Introduction

The growing number of environmental data sources provides new possibilities to understand the complex Earth system. Remote sensing data provided by satellites, historical and forecasting data provided by meteorological agencies or in-situ sensors gives a lot of information to monitor an ecosystem. However, they are very heterogeneous in terms of file formats and access and they can be tagged as Big Data in terms of volume. To enable the exploitation in a interoperable way, the produced data need to address the four FAIR principles.

Use Case

LifeWatch ERIC aims to address a complete solution to monitor and model the water quality by integrating different and heterogeneous data sources (satellite data, real-time monitoring systems, repositories, and meteorological data). Supported by DataCloud solutions, the proposed architecture provides a set of services for the user to manage the Data Life Cycle completely with several features: automatic metadata attachment and discovery, data gathering selecting locations and dates, different types of analysis and curation, PID minting and preservation rules definition.

DataClouds

Cloud Computing-based services and tools to be integrated in systems to offer a complete environment for Data Life Cycle management and access to different types of resources.

Environmental Data Life Cycle

1. Plan
2. Collect
3. Curate
4. Analyze
5. Publish

Data Ingestion

PaaS Orchestrator

IAM

Water Quality Model

Metadata Discovery

Input

Output

WWW

DOI

FAIR

Findable
Accessible
Interoperable
Reusable

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