

Bathing water results 2012 – Greece

1. Reporting and assessment

In 2012 the Greek authorities reported under Directive 2006/7/EC provisions a list of their bathing waters, start and end of bathing season for each bathing water, short term pollution events, events impacting bathing water quality and measured values of concentrations of two microbiological parameters — intestinal enterococci and *Escherichia coli* (also known as *E. coli*). This report gives a general overview of bathing water quality in Greece for the 2012 bathing season. Greece has reported under the Directive 2006/7/EC since 2010 and sent historical data with two parameters of this Directive for the years 2007-2009.

When four consecutive years of samples of intestinal enterococci and *Escherichia coli* for bathing water are available, the assessment is done according to assessment rules of the new bathing water Directive 2006/7/EC. The Annex IV of the directive requires a sample to be taken shortly before the start of the bathing season. Sampling dates are to be distributed throughout the bathing season, with the interval between sampling dates never exceeding one month. Taking into account one pre-season sample, no fewer than four samples are to be taken and analysed per bathing season. Three samples need to be taken and analysed per bathing season in the case of bathing water with either bathing season not exceeding eight weeks or being situated in a region subject to special geographical constraints. The result of such monitoring is used to build up the sets of bathing water quality data. The number of samples for the assessment period should thus be at least 16 or 12 if season duration is less than eight weeks or the region is subject to special geographical constraints.

Bathing water quality in 2012 season in Greece is assessed under the rules of the new bathing water Directive 2006/7/EC. The new Directive assessment provisions are transformed into the following technical rules: a) one pre-season sample should be available, b) the interval between sampling dates in 2012 should never exceed 35 days, provided that the next sampling is done according to the monitoring calendar; c) the yearly number of samples in the previous years should be four or three if bathing season does not exceed eight weeks.

Bathing waters quality classes according to the Directive 2006/7/EC are 'excellent', 'good', 'sufficient' and 'poor'. Bathing waters are classified on the basis of the percentile values for microbiological enumerations falling in the certain class given in Annex I of the Directive. Some bathing waters cannot be classified according to their quality but are instead classified as 'insufficiently sampled', 'new', 'changes' and 'closed'.

The bathing water is classified as 'insufficiently sampled' in 2012 if pre-season sample is missing, sampling frequency is not satisfied or the set of data is not complete. If the bathing water is newly identified and the data set is not complete yet, it is classified as 'new'. If changes occur that affect quality and the data set is not complete yet, it is classified as 'changes'. Temporarily closed bathing waters or closed bathing waters throughout 2012 season are classified if there is a complete set of data available. Otherwise, they are classified as 'closed'.

2. Length of bathing season and number of bathing waters

For all bathing waters the bathing season lasted 152 days, from 1 June to 31 October 2012.

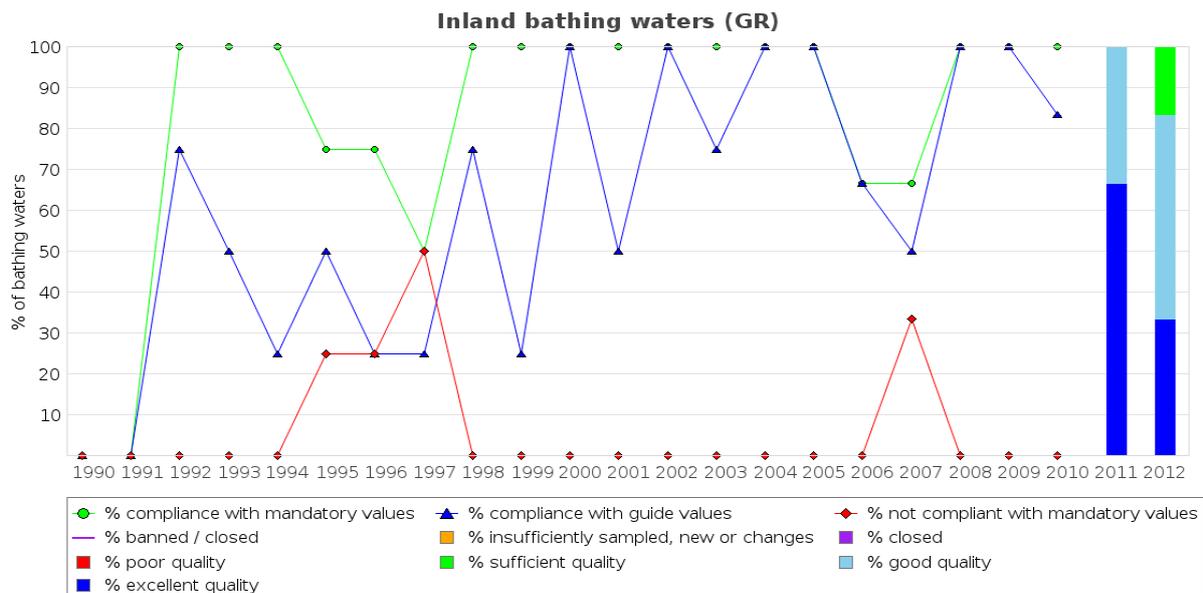
A total of 2 155 bathing waters were monitored in Greece during the 2012 bathing season, of which 2 149 were coastal bathing waters and six were inland bathing waters (0 on rivers; six on lakes).

