



OGC Collaborative Solutions and Innovation Initiatives - 2023 and beyond

UN-GGIM 13th Session Side event - Standards and Innovation-
Enabling the global geospatial information community

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OGC Collaborative Solutions & Innovation



**Sponsor with
a challenge**



**OGC
evaluations**

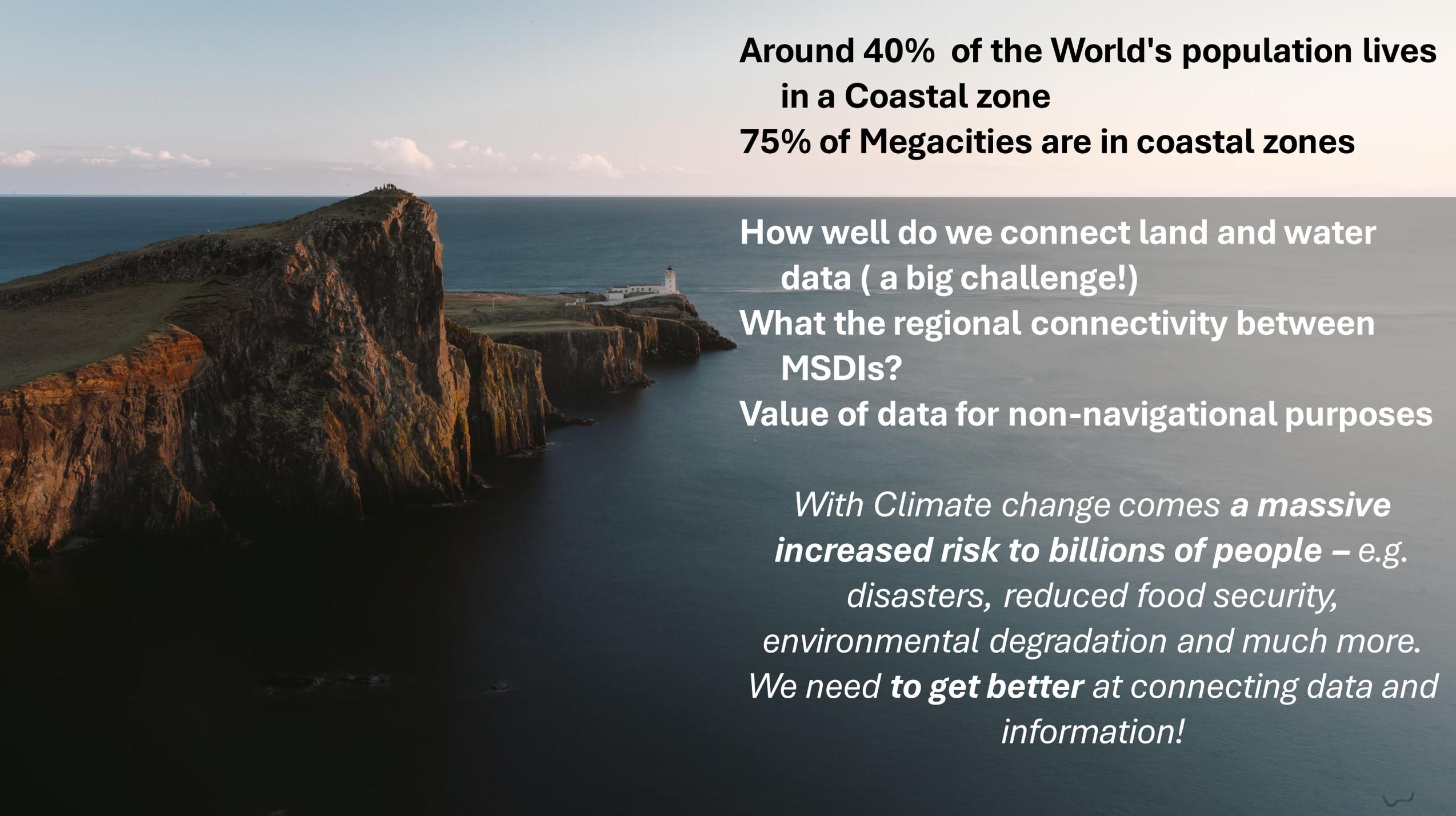


**Bring OGC
members in**



**Deliver
solutions**



A scenic view of a rugged coastline. In the foreground, there are dark, steep cliffs. In the middle ground, a white lighthouse sits on a small, flat area of land jutting out into the sea. The ocean is a deep blue, and the sky is a pale, hazy blue with some light clouds. The overall atmosphere is serene and majestic.

**Around 40% of the World's population lives
in a Coastal zone**

75% of Megacities are in coastal zones

**How well do we connect land and water
data (a big challenge!)**

**What the regional connectivity between
MSDIs?**

Value of data for non-navigational purposes

*With Climate change comes a massive
increased risk to billions of people – e.g.
disasters, reduced food security,
environmental degradation and much more.
We need to **get better** at connecting data and
information!*

Connecting Land and Sea for Global Awareness

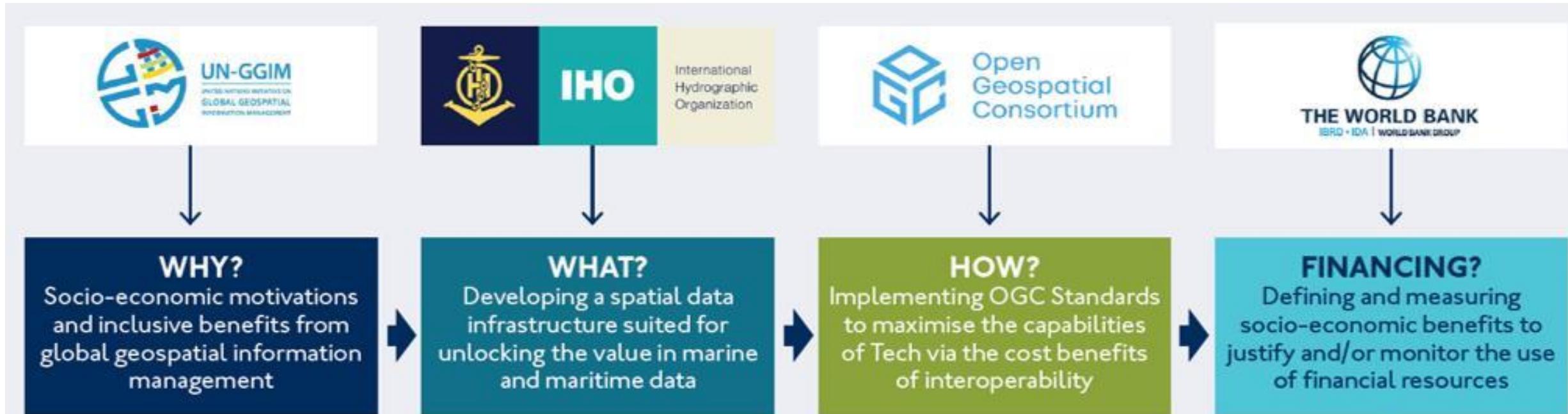
Federated Marine Spatial Data Infrastructure Pilot 2023

