

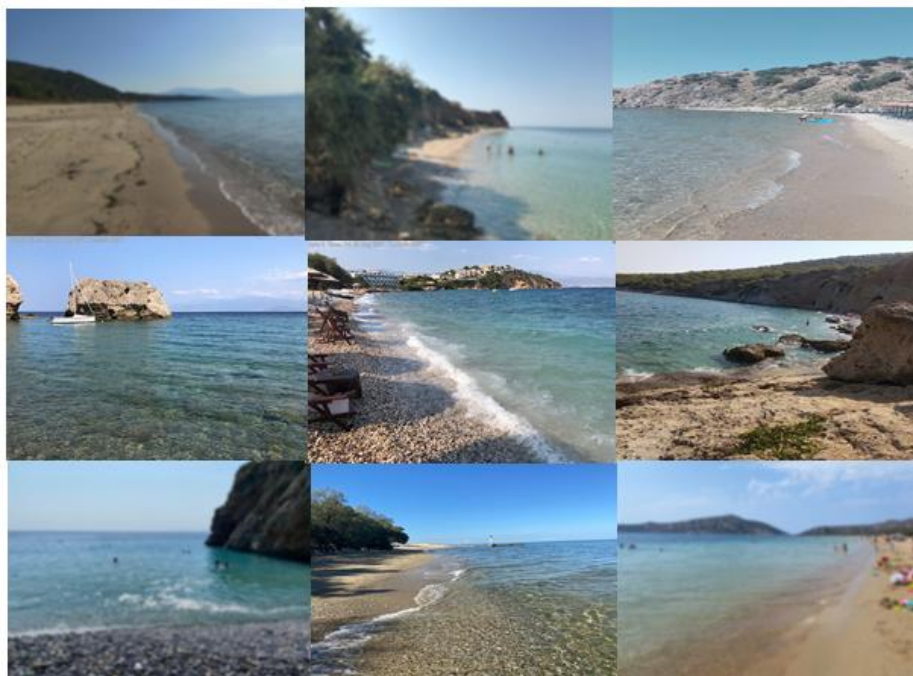


MINISTRY OF
ENVIRONMENT AND
ENERGY

General Secretariat for
Natural Environment and Water

BATHING WATER QUALITY IN GREECE

Reference year 2021



JUNE 2022



Project co-funded by the European Union and National Funds



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INTRODUCTION

Bathing water quality for the year 2021 was monitored and assessed in the framework of the *Monitoring Programme of Bathing Water Quality* that was implemented under the supervision of the General Secretariat for Natural Environment and Water of the Ministry of Environment and Energy and the Directorates for Water of Decentralized Administration. The monitoring programme is co-financed by national development funds and the European Union under the National Strategic Reference Framework (NSRF) during 2014-2020.

The implementation of the monitoring programme is based on the provisions of the Directive 2006/7/EC concerning the management of bathing water quality and repealing Directive 76/160/EEC, which has been incorporated to the Greek national legislation with the Common Ministerial Decree 8600/416/E103/2009 (Official Government Gazette 356B/2009).

The *length of the bathing season* for the year 2021 was defined by a decision of the Minister of Environment and Energy, and lasts five (5) months, specifically from June 1st to October 31st.

In total, *the monitoring programme includes 1683 bathing water sites*, three (3) of which are located in inland waters (lakes), while the rest 1680 bathing water sites are located in coastal waters.

The *quality parameters* monitored have been selected in accordance to the obligations of the

Directive 2006/7/EC and they are distinguished in two groups:

- ✓ *Microbiological*: “Escherichia coli” and “Intestinal enterococci”, determined in accordance to the reference methods of analysis of Annex I of the Directive 2006/7/EC and
- ✓ *Other parameters, visually assessed*: color, mineral oils, tarry residues, seaweed, jelly-fish and floating material.

The programme was implemented during the bathing water season for 2021, without delays and with the frequency that is specified in the Directive 2006/7/EC. At the bathing water sites, *a minimum number of 6 samples* were collected, one pre-seasonal and the other samples were distributed throughout the bathing season, with the interval between sampling dates not exceeding one month. Only in one bathing water site on Kefalonia was not monitored after June due to lack of access on the site.

