



MINISTRY OF  
ENVIRONMENT AND  
ENERGY

General Secretariat for  
Natural Environment and Water

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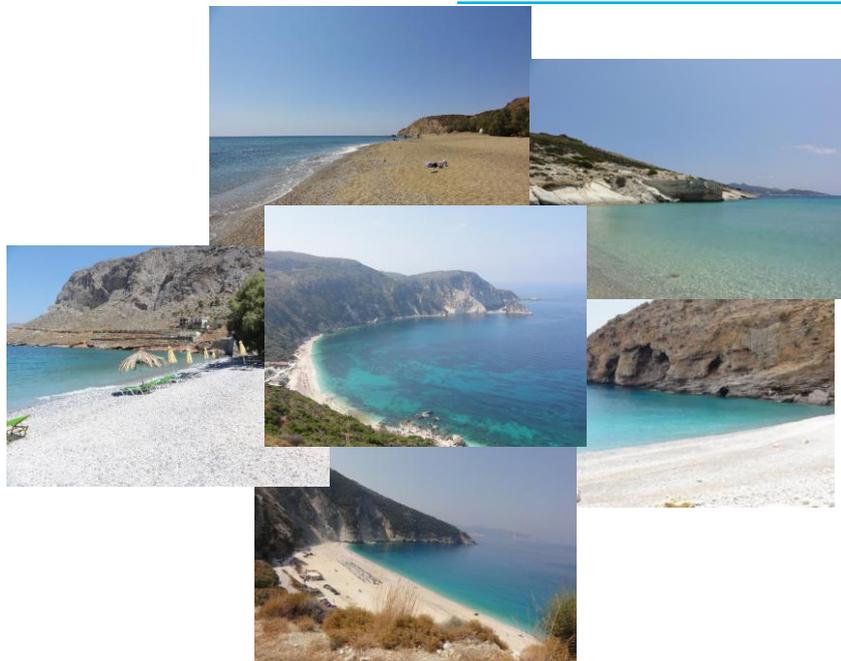
# BATHING WATER QUALITY IN GREECE

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Reference year 2019

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JULY 2020



**European Union**  
European Structural  
and Investment Funds

Co-financed by Greece and the European Union



Partnership Agreement 2014 - 2020

# Bathing water Quality in Greece

## Reference year 2019

### INTRODUCTION

Bathing water quality for the year 2019 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 Waters 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 2019 was defined by a decision of the Minister of Environment and Energy, from June 1<sup>st</sup> to October 31<sup>st</sup>.

In total, *the monitoring programme includes 1634 bathing water sites*, three of which are located in inland waters (lakes), while the rest 1631 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 as scheduled during the bathing water season for 2019, 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 are distributed throughout the bathing season, with the interval between sampling dates not exceeding one month.

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.

## 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 is based on a standard procedure, which is determined by the Ministry of Environment and Energy and carried out every two years in cooperation with the Directorates for Waters of Decentralized Administration.

For the 2019 bathing water season, the bathing water network includes **1634 monitoring sites at respective bathing waters**.

## BATHING WATER QUALITY ASSESSMENT 2019

The **batheing 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 2019 in relation to that bathing season and the three preceding bathing seasons (i.e. 2016-2018).

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

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

**From the 1634 bathing waters, 1595 were assessed**, as 39 points were monitored for the first time during the 2019 bathing season and the minimum number of samples required by the Directive 2006/7/EC has not yet been collected. However, from the preliminary results of 2019 the concentrations of microbiological parameters remain below the respective criteria values of excellent quality. For the remaining 1595 bathing waters, the classification results are the following:

↻ **The total of 1595 bathing waters** are classified as at least “sufficient quality”.

↻ **From them**

↻ **1564 bathing waters** are classified as “excellent quality”. Two of them are inland waters.

