



CLIMATE DETECTIVES 2021 – 2022



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RESEARCH QUESTION

Is there any relationship between the drop in the level of the Iznájar reservoir and global warming?

SUMMARY OF PROJECT

In recent years, the inhabitants of our region have the feeling that the level of the Iznájar reservoir is decreasing in general. It is interesting to investigate whether this decrease is real and objective and whether there is any relationship with the rise in temperatures and the variability of precipitation caused by global warming. It will also be necessary to determine the influence that water consumption has on this matter.

Using satellite images (ESA, Google Earth) the surface of the dammed water will be determined over the longest time period that we can establish. Temperature and precipitation data will be collected (State Meteorological Agency) and reservoir water level and consumption (Guadalquivir Hydrographic Confederation). The newspaper library and the historical archives of the region will also be visited and testimonies will be collected from the elders of the place. The data will be treated statistically in order to draw conclusions that can answer the starting question.



Figure 1: Iznájar reservoir at two different times

MAIN RESULTS

Having conducted the research on water level of the reservoir, average temperature and precipitation, we have concluded that water level is directly related to precipitation index and these have not risen nor decreased in the past years. There have been rainier and drier years, though we cannot affirm the water level of the reservoir is decreasing. On the other hand, average temperature in the area has indeed increased in more than 1°C over the past years. Perhaps in some time this increase in temperature may affect precipitation and thus water level. Regarding weather, there have been no significant changes over the past 50 years.

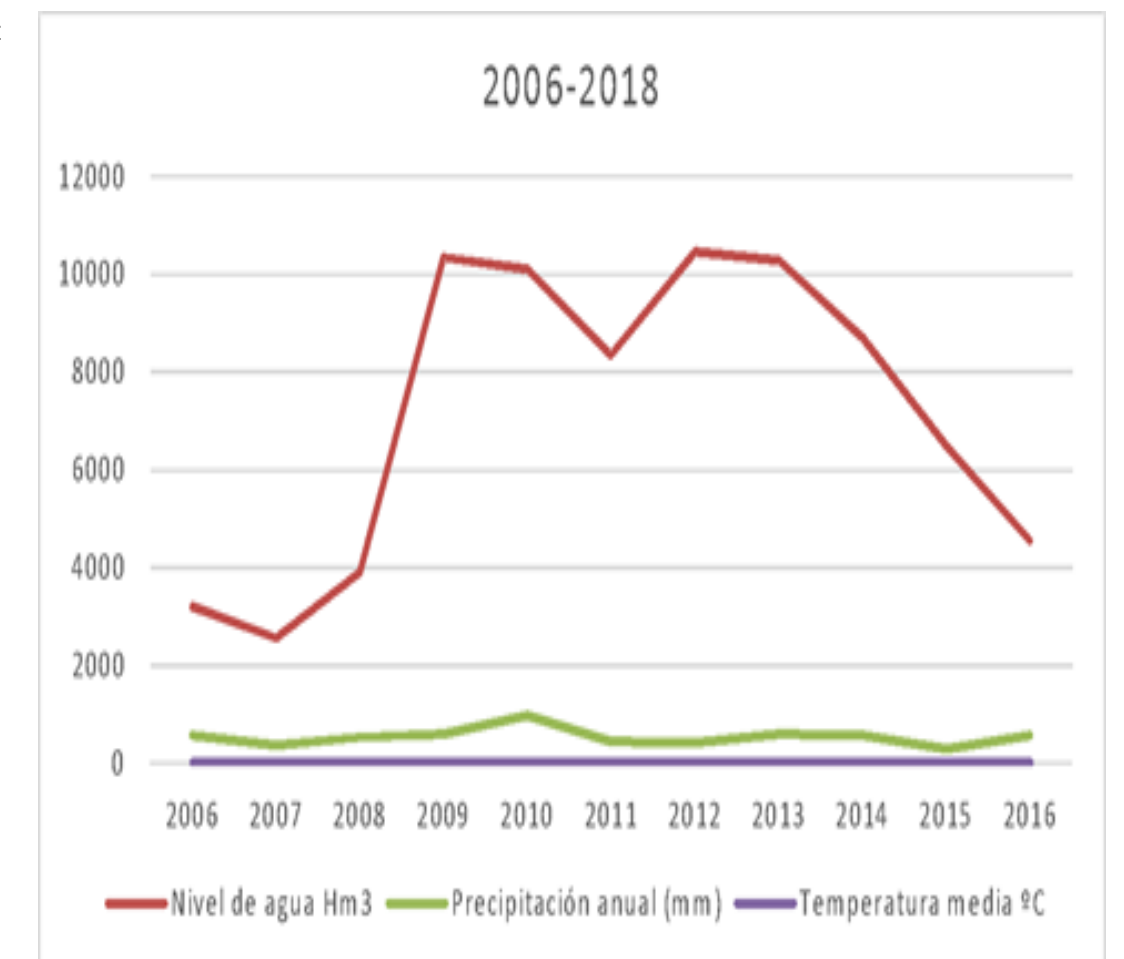


Figure 2: Reservoir water level, annual precipitation and average temperature in the indicated period