With 2 155 reported bathing waters Greece accounts for about 10.3 % of the reported bathing waters of the European Union.

3. Bathing water quality

The results of the bathing water quality in Greece for the period 1990-2012 are presented in Figure 1¹. The previous reports are available on the European Commission's bathing water quality website (http://ec.europa.eu/environment/water/water-bathing/index_en.html) and the European Environment Agency's bathing water website (<http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>).

Figure 1: Results of bathing water quality in Greece from 1990 to 2012.

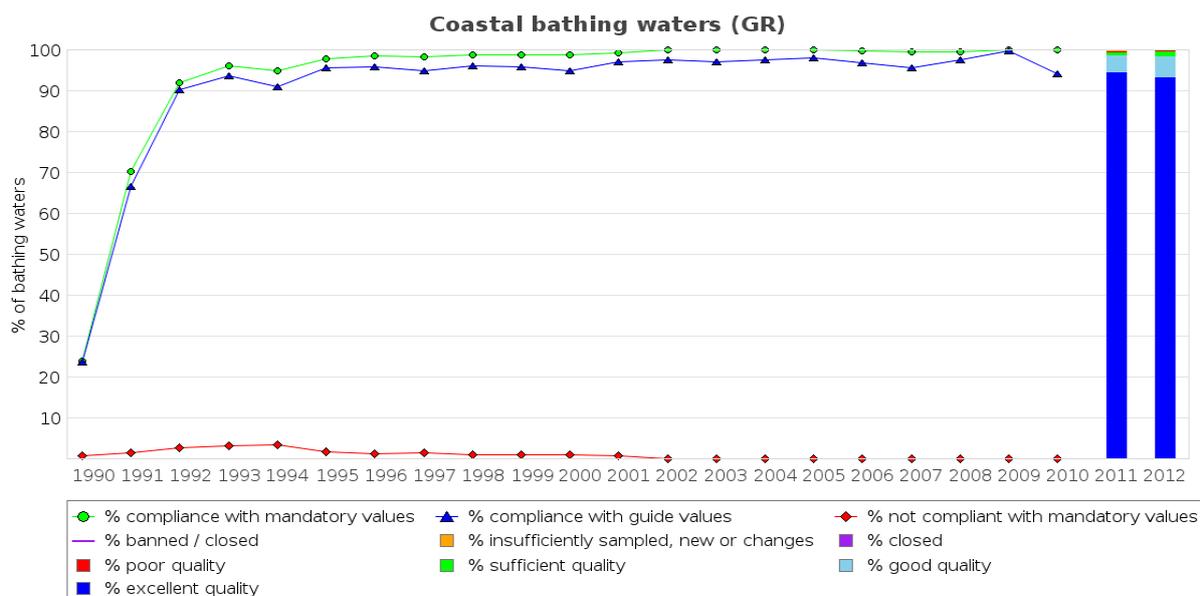


¹ The graphs show the classification under the Directive 76/160/EEC and during transition period, for coastal and inland bathing waters from 1990 to 2010:

- The percentage of bathing waters that comply with the guide values (class CG, blue line);
- The percentage of bathing waters that comply with the mandatory values (class CI, green line);
- The percentage of bathing waters that do not comply with the mandatory values (class NC, red line);
- The percentage of bathing waters that are banned or closed (class B, violet line).

The same graphs show the classification under the Directive 2006/7/EC, for coastal and inland bathing waters for 2011 and 2012:

- The percentage of bathing waters that have excellent quality (dark blue bar);
- The percentage of bathing waters that have good quality (light blue bar);
- The percentage of bathing waters that have sufficient quality (green bar);
- The percentage of bathing waters that have poor quality (red bar);
- The percentage of bathing waters that are closed (violet bar);
- The percentage of bathing waters that are insufficiently sampled, new or with changes (orange bar).