All monitoring sites were reviewed, in terms of their coordinates and their description in order to enable the bathers and public authorities to locate and approach the desired bathing water.



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BATHING WATER QUALITY MONITORING NETWORK

In 2014 the revision of the monitoring network was initiated and completed. The main principle of the revision was to assign a single representative monitoring point at each bathing water according to the provisions of the Directive 2006/7/EC. In accordance with this principle, an existing bathing water with more than one monitoring points is now monitored at one representative site.

During the updating process of the bathing waters monitoring network, the sampling points were relocated to more representative positions, maintaining nevertheless their historical background. The selection of the representative sampling point follows the provisions of Articles 1 and 3 of the Directive 2006/7/EC. The process of including or excluding bathing waters carried out every two years in cooperation with the Ministry of Environment and Energy and the Directorates for Water of Decentralized Administration

According to no. 19058/01-08-2013 Circular of the Special Secretariat for Water, the process of reviewing the bathing water quality monitoring network is carried out every two years, through a process of integration and reintegration of sites, starting in 2016. The process of including or excluding bathing waters is implemented in cooperation with the Ministry of Environment and Energy and the Directorates for Water of Decentralized Administration.

For the 2021 bathing water season, the bathing water network includes **1683 monitoring sites at respective bathing waters**.

BATHING WATER QUALITY ASSESSMENT 2021

The **bathing water quality assessment** was performed with statistical analysis, according to the provisions of article 4 and Annex I of the Directive 2006/7/EC, for the set of bathing water quality data compiled for 2021 in relation to that bathing season and the three preceding bathing seasons (2018-2020).

As a result of the aforementioned analysis bathing waters have been classified to the following categories/classes:

Table 1. Definition of quality class

Class	Definition
1	Excellent quality
2	Good quality
3	Sufficient quality
4	Poor quality

From the 1683 bathing waters, 1634 were assessed, as during the 2021 bathing season one (1) point wasn't monitored after June and the minimum number of samples required by the Directive 2006/7/EC has not yet been collected for 48 new points. However, from the preliminary results of 2021 the concentrations of microbiological parameters remain below the respective criteria values of excellent quality.

For the 1634 bathing waters, where assessed, the classification results are the following:

- **The total of 1634 bathing waters** is classified as at least “sufficient quality”.
- **From them**
- **1612 bathing waters** are classified as “excellent quality”. Three (3) of them are inland waters.
- **21 bathing waters** are classified as “good quality”. None of them are inland waters.
- **1 of bathing waters** are classified as “sufficient quality”.
- **None of bathing waters** are classified as “poor quality”.
- **48 new bathing waters** are not assessed.
- **1 bathing water** is not assessed.

The following figure and table present *the results of the assessment for the 2021 bathing season*.

