. 560 and no. 561, dated 22.8.2007 of the Council Of Ministers “On the merger of some institutes and research units, their organization at the Institute of Energy, Water And Environment, at the Polytechnic University of Tirana, and their functioning of the institute in the transitional period” and “On the merger of several institutes and research units, their organization in the Institute of Geosciences, at the polytechnic university of Tirana, and the functioning of the institute in the transitional period”

DCM No. 747, dated 20.11.2019 “For the organization and functioning of the National Civil Protection Agency”

DCM No. 1020 Date 16.12.2020 “For the composition, functioning, and duties of the technical advisory committee for disaster risk reduction”

DCM No. 431, dated 15.7.2021 “For the composition and duties of the organizational units that are responsible for civil protection matters in line ministries”

DCM No. 581, dated 06.10.2021 “For the approval of the National Determined Contribution Document”

DCM No. 94, dated 22.02.2023 “For the approval of National Strategy for Risk Mitigation from Disasters 2023-2030 and Action Plan”

DCM No. 88, dated 22.02.2023 “For the approval of the National Strategy for Development and European Integration 2022-2030”

DCM No. 122, dated 01.03.2023 “For the approval of the National Plan for European Integration 2023-2025”

Order of the minister of Education and Science No. 371, dated 28.07.2011“On the establishment of the Institute of Geosciences and Energy, Water, and Environment (IGEWE/IGJEUM), at the Polytechnic University of Tirana.”

Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32007L0002

EU Water Framework Directive, available at https://eur-lex.europa.eu/eli/dir/2000/60/oj

EU Floods Directive, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32007L0060

Policies, Reports and Studies

Copernicus Program: The Copernicus Earth Observation Program, also known as GMES (Global Monitoring for Environment and Security), available at https://www.copernicus.eu/en/about-copernicus

Improving Disaster Risk and Loss Information in Albania, May 2022, developed by Global Facility for Disaster Reduction and Recovery (GFDRR), World Bank Group, available at https://documents1.worldbank.org/curated/en/099430106142216471/pdf/P172145046dbf40a5093060a6deca58f620.pdf

EC - Albania 2022 Report- 2022 Communication on EU Enlargement Policy https://neighbourhood-enlargement.ec.europa.eu/system/files/2022-10/Albania%20Report%202022.pdf c