Note: Data until 2008 is available in the previous reports at http://ec.europa.eu/environment/water/water-bathing/index_en.html.

Table 1 and Table 2 show results of bathing water quality for coastal, inland and all bathing waters from 2008 on as assessed in the previous annual reports and under the Directive 2006/7/EC for the 2011-2012 seasons. A map given in Appendix 1 shows the location and quality of the bathing waters.

Coastal bathing waters

In Greece, 93.4 % of coastal bathing waters were of excellent quality in 2012. This is a decrease of 1.3 % compared to the previous year. A total of 110 bathing waters (5.1 %) were of good quality and 25 bathing waters (1.2 %) were of sufficient quality compared to 87 (4.0 %) and 16 (0.7 %) in 2011 respectively. Six bathing waters (0.3 %) had poor quality and no bathing waters were classified as closed during the 2012 bathing season. In 2011 there were five poor bathing waters (0.2 %) and none was closed.

Inland bathing waters

33.3 % of inland bathing waters were of excellent quality in 2012. This is a decrease of 33.4 % compared to the previous year. Three bathing waters (50.0 %) were of good quality and one bathing water (16.7 %) was of sufficient quality compared to two (33.3 %) and none in 2011 respectively. No bathing waters had poor quality and no bathing waters were classified as closed in 2011 and 2012.

Table 1: Results of bathing water quality in Greece. Assessment during transition period.

GR												
		Total number of bathing waters	Compliance with guide and mandatory values*		Compliance with mandatory value		Not compliant		Banned/closed		Insufficiently sampled or not sampled	
			number	%	number	%	number	%	number	%	number	%
Coastal bathing waters	2008	2089	2040	97.7	2079	99.5	2	0.1	0	0.0	8	0.4
	2009	1273	1270	99.8	1272	99.9	0	0.0	0	0.0	1	0.1
	2010	2149	2024	94.2	2149	100.0	0	0.0	0	0.0	0	0.0
	2011											
	2012											
Inland bathing waters	2008	6	6	100.0	6	100.0	0	0.0	0	0.0	0	0.0
	2009	4	4	100.0	4	100.0	0	0.0	0	0.0	0	0.0
	2010	6	5	83.3	6	100.0	0	0.0	0	0.0	0	0.0
	2011											
	2012											
All bathing waters	2008	2095	2046	97.7	2085	99.5	2	0.1	0	0.0	8	0.4
	2009	1277	1274	99.8	1276	99.9	0	0.0	0	0.0	1	0.1
	2010	2155	2029	94.2	2155	100.0	0	0.0	0	0.0	0	0.0
	2011											
	2012											

*Bathing waters which were compliant with the guide values were also compliant with the mandatory values for five parameters under the Directive 76/160/EEC or the mandatory value for *Escherichia coli*.

Table 2: Results of bathing water quality in Greece for 2011 and 2012. Assessment under Directive 2006/7/EC.

		Total number of bathing waters	Excellent quality		Good quality		Sufficient quality		Poor quality		Closed		Insufficiently sampled		New		Changes	
			number	%	number	%	number	%	number	%	number	%	number	%	number	%	number	%
Coastal bathing waters	2009																	
	2010																	
	2011	2149	2035	94.7	87	4.0	16	0.7	5	0.2	0	0.0	6	0.3	0	0.0	0	0.0
	2012	2149	2008	93.4	110	5.1	25	1.2	6	0.3	0	0.0	0	0.0	0	0.0	0	0.0
Inland bathing waters	2009																	
	2010																	
	2011	6	4	66.7	2	33.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	2012	6	2	33.3	3	50.0	1	16.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
All bathing waters	2009																	
	2010																	
	2011	2155	2039	94.6	89	4.1	16	0.7	5	0.2	0	0.0	6	0.3	0	0.0	0	0.0
	2012	2155	2010	93.3	113	5.2	26	1.2	6	0.3	0	0.0	0	0.0	0	0.0	0	0.0

4. Important information as provided by the Greek authorities

Information about bathing water quality was made public through the national environment network website and Ministry website. Bathing water profiles were made available on <http://www.bathingwaterprofiles.gr/>. Further information about bathing water monitoring in Greece was provided in a separate document (http://cdr.eionet.europa.eu/gr/eu/nbwd/envt3wtsw/GG_Duration_of_Bathing_Season_2012.PDF).

