# MEDITERRANEAN COAST DAY 2023

## COASTAL AQUIFERS: THE INVISIBLE TREASURE

Join us to celebrate the Mediterranean <sup>/</sup> Coast Day in Vlorë, Albania, and promote the importance of coastal aquifers

gef programme PAPRAC 🟛 Unesco



A very special day for a very special coast.



### Follow us on: www.coastday.org

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Child Project 2.1

THE MEDITERRANEAN NEEDS YOU. IF YOU PUT A SEASHELL TO YOUR EAR YOU WILL HEAR IT CALLING.

## **Join us on September 25th** to honor the beauty and life of the Mediterranean!



The 2023 edition is dedicated to coastal aguifers - an invaluable freshwater resource hidden beneath our coast

#### Why are coastal aguifers and groundwater so important?

The Mediterranean's coastal population faces a pressing issue with freshwater resources. Coastal aquifers serve as the primary freshwater source for drinking. agriculture, and industries. As a result, their importance becomes indispensable when addressing the

escalating demand. However, these invisible key resources face numerous challenges, including growing pressure on groundwater supplies, saltwater intrusion, coastal aguifer salinization, and the transport of nutrients and contaminants.

#### **DID YOU KNOW?**

**1.** Coastal aguifers support unique and diverse ecosystems - wetlands, estuaries, lagoons, humid zones and other coastal habitats vital for many plant and animal species. Some of these ecosystems are partially or entirely dependent on groundwater regimes.

2. Seawater intrusion occurs when seawater enters freshwater aquifers due to natural processes or human activities. It affects water quality and groundwater-dependent ecosystems. Coastal aguifers, acting as a natural barrier by sustaining shallow marine water quality and ecosystems, play a major role in reducing the impacts of saltwater intrusion that renders freshwater resources unsuitable for consumption or irrigation.

In addition, submarine groundwater discharges into the sea, containing an excess of nutrients (like nitrates and phosphates) are a serious concern since they can lead to algal blooms and eutrophication, affecting living marine ecosystems and human health as a chain reaction.

3. Coastal aquifers are crucial for climate change adaptation, particularly in mitigating the impacts of rising sea levels and changing precipitation patterns. As global temperatures and sea levels rise, coastal aquifers help protect coastal communities and ecosystems by acting as natural buffers and serving as natural freshwater storage systems.

#### What can we do to protect coastal groundwater and aquifers?

#### Let's start from your own home

- Properly dispose of all your waste
- Minimize the use of chemicals





Examine on-site wells and surrounding land areas

...and conclude with Integrated **Coastal Zone Management as the** big picture!

Effective coastal zone management

seeks to ensure aguifer sustainability by preventing over-extraction, pollution, and saltwater intrusion:

By regulating land use, implementing

best practices, and creating buffer **zones**, coastal zone management minimizes contamination risks and contributes to aquifer health:

Proper management with protective structures can reduce aguifers' vulnerability to coastal hazards like storm surges and sea-level rise:

#### **Coastal zone management** preserving

natural ecosystems like wetlands and dunes provides buffers against extreme weather impacts on aquifers