Singapore - Arctic - Caribbean



**Open
Geospatial
Consortium**

Partnerships are critical



Background: FMSDI Initiative



Phase 1
(Sep-Dec 2021)

Understand status quo

Running an RFI on resource collection focus on MPA Availability of S-122 (Marine Protected Areas) data, who produces it, where is it held

Phase 2 (Jan-Jun 2022)

Demonstrate marine protected areas at OGC API endpoints

Demonstrating S-122 Standard for MPA in Baltic and North
Demonstrate S-1XX and other marine standards and data
UNGGIM-IGIF derived maturity model for Marine SDIs

Phase 3 (Jun-Feb 2022/23)

Extend to new location: Arctic

Add more data, more services to address more complex scenarios

Phase 4
(Apr-Oct 2023)

Extend to new locations: Singapore Arctic Canada Caribbean

Demonstrating interoperability between land and marine data, general sensitivity to climate change, and storm surge, and different use-cases

Disaster Pilot

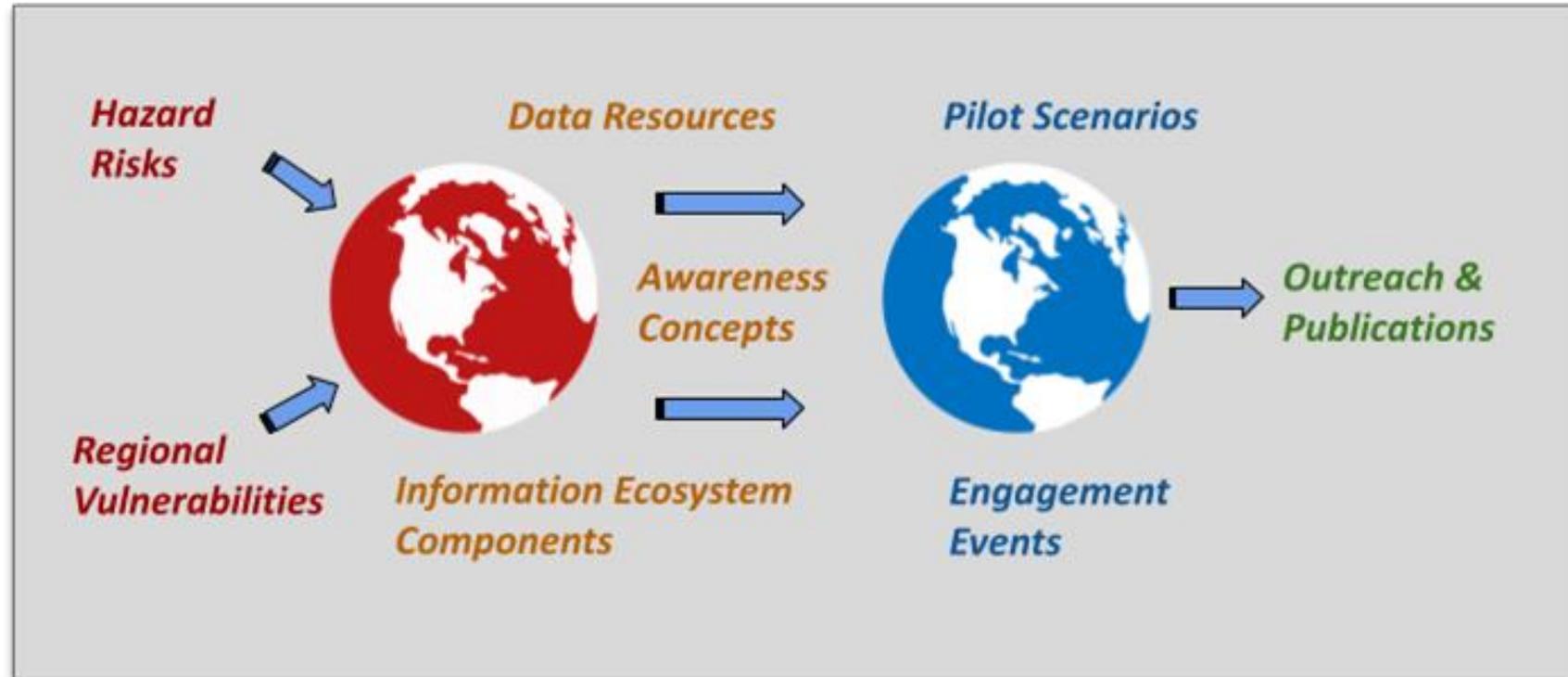
Eyes in the sky, feet on the ground.