ACTIONS TO HELP LESSEN TO THE PROBLEM

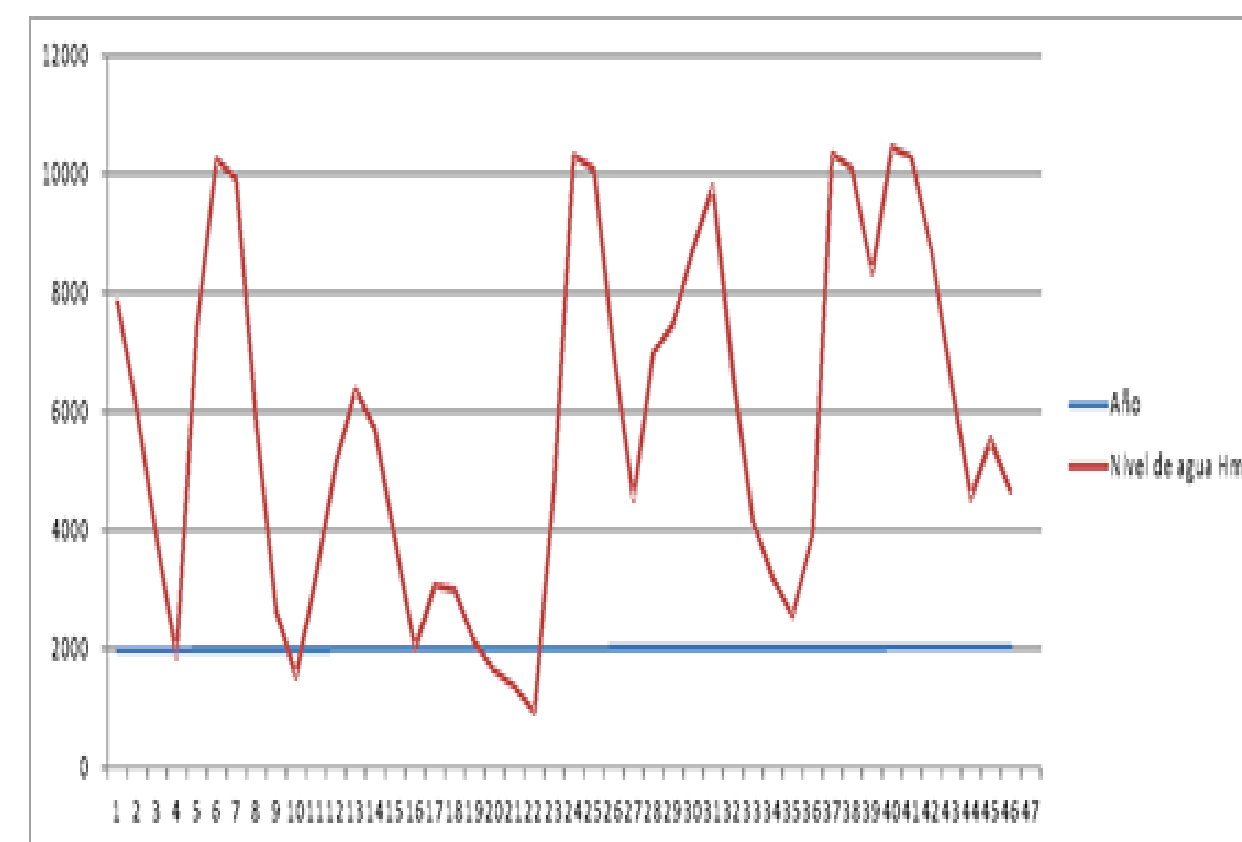


Figure 3: Water level of the reservoir from 1973 to 2018

Firstly, more research is needed to determine the strength of the conclusions obtained. According to these, what is appropriate is to encourage saving and proper use of reservoir water, to try to alleviate the shortage that occurs at certain times.