

# ICIS VRE

## Integrated Catch Information System

ICIS is a FAO initiative in response to the United Nations General Assembly (UNGA) request to generate fishery statistics that distinguish catches within and outside the EEZs, and to the Coordinating Working Party on fishery statistics (CWP) to improve the quality of global catch statistics.

Implemented as a Virtual Research environment (VRE) on the D4Science infrastructure, ICIS exploits VRE facilities to manage statistical data. The ICIS VRE will allow users to load and store their catch data on the D4Science infrastructure, to harmonise them with other data sources, to analyze data across domains, and to present results in reports, tables, graphs or maps. The main goal of ICIS VRE is to improve global catch statistics quality.

### **Users:**

Fishery biologists, data analysts, and policymakers.

### **Objectives:**

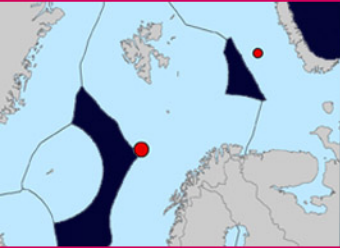
- Data Harmonization: make data from different sources comparable, e.g. to merge various data-sets in unified statistical time-series
- Spatial Capture Re-allocation: improve spatial precision in capture statistics by applying spatial logic
- Interoperability: establish seamless links to external repositories
- SDMX Support: data generation in the statistical data exchange format SDMX, and store and expose these data in a secure but open infrastructure



## Data-harmonization of fisheries statistics

- ICIS offers a variety of transformation services to harmonize data from different sources
- Data can be imported as csv files, and transformations to e.g. SDMX formats are supported
- ICIS offers reference data management facilities driven by semantic web technologies
- A semantic knowledge base manages relations between concepts

## Spatial re-allocation on the grid



- D4Science has pioneered a grid implementation of geospatial open standards, such as GeoServer, offering tailored and high-performance solutions to mapping and geo-spatial analysis
- Data can be generated in a variety of formats, including SDMX
- ICIS data can be displayed on a grid based GIS
- Capture statistics can be combined with data from other domains, such as species distribution maps from AquaMaps

## Interoperability



- D4Science offers a range of collaborative services to e.g. share huge datasets, edit reports, import data from other VREs, and publish to a variety of formats, all in one e-Infrastructure
- Data can be imported from feeds, files, or Webservices
- D4Science offers workflow support and metadata management

## SDMX Development

- SDMX is an XML statistical data exchange standard supported by e.g. the EU, the WorldBank, OECD, and FAO. It also covers the management of metadata and the discovery of data-sets.
- FAO-FI supports development of SDMX capabilities in D4Science to provide SDMX generating and storage capabilities to institutions that lack resources to implement the (extensive) standard
- Open SDMX is a recent FAO initiative where JAVA developers can contribute to the implementation of additional SDMX features on the grid

