Blue-Cloud
Virtual Labs

PerfeCt - Performance of Aquaculture under Climate change

PerfeCt is an innovative geospatial web application built to forecast the effects of climate change on key aquaculture performance factors and help stakeholders determine future conditions for aquaculture at a given site.

Partners:

Institut Ruđer Bošković · University of Osijek Department of Biology · HRZZ

Data sources through Blue-Cloud:
Copernicus Marine Service, Copernicus Climate Service, EMODnet

Main target users:
Risk assessors, Aquaculture managers, Investors, Policy makers

Services introduction:
PerfeCt is a modular Jupyter notebook that hindcasts and forecasts the effects of IPCC climate change scenarios on three simple aquaculture performance factors - time-to-market, food conversion ratio, and risk of disease - using open-source data and services.

UN SDGs addressed

SERVICES

User-friendly GIS framework
The application integrates a process-based modelling of fish growth built upon Dynamic Energy Budget theory, as well as an innovative index to identify the risk of vibriosis disease based on a Vibrio growth model, into a user-friendly GIS framework.

Models fed by open-source data
Three groups of open-source data feed the models to create predictions: (i) basic data layers (bathymetry, maps of aquaculture sites, marine protected areas), (ii) IPCC climate change scenarios, and (iii) model parameters for DEB fish growth model.

Easily accessible information
The application transforms science-based results to easily accessible and understandable information (graphical and colour-coded outputs) useful for target users, thus creating a valuable link between R&D and industry.

INES HABERLE
Research assistant at IRB

"PerfeCt is an innovative approach to answer the 'What if?" question when establishing and/or adapting aquaculture facilities in light of climate change. Our goal is to provide information necessary to strengthen investor confidence and support development of smart policies."

Test the VLab now!

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