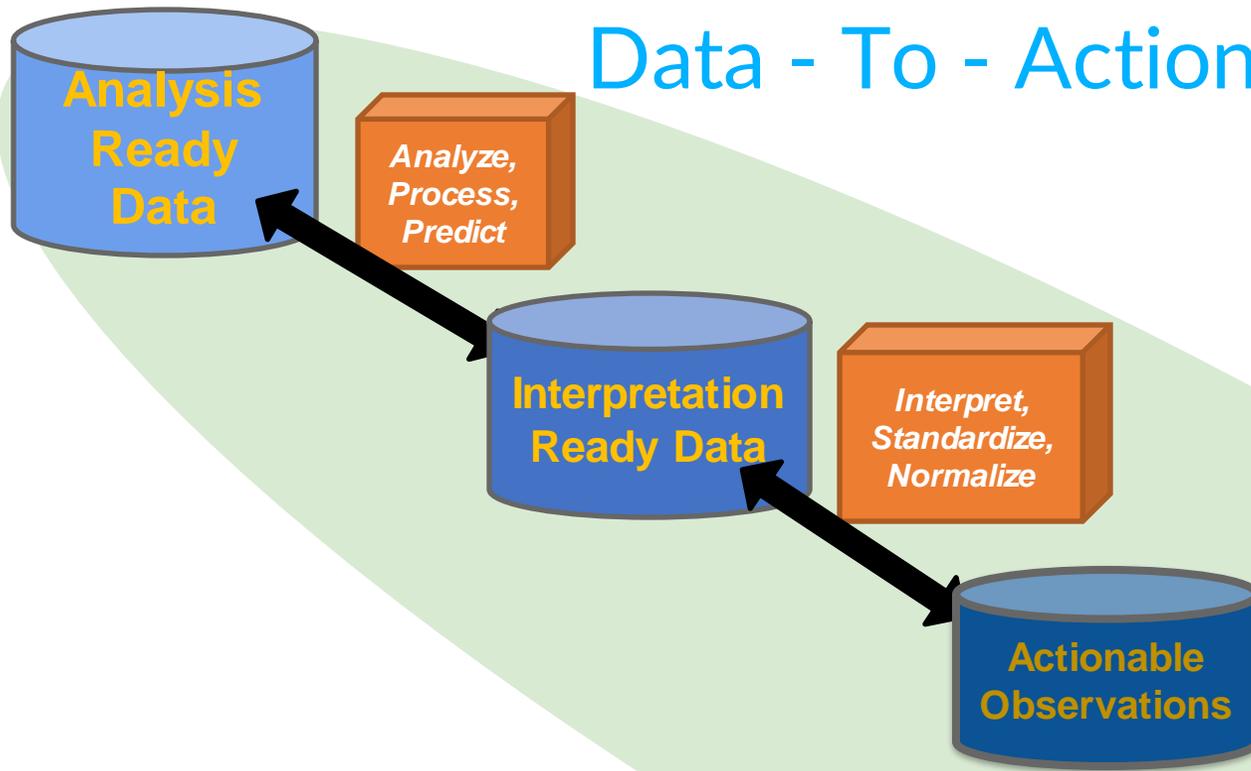
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What Goes into an OGC pilot?

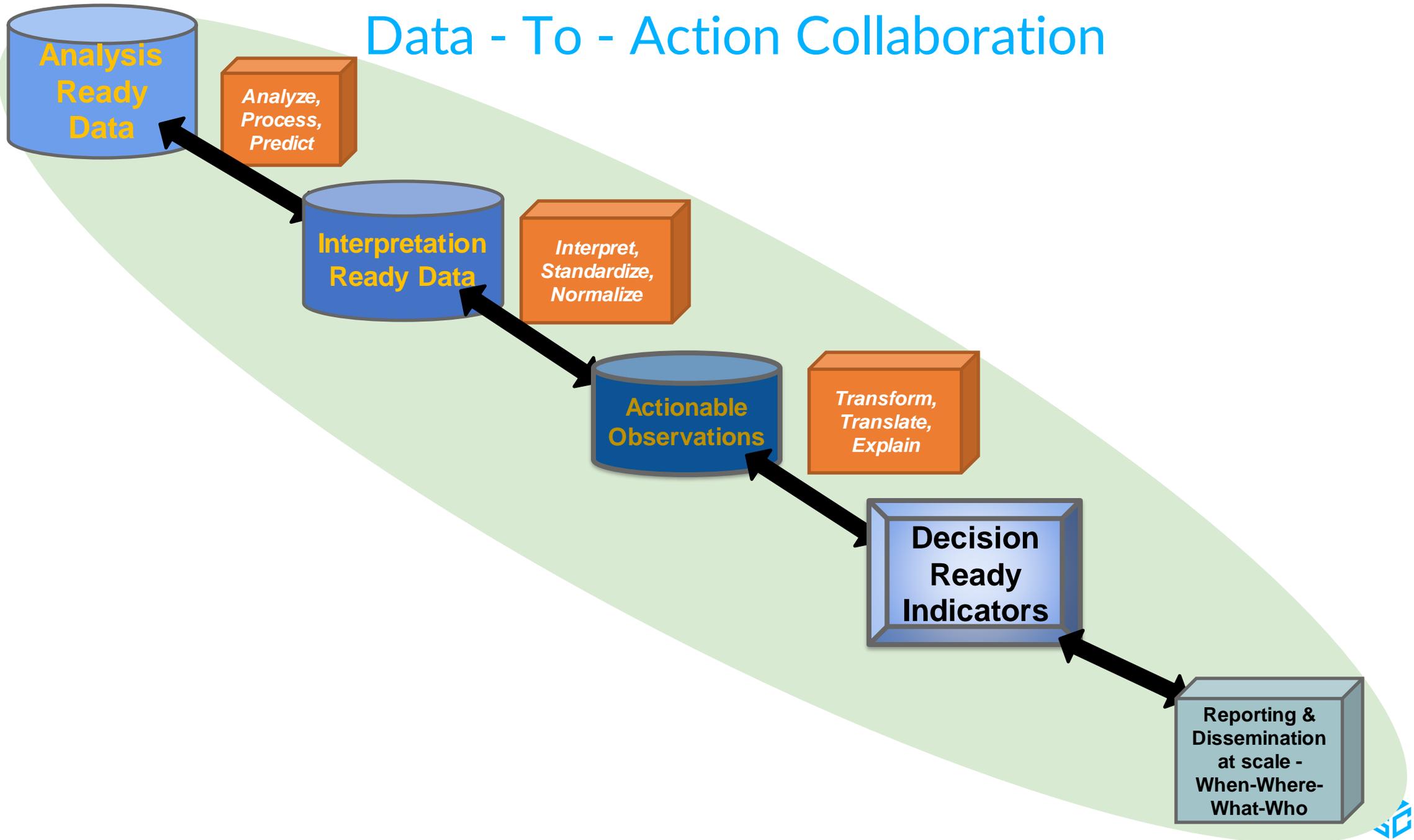
- Geospatial data sharing challenge (discovery, access, integration, exploitation)
- Sharing scenario(s)
- People! (Sponsors, supporters, participants, stakeholders, coordinators)
- Distributed systems agile prototyping
- Interchange of components and datasets -> measure of interoperability
- Simulation of scenario workflows
- Evaluation of results
- Feedback into standards development and adoption
- Considerations for further maturation and operational deployment
- Communication!
- (New) Persistence!



