GWF
GEOSPATIAL WORLD FORUM
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Geospatial Technology in large scale Construction Progress & Environmental Monitoring

Geospatial World Forum 13 – 16 May 2024 | Rotterdam

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AMAALA is:

- A **luxury wellness destination** being developed by RSG, focused on transformative personal journeys inspired by science, arts, and culture.
- 200km north of the Red Sea destination and 700km north of Jeddah.
- Set in a **4,155km²** area within the Prince Mohammed bin Salman Nature Reserve.
- Opening its first phase in 2024 with 8 resorts offering 1,300 rooms and 200 residential units.
- **Due for completion in 2027** with 3,000 rooms in 25 hotels and 934 residences.
- Aiming to be an international **hub for luxury yachting** on the Red Sea.
- Going to be powered solely by renewable energy and will be **carbon neutral** upon opening.
- Guests capped at **500,000** per year on completion.

THE RED SEA destination is:

- A **luxury tourism destination** being developed by RSG on the west coast of Saudi Arabia.
- Set in a **28,000km²** area that includes an archipelago of 92 pristine islands, 50 dormant volcanoes, dramatic mountain ranges and sweeping sand dunes.
- **Opening its first phase from 2023** with 16 hotels offering 3,000 rooms, an international airport, marina, 18-hole championship golf course, and retail and entertainment facilities.
- **Due for completion in 2030** with 8,000 rooms in 50 hotels and more than 1,000 residences.
- Pioneering a new approach to **regenerative tourism** that aims to enhance the natural environment and local economy and culture for generations to come.
- Set to be the world's largest tourism destination **fully powered by renewable energy** day and night supported by the **world's largest solar battery storage facility**.
- Aiming to be **carbon neutral** upon opening.
- Going to announce more **international hospitality brands** following the 12 out of 16 already announced for phase one.
- Guests capped at **one million per year** on completion.

Red Sea
Global

The Challenge

- The focus of the Red Sea Global GIS team is to provide a solution that is **scalable** to serve the multi disciplinary teams/users.
- Needed a robust solution to take advantage of new functionalities to address challenges in **data sharing and access.**
- A solution to cope with the **data deluge** and present the data through a single platform as a Single Source of Truth.
- To empower the users with **location intelligence** to make informed decisions.