There were 6 bathing waters classified as poor in 2012:

BWID	BW name	2012 status
GR1270110464111801	PORTO KARRAS - MARINA PORTO KARRAS	poor
GR2320010113010101	AGYIA - CAMPING PATRA	poor
GR2320010113010201	DAFNI - HOTEL TZAKI	poor
GR2320010113010202	BOZAITIKA - HOTEL ACHAIA BEACH	poor
GR2540060116060301	GYTHEIO 1 -PLAZ PROKOU-NATIONAL STADIUM OF GYTHEIO	poor
GR4220030182030201	CHORA - KAMARA	poor

5. General information on bathing water quality in Europe in 2012

Out of more than 22 000 bathing areas monitored throughout Europe in 2012, around two thirds were in coastal waters and the rest were in rivers and lakes. In the 2012 bathing season, the monitoring of bathing sites has been adjusted to the provisions in the EU's new bathing water directive (Directive 2006/7/EC). The sampling of water quality in most of the bathing water sites meets the frequency standards (this involves a pre-season sample of the water quality, followed up by monthly samples thereafter). As regards assessment, the provisions in the new bathing water directive have been applied in 19 European countries (Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Germany, Greece, Hungary, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Spain, Spain, Sweden). This involved taking data from four years of monitoring to make the 2012 assessment. For the remaining ten countries, the 2012 assessment has been carried out under a set of transitional rules that do not yet meet all the requirements of the new directive using the results from the 2012 monitoring.

In 2012, the quality of 94 % of all bathing waters met at least the minimum 'mandatory' level (corresponding to a rating of sufficient quality under the new directive). Bathing water quality improved at 1.8 % of sites in 2012 compared with 2011, and at 2.5 % of sites compared with 2010. There has also been a marked decline compared with 2011 in the number of bathing waters that were closed or that prohibited bathing.

In 2012, 95.3 % of coastal bathing waters in the EU-27 achieved the minimum quality standards requested by the EU directives — an increase of 2.0 % compared with 2011. The share of coastal bathing waters with excellent quality (or complying with the guide values) in 2012 reached 81.2 % (an increase of 0.9 % from 2011).

The percentage of inland bathing waters with excellent quality is 72 % in 2012, a 1.6 % increase from 2011. In 2012, 91 % of inland bathing waters in the European Union had good or sufficient quality. This is a 1.0 % point increase from 2011. Only 2.3 % of inland bathing waters in the EU did not satisfy the minimum quality level. This is 0.1 % decrease from the previous year, continuing the slow but steady reduction in the percentage of poor quality bathing waters.

The "European bathing water quality in 2012" report presents the results and trends in bathing water quality in 2012 in Europe (<http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>). More information on bathing water quality as prepared for all reporting countries can be found on the European Environment Agency's bathing water website. The reports for the 2012 season have been produced by TC Vode, European Topic Center ICM Waters partner with support of the Institute for Water of the Republic of Slovenia (IWRIS). Countries have collaborated in the assessment of bathing water quality and supplied additional information when needed.

6. Interactive information on bathing water quality in Europe

The bathing water section of the Water Information System for Europe (WISE), which is accessible at the EEA bathing water website (<http://www.eea.europa.eu/themes/water/status-and-monitoring/state-of-bathing-water>), allows users to view the bathing water quality at more than 22 000 coastal beaches and inland sites across Europe. Users can check bathing water quality on an interactive map, download data for a selected country or region, and make comparisons with previous years.

The Eye on Earth — Water Watch application (<http://eyeonearth.org/map/WaterWatch/>) allows users to zoom in on a section of coast, riverbank or lake, both in street map or, where available, bird's eye viewing formats.

The data on bathing water quality in 2012 and previous years can also be viewed in WISE bathing water data viewer, an application prepared by TC Vode (<http://bwd.eea.europa.eu/>).

In order to make information to the public more effective, all EU countries have national or local web portals with detailed information for each bathing water site. Websites generally include a map search function and public access to the monitoring results both in real time and for previous seasons. Citizens now have access to more bathing water information than ever, giving them the tools to become more actively involved in protecting the environment and helping to improve Europe's bathing areas.

Appendix 1

Map 1: Bathing waters reported during the 2012 bathing season in Greece



Source: National boundaries: EEA; Large rivers and lakes: EEA, WFD Article 3; Bathing waters data and coordinates: Greek authorities