Data - To - Action Collaboration

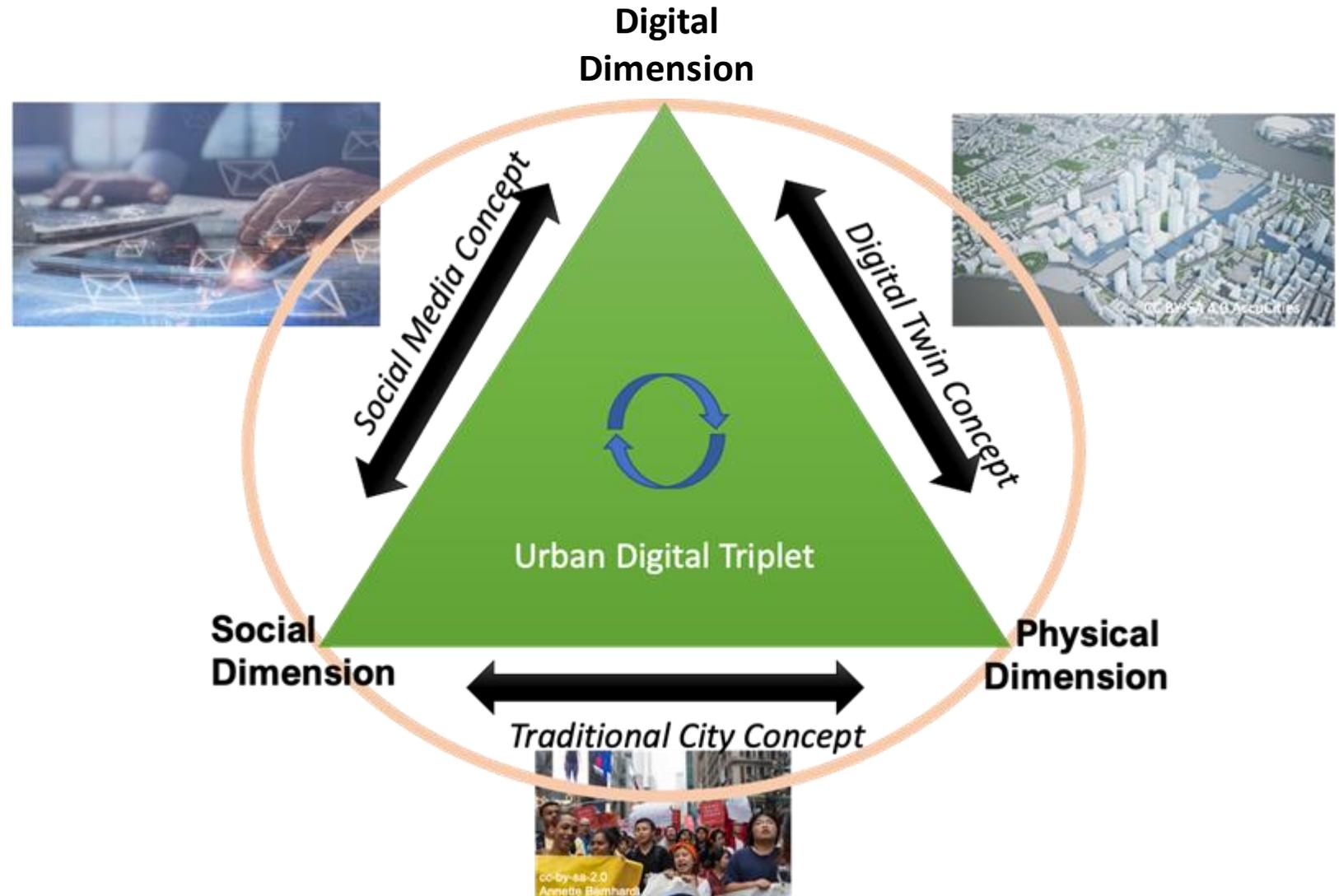


Data - To - Action Collaboration



Indicator Workflow Collaboration Triplet

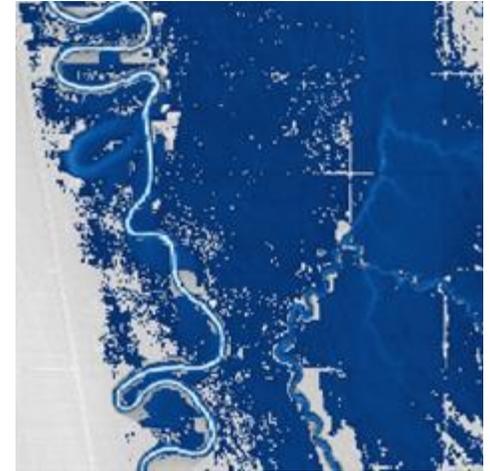
- Physical
 - Incident scene
 - In-person collaboration
 - Shared experience
 - Operations
- Digital
 - Sensing/reporting data
 - ARD-DRI workflows
 - Models and predictions
 - Visualization
- Social
 - Communication
 - Culture
 - Communities
 - Common Purpose



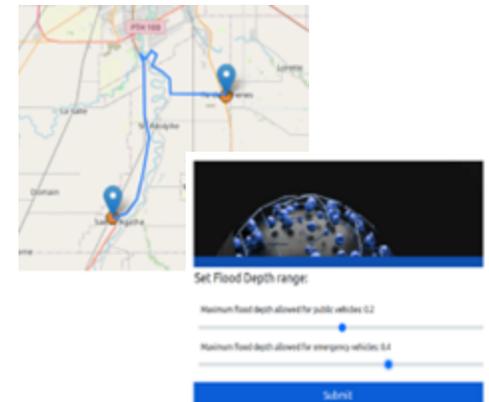
Disaster Pilot 2021 Readiness Guides

As part of the Pilot's mission, [Readiness Guides](#) were developed based on the following remit:

1. A guide for Earth Observation (EO) **data providers**, Analysis Ready Data (ARD) product providers, Decision Ready Indicators (DRI) analysts, and other supporting stakeholders on how to prepare and coordinate with others in order to leverage standards-based cloud computing platforms in support of disaster management and response efforts.
2. A guide for EO **data users**, relief organizations, field personnel, and other response stakeholders on how to prepare and coordinate with others in order to leverage standards-based cloud computing platforms in their disaster management and response efforts.



Red River flood occurrence, developed by Wuhan University, overlaid on the DEM.



