

Bathing Water quality in Eastern Macedonia and Thrace

Analysis Period 2014-2019

Since a measurable risk of illness due to microbiological contaminant of bathing waters remains even on beaches compliant with existing legislation, the aim of this work was to quantify these kind of risks for all beaches in the area of Eastern Macedonia and Thrace. The emphasis of this work remains the Island of Thassos due to the fact that in this area we observe the highest concentration of tourism activities during the year.

In order to have reasonable statistical results we need to secure a sound context of data which contains the quality required for this task. These data are provided by the institution "Blue Flag" which works under the auspices of the Ministry of Tourism. Blue Flag collects samples for about 1500 beaches in Greece from May to October each year. In the current application we investigate the period 2014-2019 for following microbiological bacteria

- Faecal Coliform (E.coli)
- Intestinal Enterococci (E.cocci)

All samples are stored in excel sheets by region and month in the home page of Blue Flag. To investigate this kind of data is very time consuming. Therefore we transformed all these hundreds of excel sheets to a database and created an integrated data pool which allows us to build key performance indicators and analyze the data.

What is the aim of this application? Very simple, to know the quality of the bathing water in this region. in detail

- We are looking for the average pollution per beach or region
- We are tracking all sample exceeding the pollution limits for all beaches in the region

The results are two main messages:

- All average values in the period we analyze are below the limits set by the health authorities

- The bad message is that Thassos has on average the highest pollution in the region for faecal coliform bacteria. This value is still under the limits but around 90% above the average value of the entire region Eastern Macedonia and Thrace. Concerning the Intestinal Enterococci (E.cocci), Thassos has the third worst value in the region.

If you go through the application you will be able to slice and dice this information down to every single beach and every single sample taken by the Blue Flag institution.

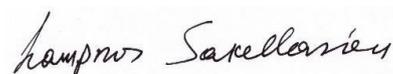
The application consists of the following parts:

1. Introduction of the problem (this documents)
2. Description of the methodology and results on a very detail level.
3. The user's manual. Here you can find all instructions of how to use the application
4. Infographics part. Quick access to the important results in chart and tables
5. The application as such. Here you will find all KPIs (key performance indicators) for all beaches in the region.

In order to understand the story we suggest to read the documents in this sequential order. It was not easy to summarize thousands of samples in bite-sized way ready for consumption. I did my best.

Since this is a voluntary work the computer resources which are hired are very low. Therefore the application may be by concurrent access of many users slow.

I wish you great fun by using the application.



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