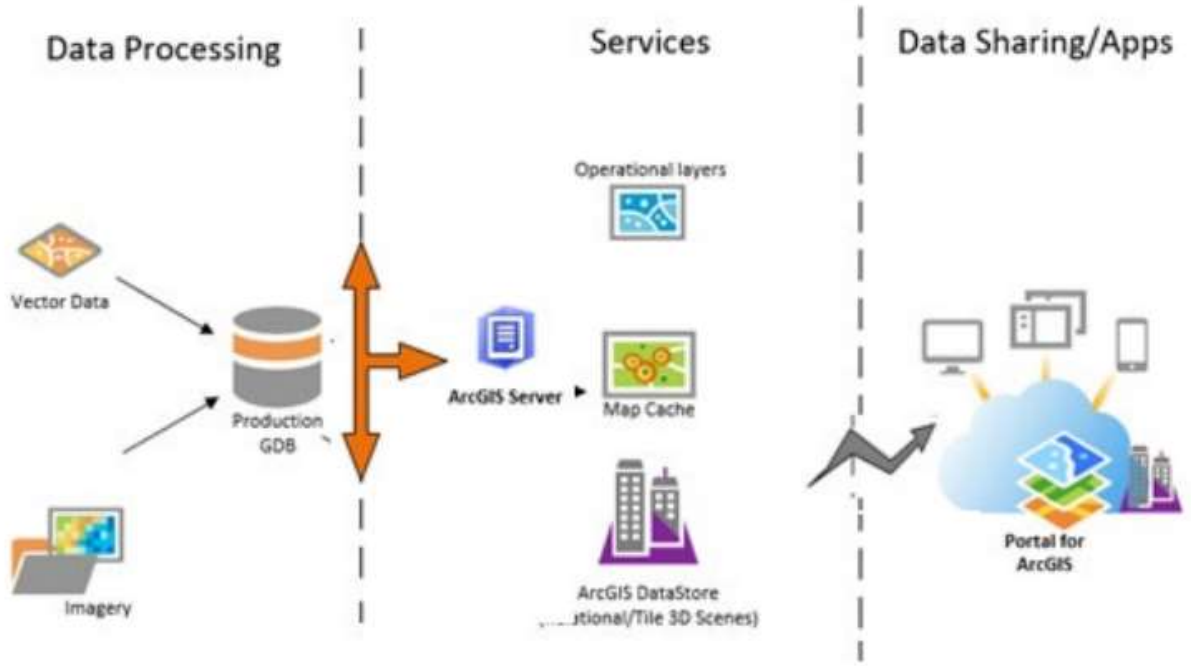
The Solution

- Moved from a disjointed system to an organized, **centralized** enterprise geodatabase.
- Conducted comprehensive **user requirement** analysis to design a robust solution.
- Developed a comprehensive GIS **data dictionary** based on the EU INSPIRE Directive.
- Developed a **Master Geodatabase** schema.
- Deployed **GIS Portal** application on the ESRI ArcGIS Enterprise platform.

GIS Portal – System Overview/Architecture

The RSG GIS model is data centric with a comprehensive geo database developed based on the data themes as per the INSPIRE Directive.

The geo database is at the center of the overall architecture of the RSG enterprise GIS which heavily rely on the incoming data.



GIS Portal – Components

Geo Explorer

Scene Viewer

Story Maps

Environmental
Surveys

Mobile App
ArcGIS Explorer
FieldMaps
Survey 123

The main interface, that delivers 24/7 access to all geospatial data. Embedded tools include search, print, zoom, swipe, etc.

Access to the geospatial data in 3D. This application allows to explore, view 3D elements from all angles in the browser.

StoryMaps helps to tell remarkable stories with custom maps, combining text and geographic locations.

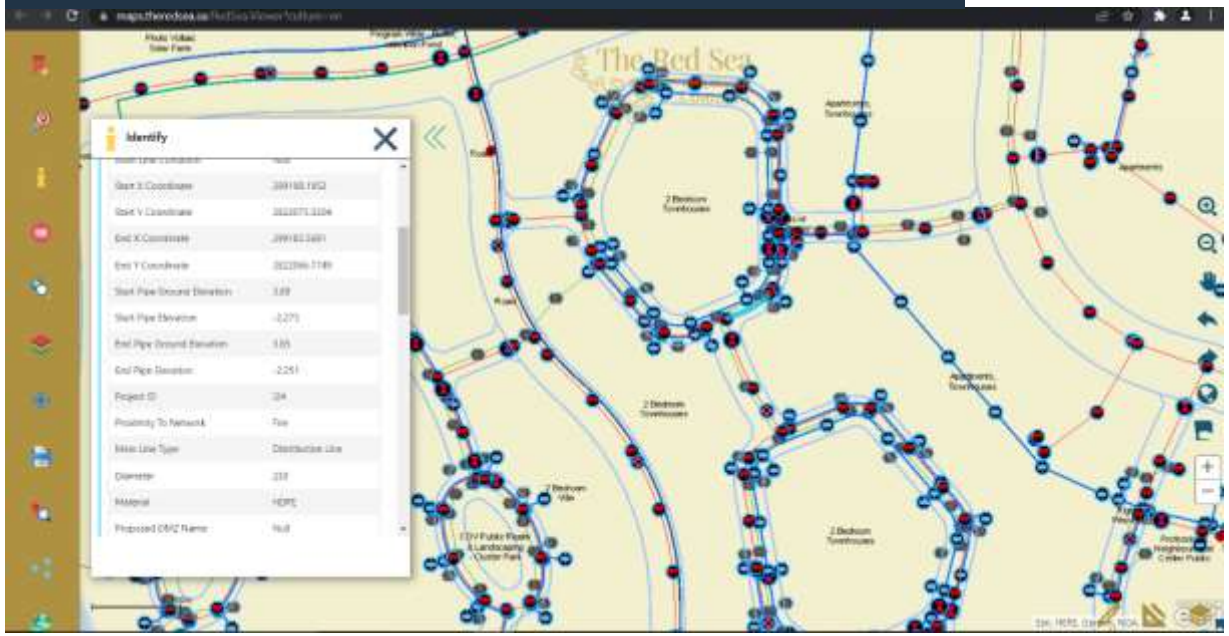
ArcGIS Survey123, a simple and intuitive form-centric data gathering solution. Create, share and analyze surveys easy steps.