Interoperable and Open Information Climate Resilience Pilot

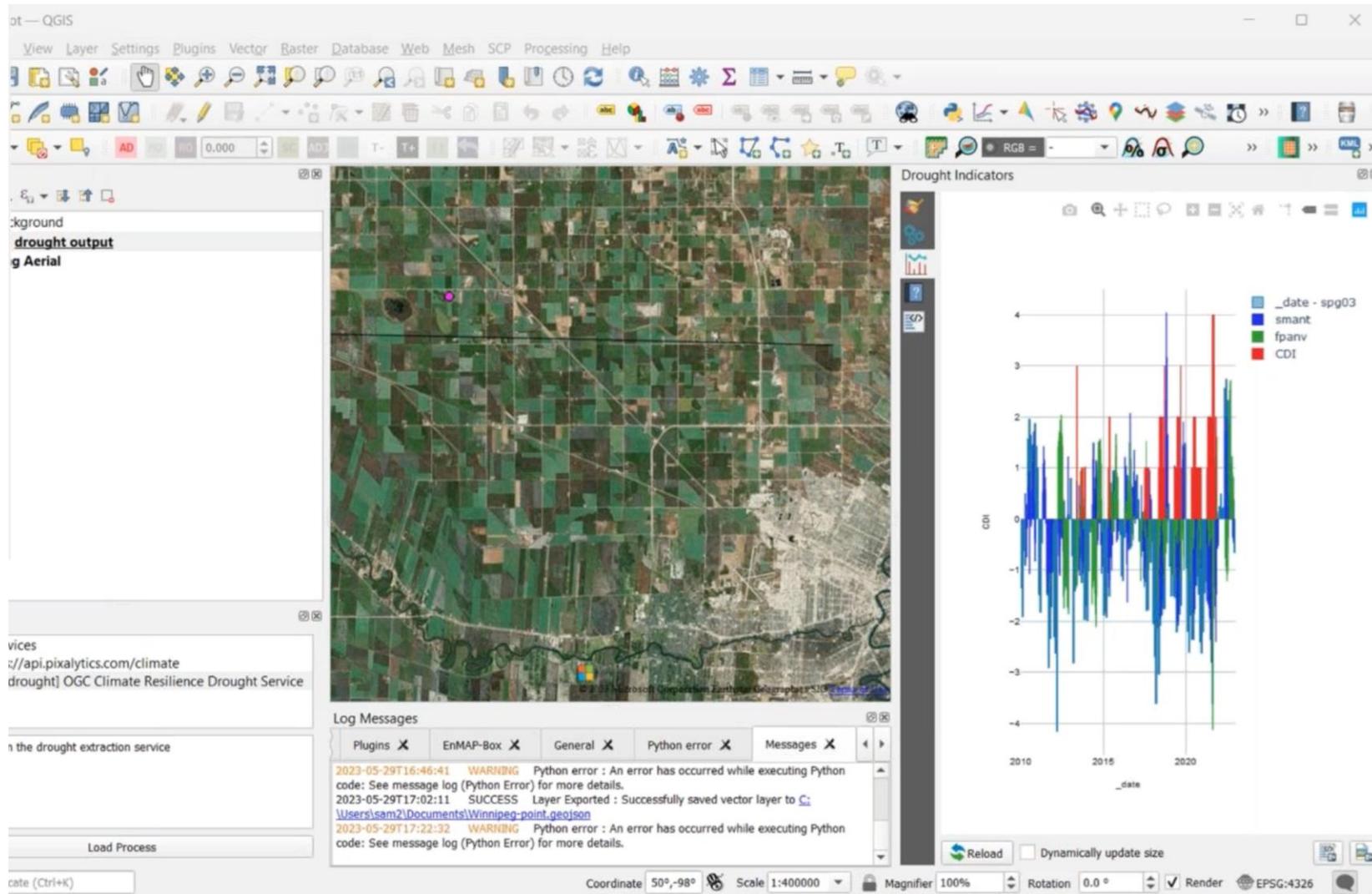


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Climate Pilot



OGC Climate Resilience Pilot





RAMING POOL OVER \$3.613 MiB BUDGET

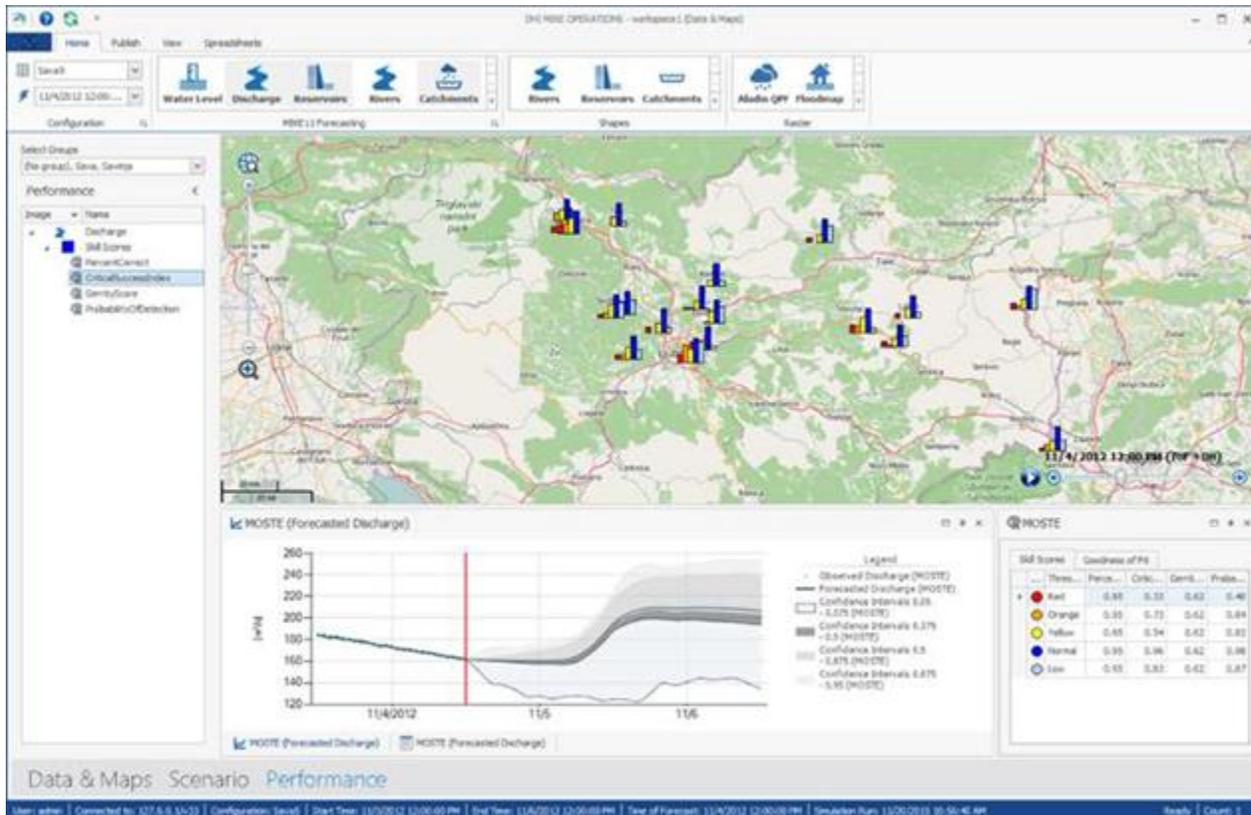
LEAKING POOL OVER 43.676 MIB BUDGET



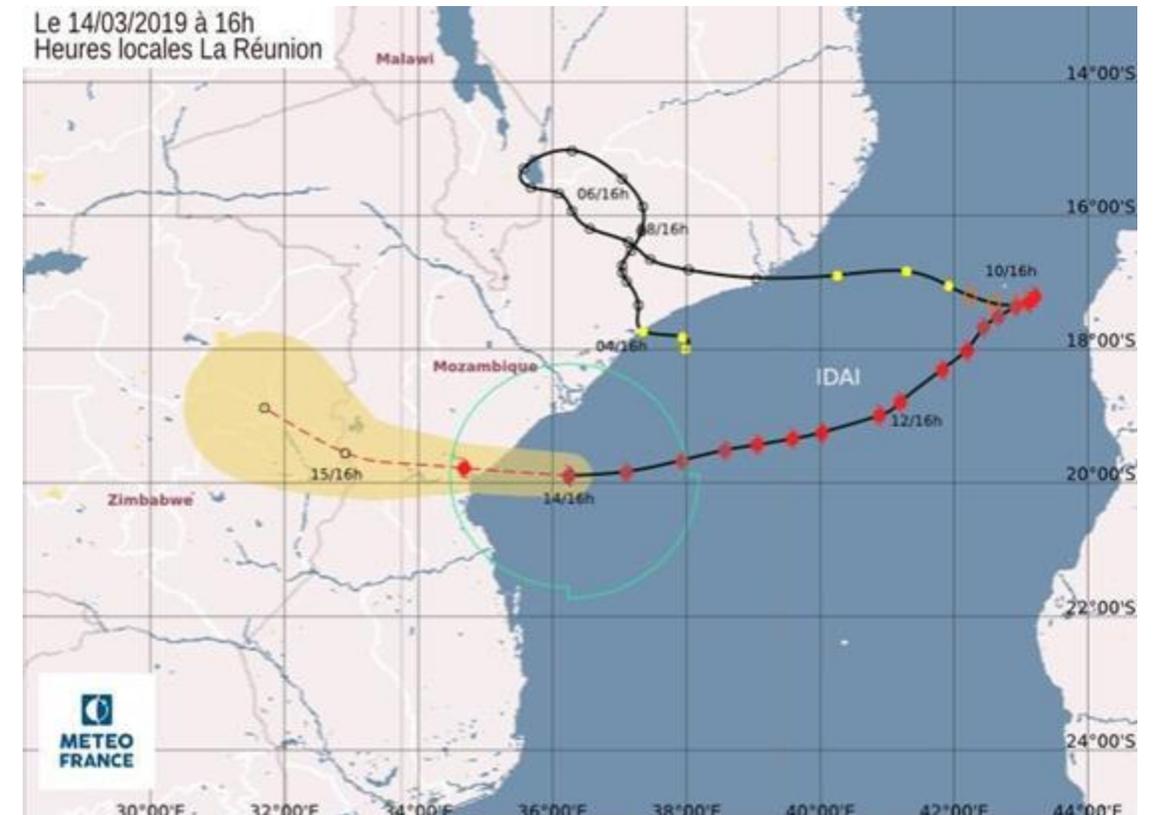
Need for OGC Blueprints

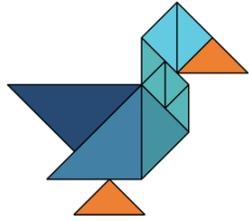
Agenda 2030 - Leave no one behind

- Example of **hydrological forecast from ZAMWIS** (Zambezi Water Resources Information System)
 - software interface [Source: ZAMCOM]



