About **Project**

Greenhouse gas emissions from human activities such as burning fossil fuels, and engaging in agricultural practices have contributed to a rise in average world temperature and other climate-related challenges. Since 1957, the planet has warmed at an average rate of 0.13° C each decade.

The notion of climate change prediction in response to human forcings over multidecadal time scales is considered a way of concluding the consequences of anthropogenic activity in the future. Climate change involves an inherent element of uncertainty owing to non-linear and stochastic aspects of climate system patterns.

The chosen solution uses a system of sensors to gather data from the Mediterranean Sea coast in terms of changing water acidity and air humidity, temperature, and particular matter.

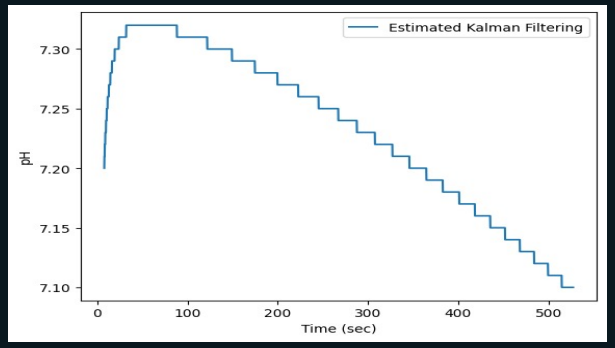
The collected data is subsequently integrated using differential equations and linear regression to estimate the impacts of climate change evolution.

> *The testing results of the prototype was similar to released predictions of international agencies and was preferable to exceeding expectations because it verified that the project met the design requirements.*

> The study major finding is that if climate change remained at the same rate, it will constitute an existential danger to human civilization and ecological systems.

Results

55 samples were collected and investigated under regular conditions to simulate real-life results. The results implied as momentarily down-stepped at a constant rate; the measuring range for the pH sensor was the primary cause. The outputs in the middle of the two intervals were unmeasurable down to the second decimal point. Initial measurements were close to 7.3, but the subsequent rise in readings can be attributed to the Kalman filter effect identifying first base using its algorithm.



pH as a function of time in high CO_2 atmosphere conditions

Scan For More Information

Capstone **Project**

AquaClimate

Group 328