This mobile App allow access to data/maps from mobile devices. The App allows for searchable maps that include basic spatial processing tools.

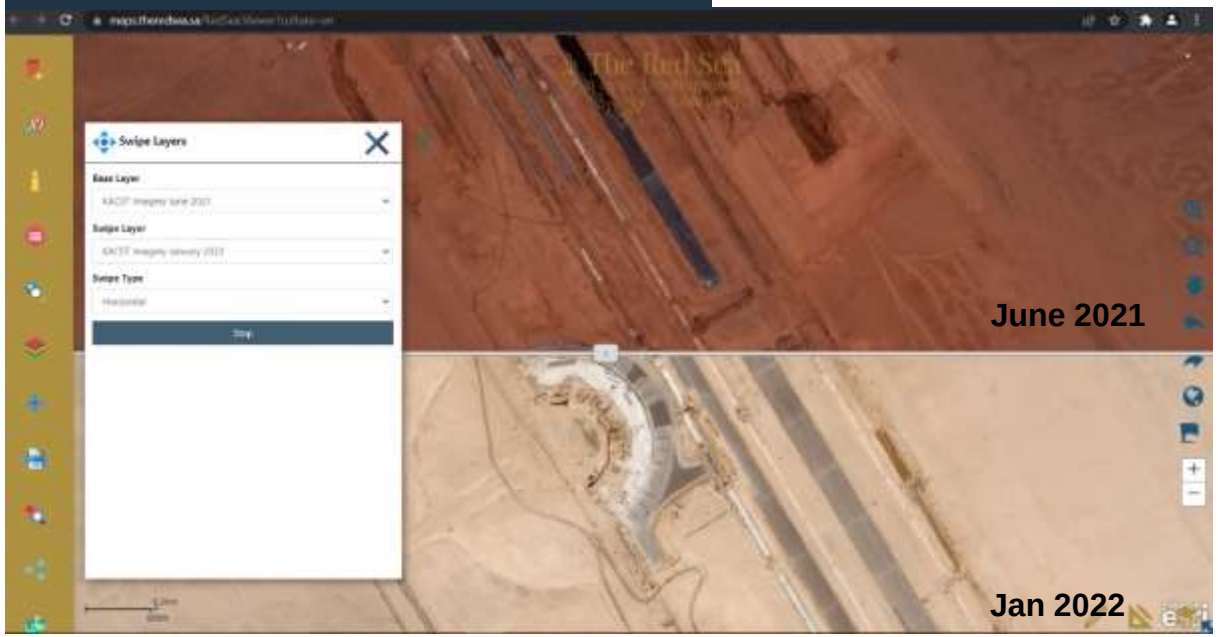
GIS Portal

Advance & Standard Spatial Toolset