- Example of **Tropical Cyclons graphical warning** issued by Météo-France one day before Cyclone Idai's landfall in Mozambique (14 March 2019)
 - [Source: Météo-France La Réunion]





Smartduck

🔍 Search this book...

OGC Building Blocks for Climate Services

Science for an OGC Building Block for climate services

Develop your own building block for climate services

Deploy a building block as Climate Service

GUI for Climate Services Information Systems

Commands to call a Climate Services Information System

FAIR Climate Services

Existing OGC building blocks for climate service



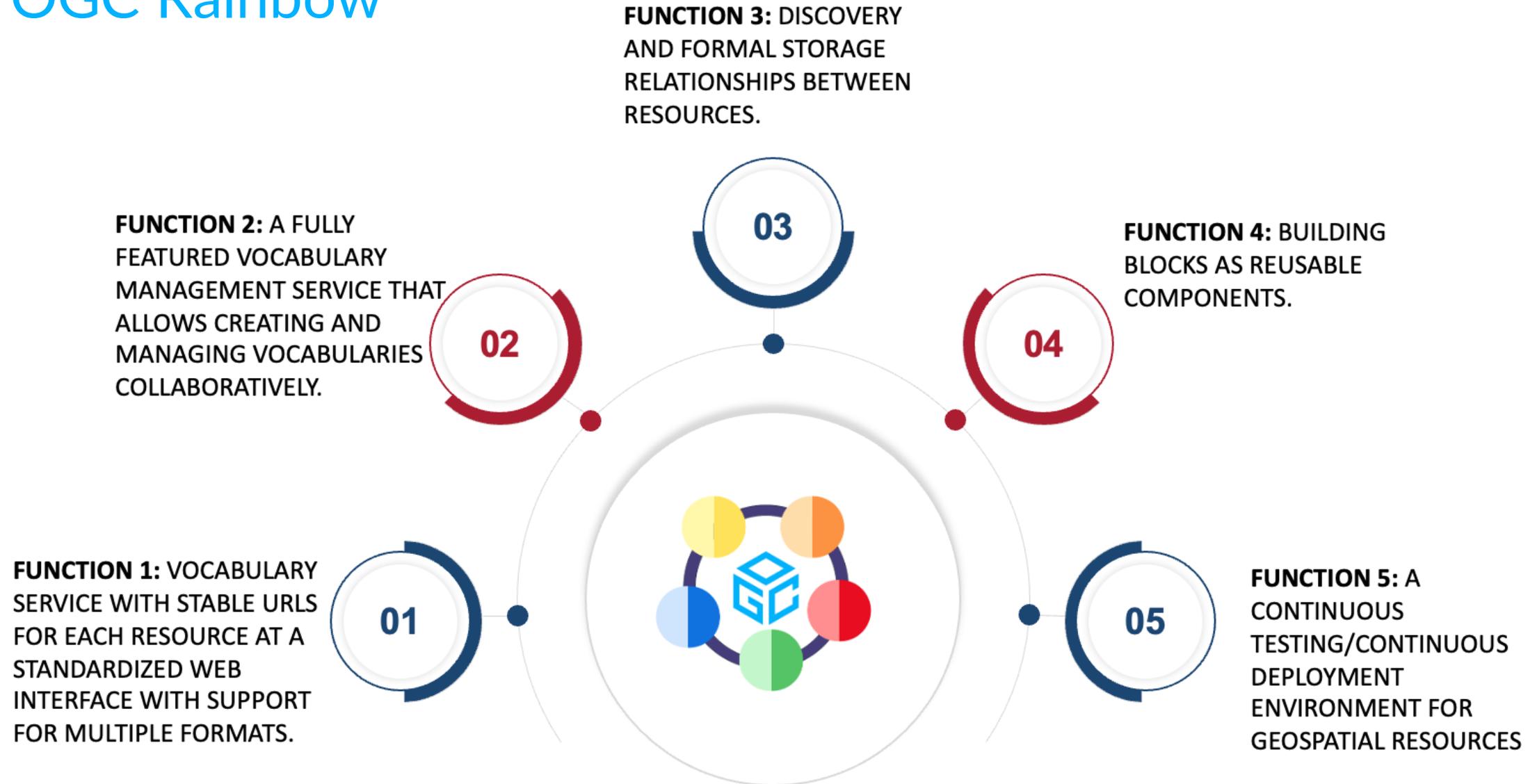
OGC Building Blocks for Climate Services