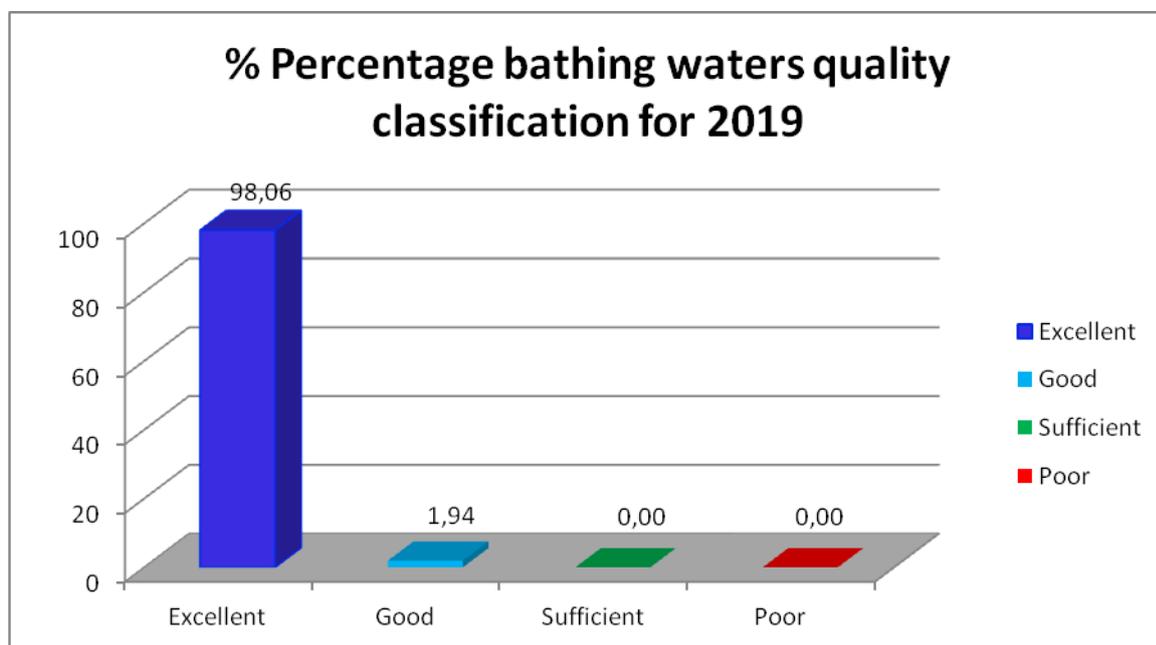
↻ **31 bathing waters** are classified as “good quality”. One of them is inland water.

↻ **None** of bathing waters is classified as “sufficient quality”.

↻ **None** of bathing waters is classified as “poor quality”.

↻ **39 new bathing waters** are not assessed.

The following figure and table present *the results of the assessment for the 2019 bathing season*.



*Figure 1: Bathing waters classification according to Directive 2006/7/EC for the year 2019*

From the total number of 1595 bathing waters which were evaluated, **98.06% 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 2019 according to the requirements of the Directive 2006/7/EC*

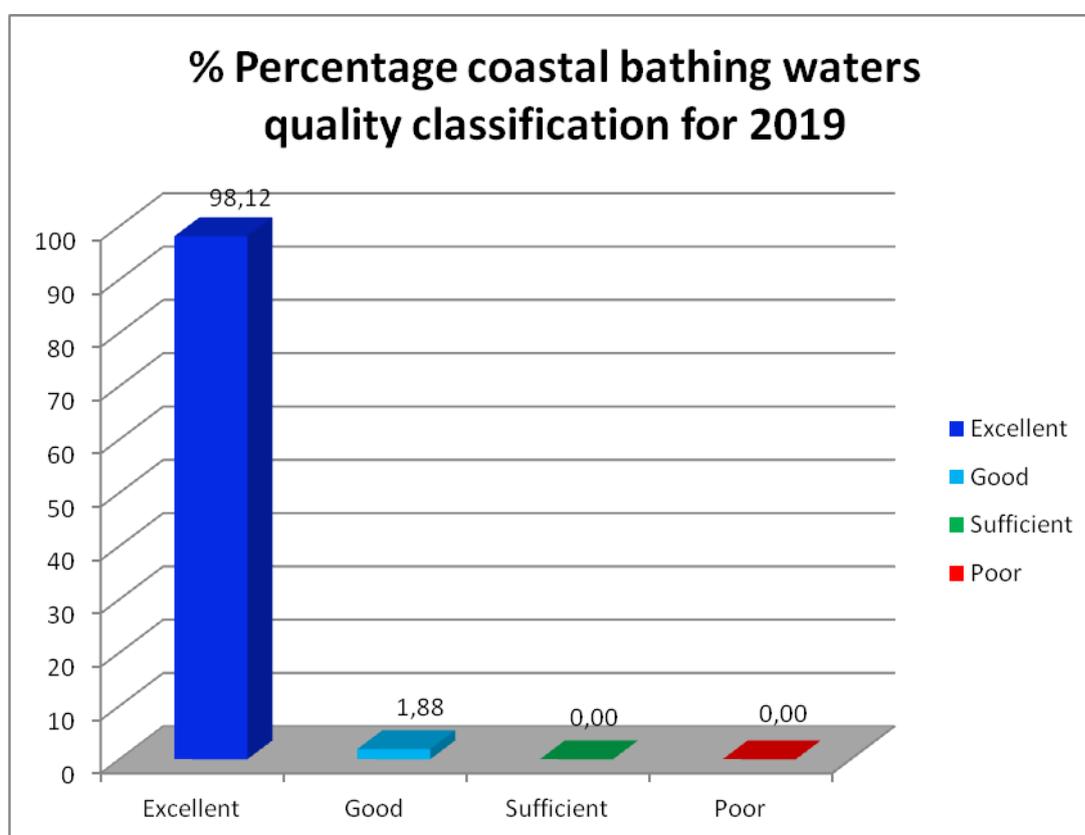
| Number of assessed bathing waters | Class   | Quality            | % Percentage |
|-----------------------------------|---------|--------------------|--------------|
| 1564                              | Class 1 | excellent quality  | 98.06 %      |
| 31                                | Class 2 | good quality       | 1.94%        |
| 0                                 | Class 3 | sufficient quality | 0,00%        |
| 0                                 | Class 4 | poor quality       | 0,00%        |