Network visualization and identification

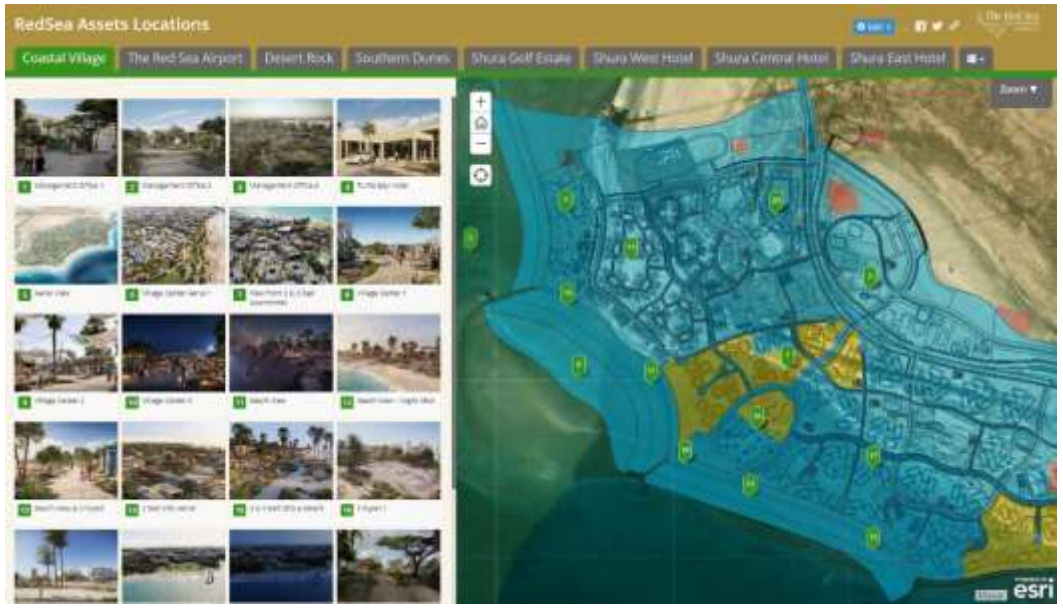


Sattelite Image Comparison



Mobile Application

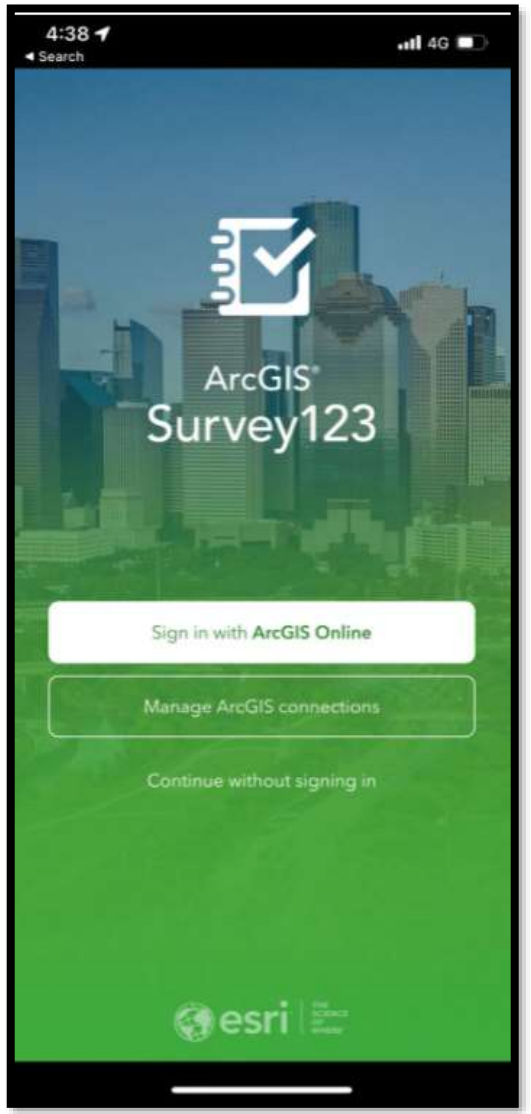
GIS Portal – 3D Scene Viewer and Story Maps