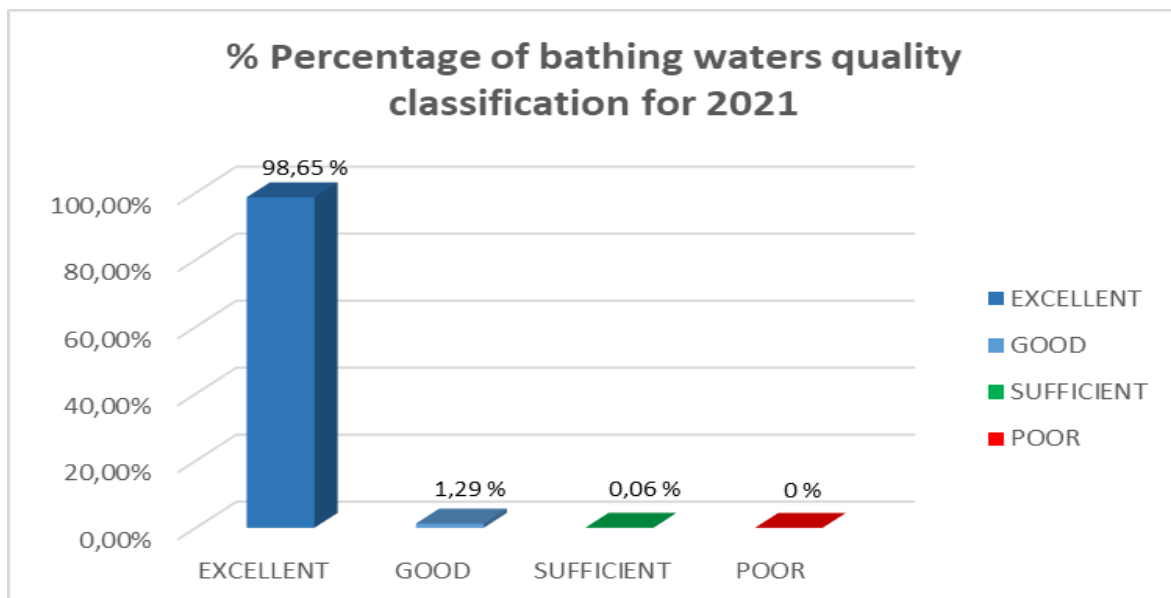


Diagram 1: Bathing waters classification according to Directive 2006/7/EC for the year 2021

From the total number of 1634 bathing waters which were evaluated, *98.65 % is of excellent water quality, while 100% of the bathing waters are in full compliance with the requirements of the Directive 2006/7/EC, regarding the obligation of at least “sufficient quality” by the end of 2015 bathing season.*

Table 1: Classification of bathing waters for the year 2021 according to the requirements of the Directive 2006/7/EC

Number of assessed bathing waters	Class	Quality	% Percentage
1612	Class 1	Excellent quality	98,65 %
21	Class 2	Good quality	1,29 %
1	Class 3	Sufficient quality	0,06 %
0	Class 4	Poor quality	0,00 %

From the 1634 bathing waters, 1631 are located in **coastal waters**. The assessment of coastal waters is also carried out according to the provisions of the Directive 2006/7/EC and on the basis of the set of bathing water quality data from 2018 to 2021. The coastal bathing waters are classified in the following categories:

Table 2: Classification of Coastal bathing waters for the year 2021 according to the requirements of the Directive 2006/7/EC

Numbers of assessed coastal bathing waters	Class	Quality	% Percentage
1609	Class 1	Excellent quality	98,65 %
21	Class 2	Good quality	1,29 %
1	Class 3	Sufficient quality	0,06 %
0	Class 4	Poor quality	0,00 %

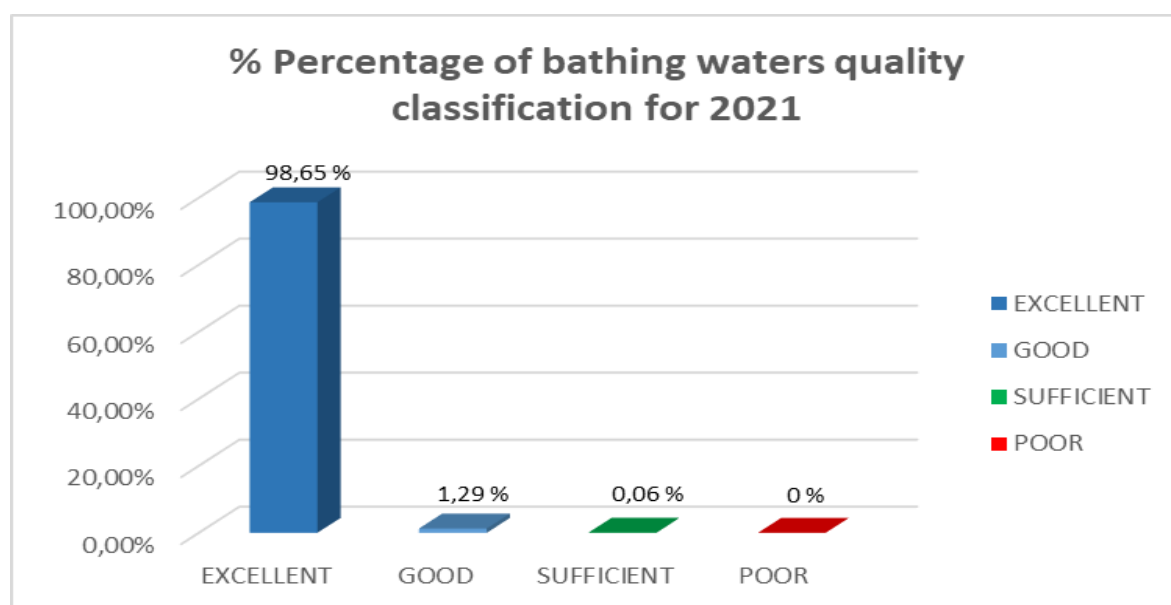


Diagram 2: Coastal bathing waters classification according to Directive 2006/7/EC for the year 2021

