Software Requirement Specifications

Global Fish Tracking System

FOR	ESA and Starion
BY	Development Seed
VERSION	1.0
DATE	Mai 2, 2024

Introduction

This document describes the software requirements specifications for the Global Fish Tracking Software (GFTS) DestinE Platform use case. We will describe both the functional and non-functional requirements on the GFTS system.

Requirements

The following sections list the requirements for the fish track modelling environment and the decision support tool components.

Modelling environment

The pangeo-fish modelling environment allows researchers to reconstruct fish tracks from the biologging data they collect.

ID	Requirement	Description
R101	Scalable Jupyter-Hub environment	A Jupyter Hub environment is deployed in a scalable cloud architecture, it will be the basis for running fish track reconstruction
R102	Access Copernicus Marine Data	The Copernicus Marine data is accessible in the Jupyter Hub environment for analysis
R103	Seabass biologging data	The biologging data for Seabass is integrated and ready for analysis
R104	Pangeo-fish software	The pangeo-fish software is installed and ready for analysis
R105	Fish track model output	Fish presence probability distribution and most probable fish tracks

Decision Support Tool

The Decision Support Tool allows people to explore historic fish tracks and calculate future ocean conditions for the population.

ID	Requirement	Description
R201	Select existing tracks	Users can select the fish tracks for a fish species generated within the context of this project
R202	Explore movement	Users will be able to explore the fish tracks in a 3D environment in the browser, and better understand behavioural patterns of the population.
R203	Climate DT data is available	The Climate Adaptation Digital Twin is essential input for calculating the exposure of the fish tracks to future scenarios.
R204	Select Climate Change scenario	Before calculating the future exposure of the population, people will be able to customise some of the underlying assumptions, such as different Climate Change scenarios. The scenarios would correspond to the data available in the Climate Adaptation Digital Twin.
R205	Explore future exposure	People will be able to explore the future ocean conditions that the species is exposed to based on the available climate scenarios.