From the 1595 bathing waters which were evaluated, 1592 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 2016 to 2019. The coastal bathing waters are classified in the following categories:

**Table 2: Classification of Coastal bathing waters for the year 2019 according to the requirements of the Directive 2006/7/EC**

| Numbers of assessed coastal bathing waters | Class   | Quality            | % Percentage |
|--|---------|--------------------|--------------|
| 1562                                       | Class 1 | excellent quality  | 98.12%       |
| 30   | Class 2 | good quality       | 1.88%        |
| 0  | Class 3 | sufficient quality | 0,00%        |
| 0  | Class 4 | poor quality       | 0,00%        |

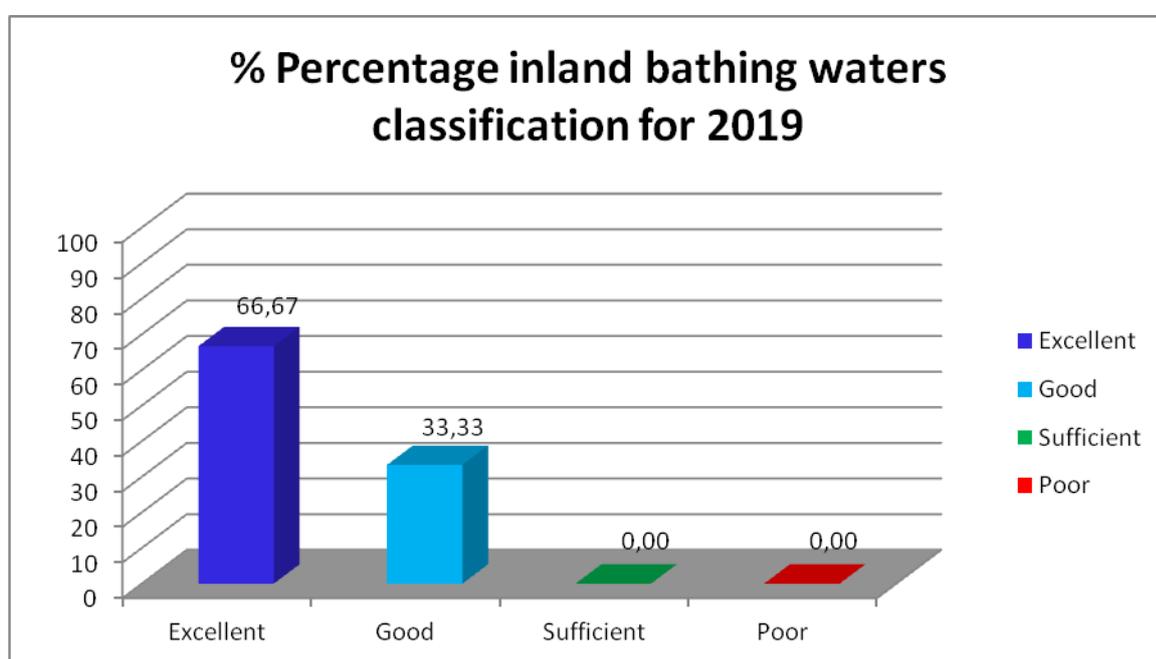


**Figure 2: Coastal bathing waters classification according to Directive 2006/7/EC for the year 2019**

In the monitoring network of the year 2019 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 2016 to 2019. The inland bathing waters are classified in the following categories:

*Table 3: Classification of inland bathing waters for the year 2019 according to the requirements of the Directive 2006/7/EC*

| Numbers of assessed inland bathing waters | Class   | Quality            | % Percentage |
|---|---------|--------------------|--------------|
| 2   | Class 1 | excellent quality  | 66,67%       |
| 1   | Class 2 | good quality       | 33,33%       |
| 0   | Class 3 | sufficient quality | 0%           |
| 0   | Class 4 | poor quality       | 0%           |



*Figure 3: Inland bathing waters classification according to Directive 2006/7/EC year 2019*

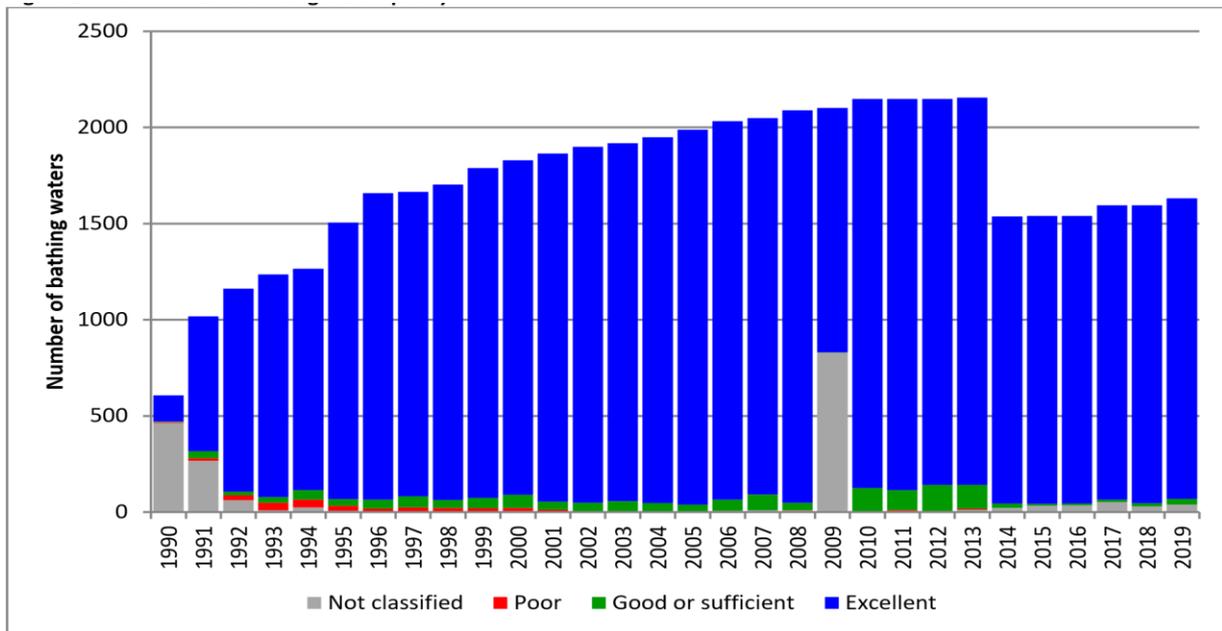
#### **EVOLUTION OF BATHING WATER QUALITY IN GREECE**

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 2019 the 100% of bathing waters reached again full of compliance.*