In the monitoring network of the year 2021 three bathing sites are included in **inland waters**, in Megali Prespa Lake, Vouliagmeni Lake and Vegoritida Lake. The assessment of inland waters is also carried out according to the provisions of the Directive 2006/7/EC and on the basis of the set of bathing water quality data from 2018 to 2021. The inland bathing waters are classified in the following categories:

Table 3: Classification of inland bathing waters for the year 2021 according to the requirements of the Directive 2006/7/EC

Numbers of assessed inland bathing waters	Class	Quality	% Percentage
3	Class 1	Excellent quality	100%
0	Class 2	Good quality	0%
0	Class 3	Sufficient quality	0%
0	Class 4	Poor quality	0%

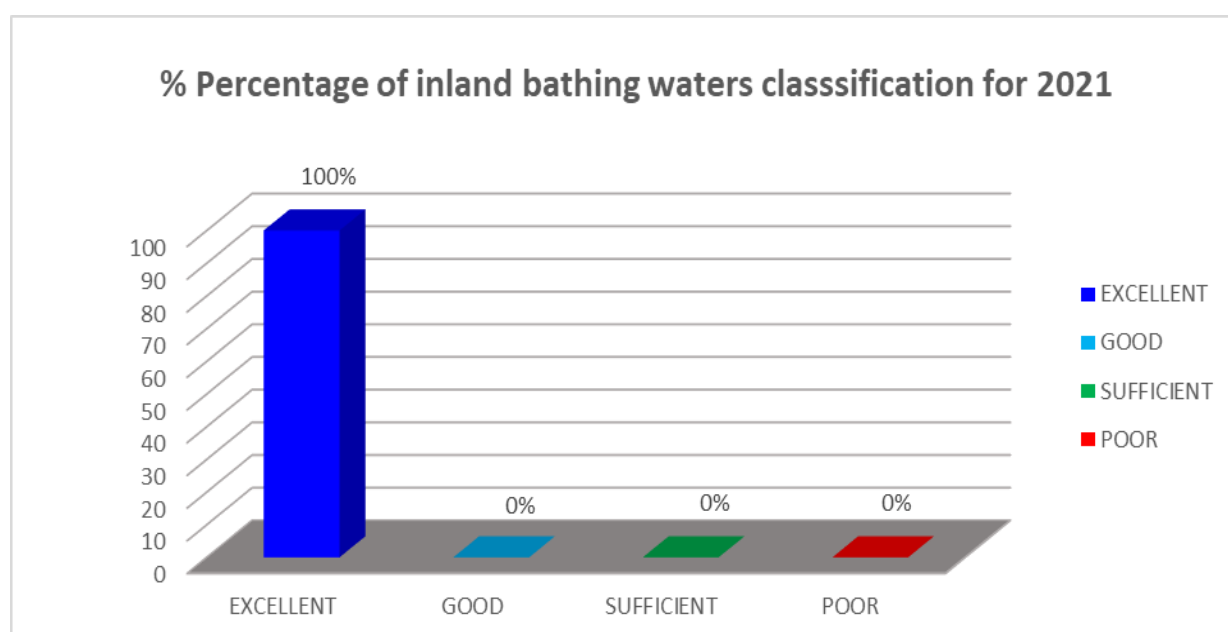


Diagram 3: Inland bathing waters classification according to Directive 2006/7/EC year 2021

EVOLUTION OF BATHING WATER QUALITY IN GREECE

Greece, since 1990, has systematically monitored the bathing water quality under the provisions of the Directive 76/160/EEC and then based on the provisions of the Directive 2006/7/EC. The quality of the coastal bathing waters since 1990 is presented in Figure 4, clearly presenting that the compliance to the stricter guide values of the Directive 76/160/EEC exceeds 93% since 1995. The quality of the inland waters is presented in Figure 5 and has sharp fluctuations due to the small number of the monitored points.