The following sections are instructions, guidelines and backgrounds around OGC API based software which can be used to set up Climate Resilience Information Systems (CRIS). In the following sections we are using the [Duck](#) software as example to guide you through the different steps necessary to set up a Building Block for Climate services. The demo web-application has been created by Carsten Ehbrecht and Étienne Plésiat in the framework of the work package 8 of the [CLINT](#) H2020 project. Duck provides an AI-enhanced service to infill missing values in climate datasets.

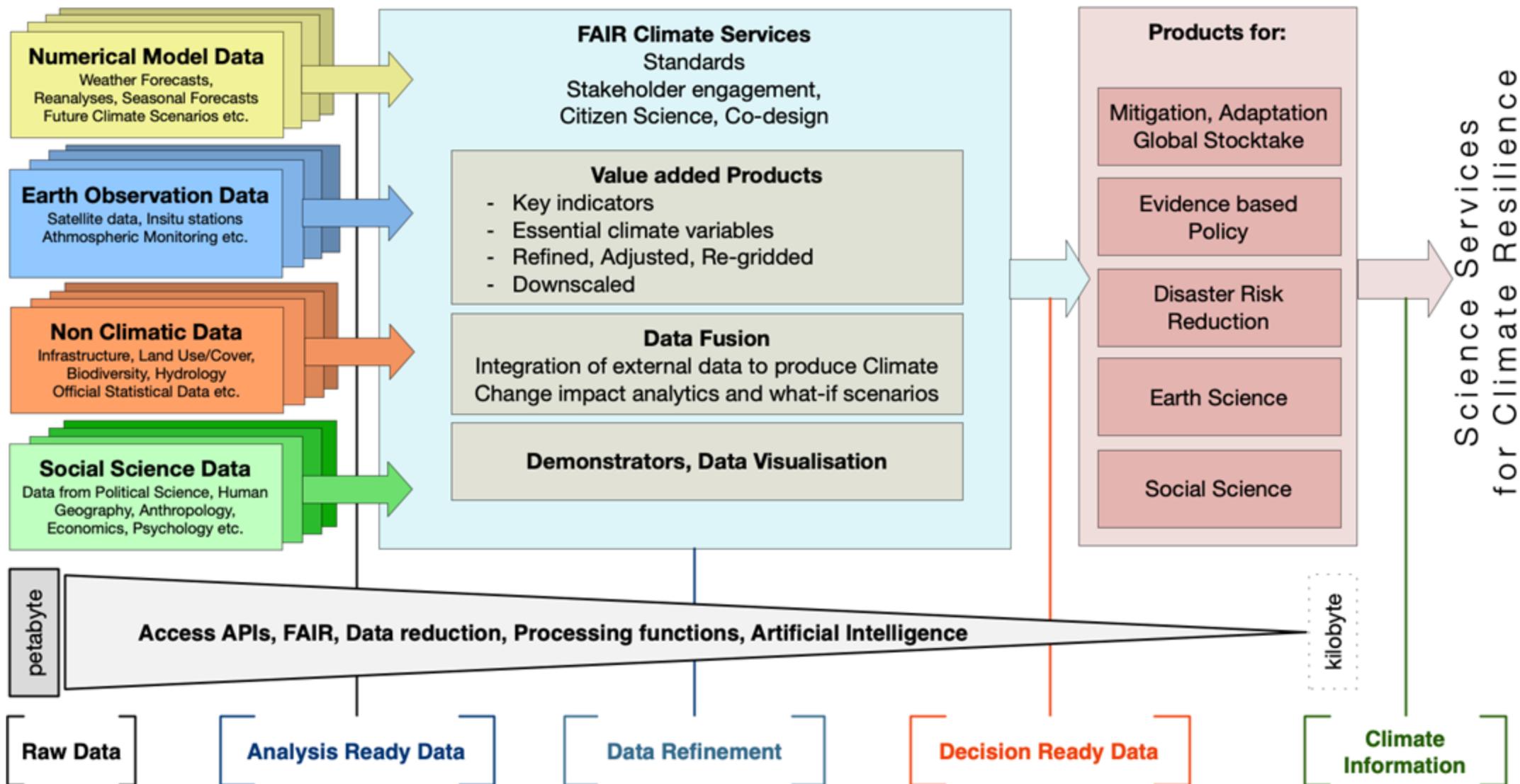
Here we understand **Building Blocks for Climate Services** as standalone software in line to the [OGC API standards](#). In the [Birdhouse](#) organisation you can find a collection on OGC Standards based software. These software blocks can be used to build customised Climate Resilience Information System. The building blocks for climate services can be named with birdnames.