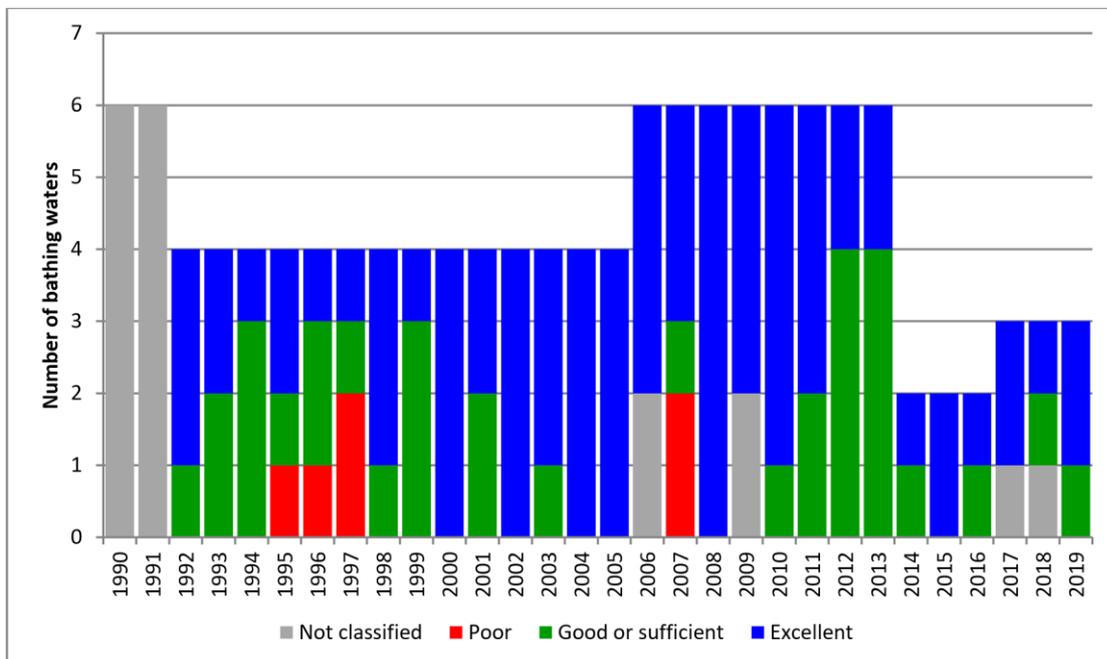
**Figure 4: Coastal bathing water quality for the period 1990-2019**

(Source: EEA/Country Report/Greek bathing water quality in 2019)



**Figure 5: Inland bathing water quality for the period 1990-2019**

(Source: EEA/Country Report/Greek bathing water quality in 2019)



## 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 monitoring network, the bathing water quality, the relation of the bathing waters to water bodies or protected areas, pressures 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 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/>

## USEFUL LINKS

|   |   |
|---|---|
| Ministry of Environment and Energy- Aquatic Environment – Bathing Waters                                      | <a href="http://www.ypeka.gr/Default.aspx?tabid=253&amp;locale=el-GR&amp;language=en-US=el-GR">http://www.ypeka.gr/Default.aspx?tabid=253&amp;locale=el-GR&amp;language=en-US=el-GR</a>                           |
| Ministry of Environment and Energy - Greek Bathing Water Profiles Registry                                    | <a href="http://www.bathingwaterprofiles.gr/">http://www.bathingwaterprofiles.gr/</a>   |
| Ministry of Environment and Energy– Aquatic Environment- Bathing Water quality in Greece- Reference year 2019 | <a href="http://www.ypeka.gr/LinkClick.aspx?fileticket=8brSa%2f%2bOSQo%3d&amp;tabid=253&amp;language=el-GR">http://www.ypeka.gr/LinkClick.aspx?fileticket=8brSa%2f%2bOSQo%3d&amp;tabid=253&amp;language=el-GR</a> |
| European Environmental Agency- Country reports  | <a href="http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water">http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water</a>                               |
| European Commission – Bathing water quality   | <a href="http://ec.europa.eu/environment/water/water-bathing/index_en.html">http://ec.europa.eu/environment/water/water-bathing/index_en.html</a>   |
| European Environmental Agency - Central Data Repository   | <a href="http://cdr.eionet.europa.eu/gr/eu/nbwd">http://cdr.eionet.europa.eu/gr/eu/nbwd</a>   |
| European Environment Agency – Interactive map   | <a href="http://www.eea.europa.eu/themes/water/interactive/bathing/state-of-bathing-waters">http://www.eea.europa.eu/themes/water/interactive/bathing/state-of-bathing-waters</a>                                 |

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Web: <http://www.ypeka.gr/Default.aspx?tabid=253&locale=el-GR&language=en-US=el-GR>

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



**MAP OF THE BATHING WATER MONITORING SITES AND CHARACTERISATION FOR THE 2019 BATHING SEASON**



**Bathing water quality**

- Excellent water quality
- Good water quality
- Sufficient water quality
- Poor water quality
- Quality classification not possible
- No data
- Outside data coverage (data available, not presented on the map)

Source: EEA/Country Report/Greek bathing water quality in 2019