Since 2010, the Ministry of Environment and Energy assesses bathing waters in accordance with the Directive 2006/7/EC, *where for the year 2021 the 100% of bathing waters reached again full of compliance with Directive 2006/7/EC.*

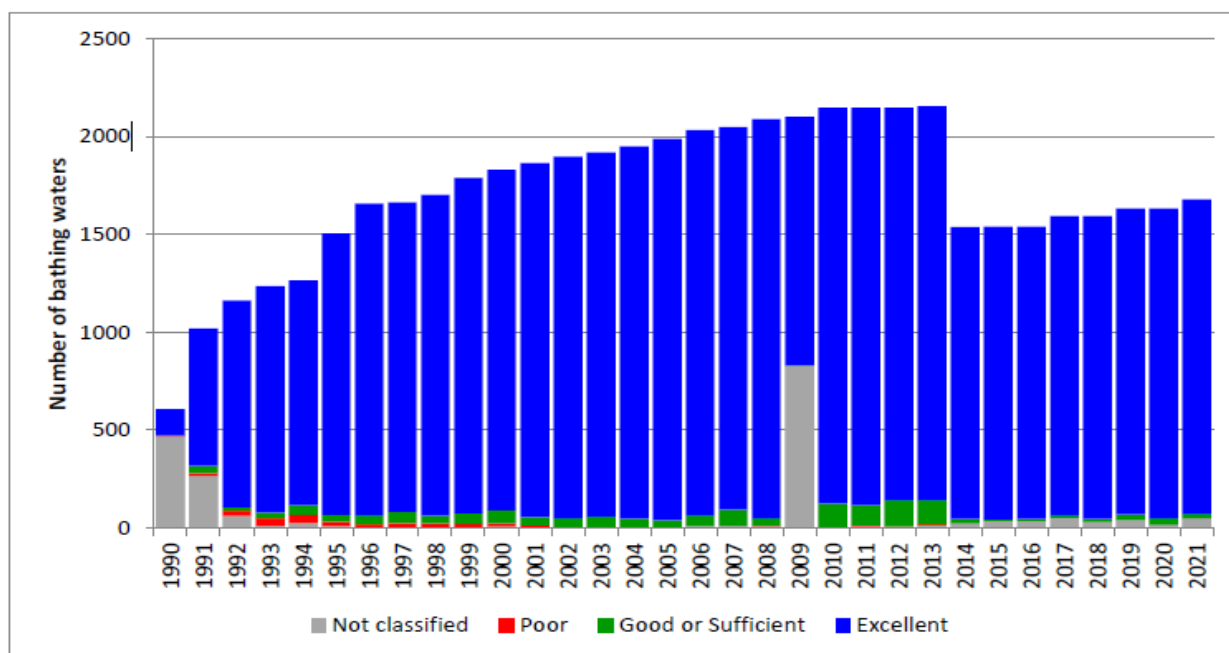


Diagram 4: Coastal bathing water quality for the period 1990-2021.