- [Science for an OGC Building Block for climate services](#)
- [Develop your own building block for climate services](#)
- [Deploy a building block as Climate Service](#)
- [GUI for Climate Services Information Systems](#)
- [Commands to call a Climate Services Information System](#)
- [FAIR Climate Services](#)
- [Existing OGC building blocks for climate service](#)
- [Bibliography](#)

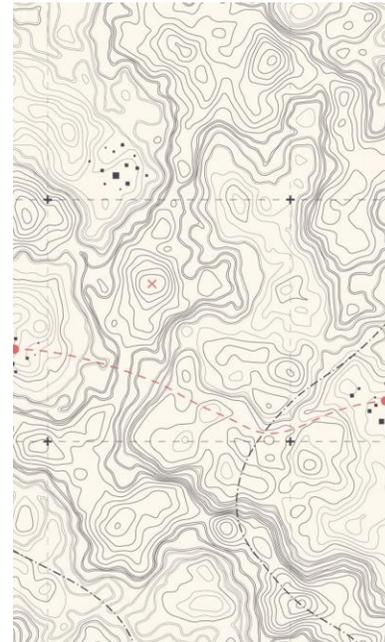
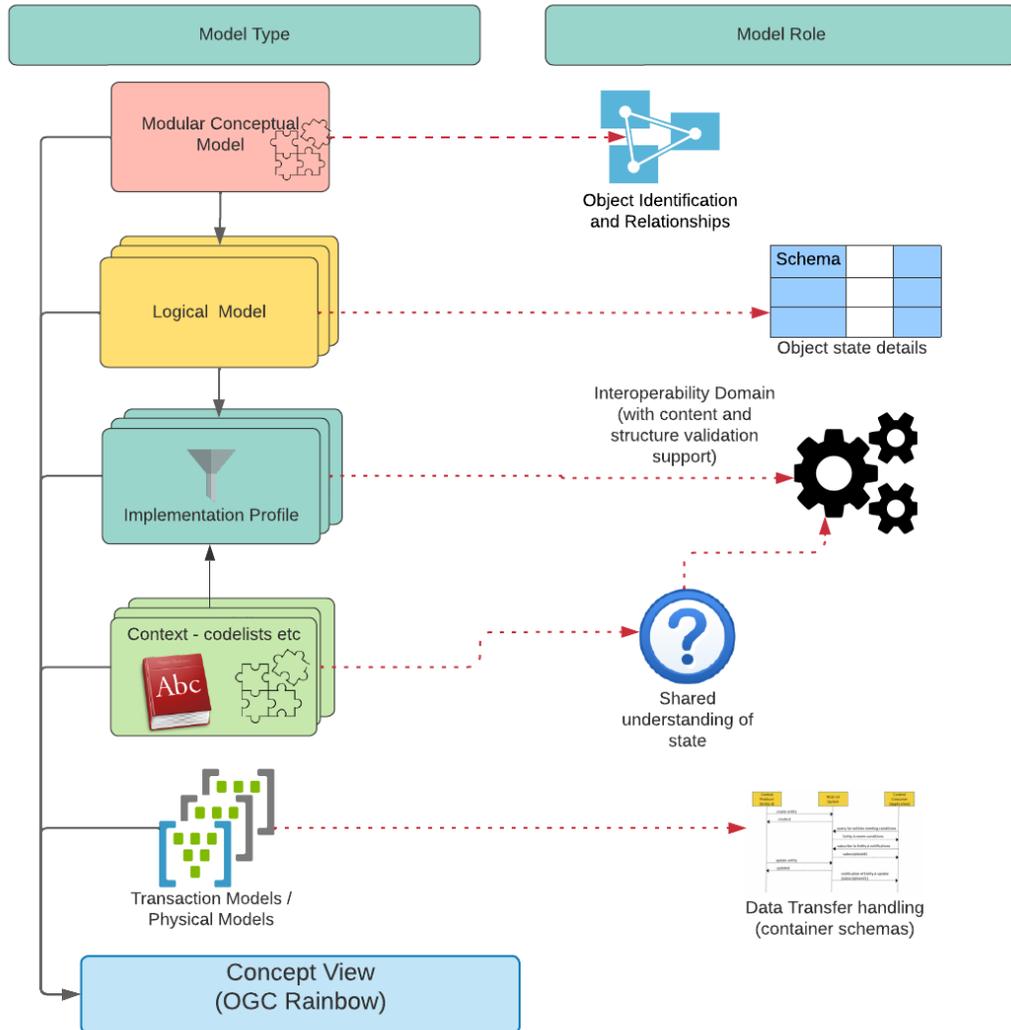
OGC Rainbow



Towards specific products and services



Next Generation SDI



Development of the Saudi Arabian National Geospatial Ecosystem (SANGE)

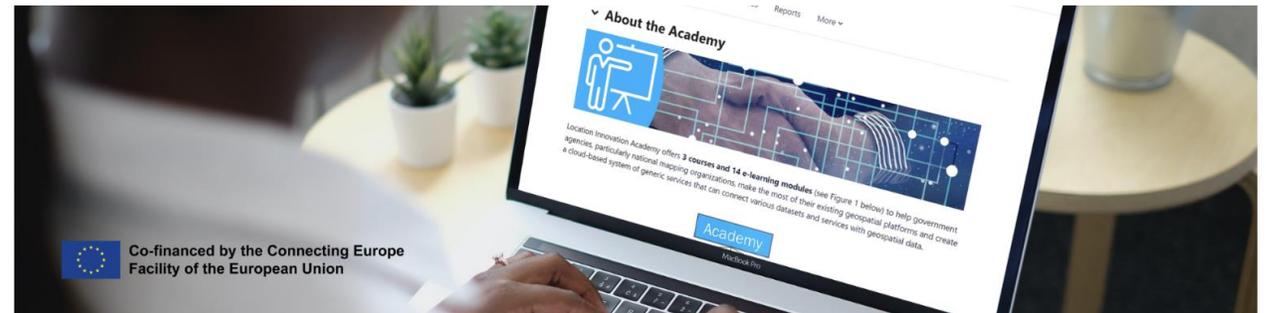


GEOSA
 الهيئة العامة للمساحة
 والمعلومات الجيومكانية
 General Authority for Survey
 and Geospatial Information

OGC Academy

- How do things work?
- How to publish my data?
- How to produce ARD?
- ...

Location Innovation Academy



Welcome to the Academy!

Location Innovation Academy offers **3 courses and 12 e-learning modules** (see the courses below) to help government agencies, particularly national mapping organizations, make the most of their existing geospatial platforms and create an ecosystem of generic services that can connect various datasets and services with geospatial data.

Summary: COSI produces

1. Technology solutions to enhance geospatial data handling
2. Specific service portfolios and building blocks
3. OGC Academy around leading challenges
4. Interoperability frameworks: OGC Rainbow
5. Training & education: OGC Academy



Thank you for your attention!



Innovation

- 120+ Innovation Initiatives
- 380+ Technical reports
- OGC hosted services
- GeoCipher
- OGC Advice and Capabilities building



Community

- 550+ Members
- 60+ Alliance partners
- 50+ Standards Working Groups
- 45+ Domain Working Groups
- 25+ Years of Not for Profit Work



Standards

- 65+ Adopted Standards
- 300+ products with 1000+ certified implementations
- 1,700,000+ Operational Data Sets Using OGC Standards

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