Source: EEA/Country Report/Greek bathing water quality in 2021, June 2022

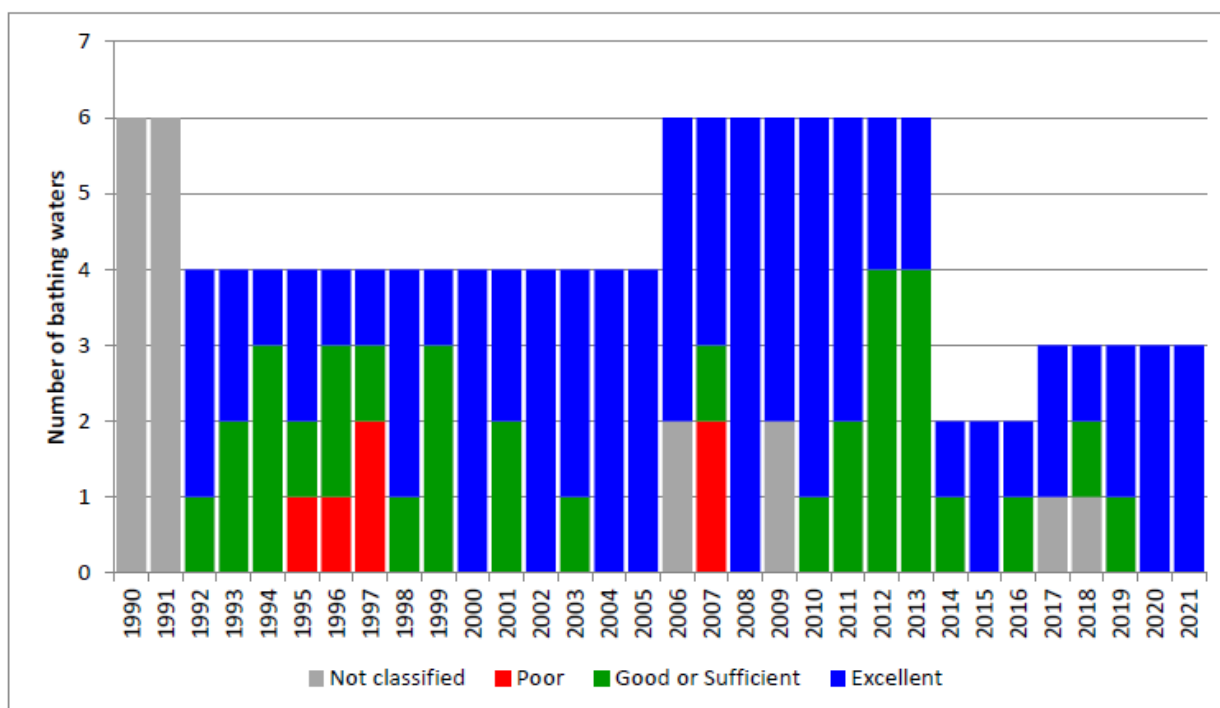


Diagram 5: Inland bathing water quality for the period 1990-2021

Source: EEA/Country Report/Greek bathing water quality in 2021, June 2022

REGISTRY OF THE GREEK BATHING WATER PROFILES

The *Registry of the Greek Bathing Water Profiles*, which has been established for the first time in 2012, is being updated and adjusted annually, under the supervision of the General Secretariat for Natural Environment and Water, in order to take into account possible modifications in the monitoring network, the bathing water quality, the relation of the bathing waters to water bodies or protected areas, as well as pressure from sources of pollution and related measures.



The aim of the Registry of Bathing Water Profiles is to describe and present the key characteristics of the bathing waters, identify

the pollution sources that may affect water quality and assess the magnitude of the effects. The Registry serves also as a guide for selecting appropriate measures in order to minimise the impact of pressures in bathing waters and allows for a more efficient management of resources.

For this purpose, an *interactive website* presents the *Greek bathing water profiles*, in order to inform the public about the bathing water quality and the appropriate management measures taken. Additionally, there is possibility for the website visitors to accommodate comments.

All relevant data and information are available through the web-site:

<http://www.bathingwaterprofiles.gr/>

MAP OF THE BATHING WATER MONITORING SITES AND CHARACTERISATION FOR THE 2021 BATHING SEASON

The map showing the country's monitoring points, as well as the quality class for each bathing water site is formed after the evaluation and verification of the bathing water quality results by the European Union for the reference year 2021.



Figure 1: Map of the bathing monitoring sites and characterization for the 2021 bathing season

Source: EEA/Country Report/Greek bathing water quality in 2021, June 2022

USEFUL LINKS

Ministry of Environment and Energy	https://ypen.gov.gr/perivallon/ydatikoi-poroi/aktes-kolymvisis/
Ministry of Environment and Energy/ Greek Bathing Water	http://www.bathingwaterprofiles.gr/
Ministry of Environment and Energy	https://ypen.gov.gr/perivallon/ydatikoi-poroi/aktes-kolymvisis/
European Environmental Agency- Country reports	http://www.eea.europa.eu/themes/water/status-and-
European Commission – Bathing water quality	http://ec.europa.eu/environment/water/water-bathing/index_en.html
European Environmental Agency - Central Data	https://cdr.eionet.europa.eu/gr/eu/bwd/bwd_787/
European Environment Agency – Interactive map	http://www.eea.europa.eu/themes/water/interactive/bathing/state-of-bathing-waters

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<http://www.bathingwaterprofiles.gr/>



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