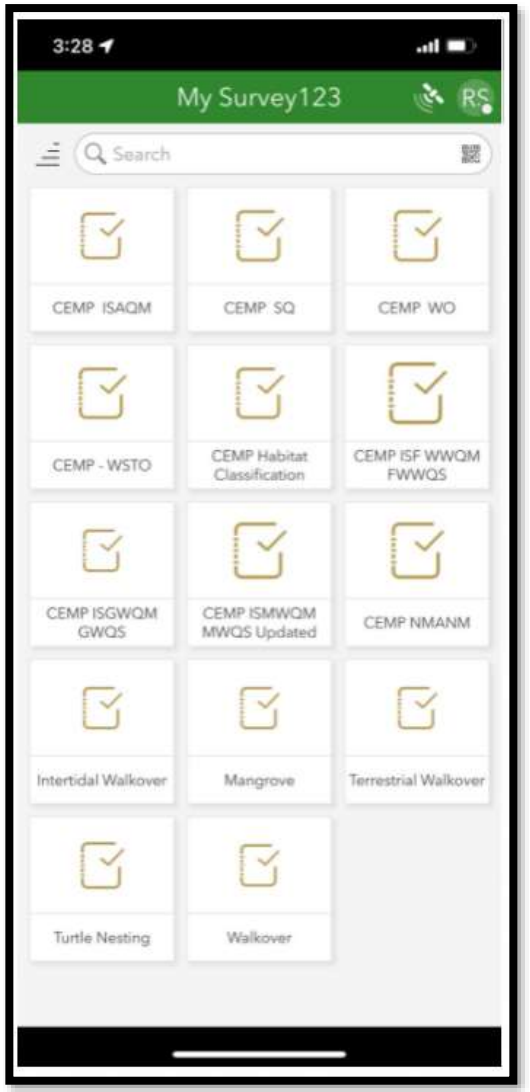


GIS Portal – Mobile Applications

GIS Portal – Data Collection Mobile Apps

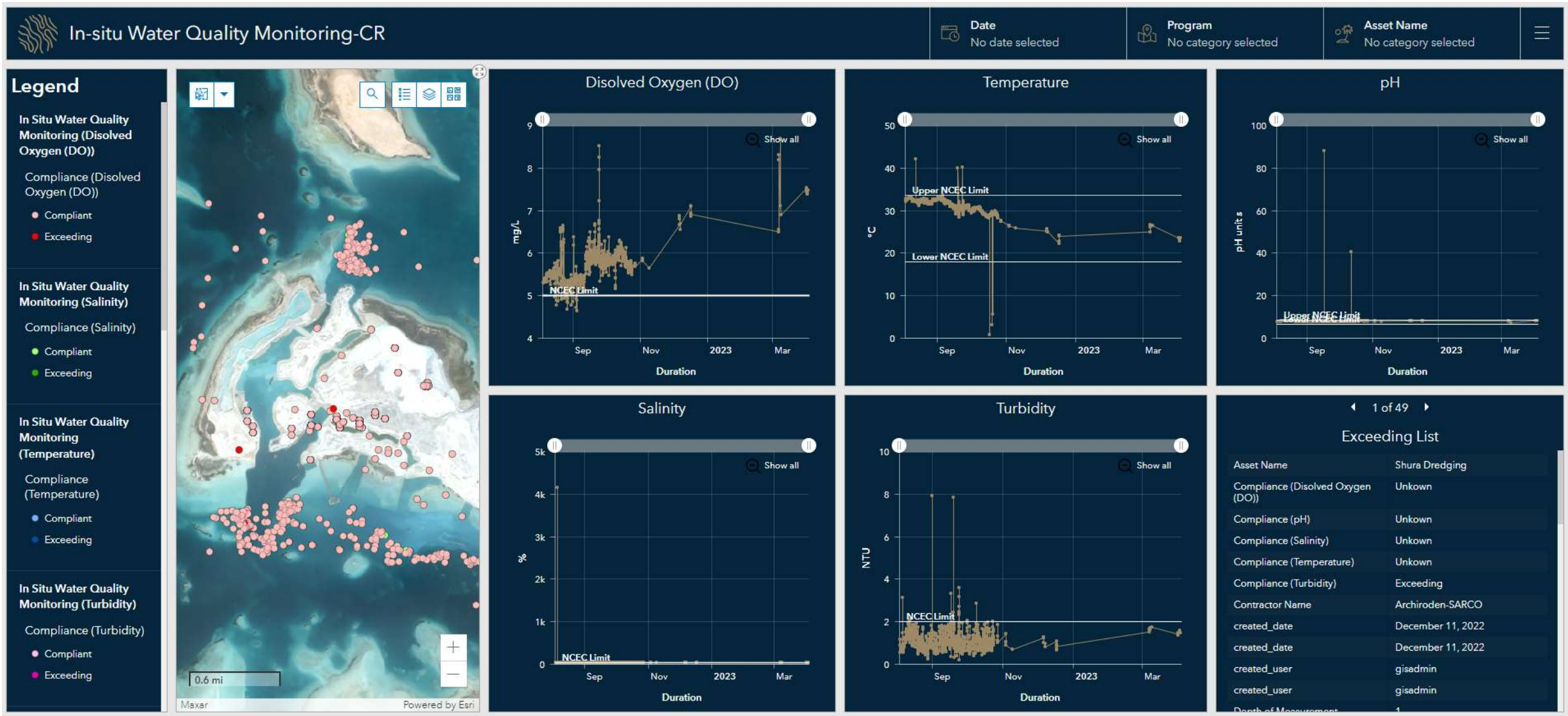
As a registered user to the RSG GIS PORTAL, all users have access to the ArcGIS Survey123 mobile application with customized forms.





GIS Portal – Data Collection Mobile Apps

Environmental Monitoring Dashboards



Monitoring – Solution “Out of this World”

مدينة الملك عبدالعزيز
للعلوم والتقنية KACST

Monitoring – KACST Contract

Contract with King Abdulaziz City for Science and Technology (KACST) for the monthly Image capture of the development sites at 0.5m resolution.

Total Area covered every month = 600 SqKm

Airport

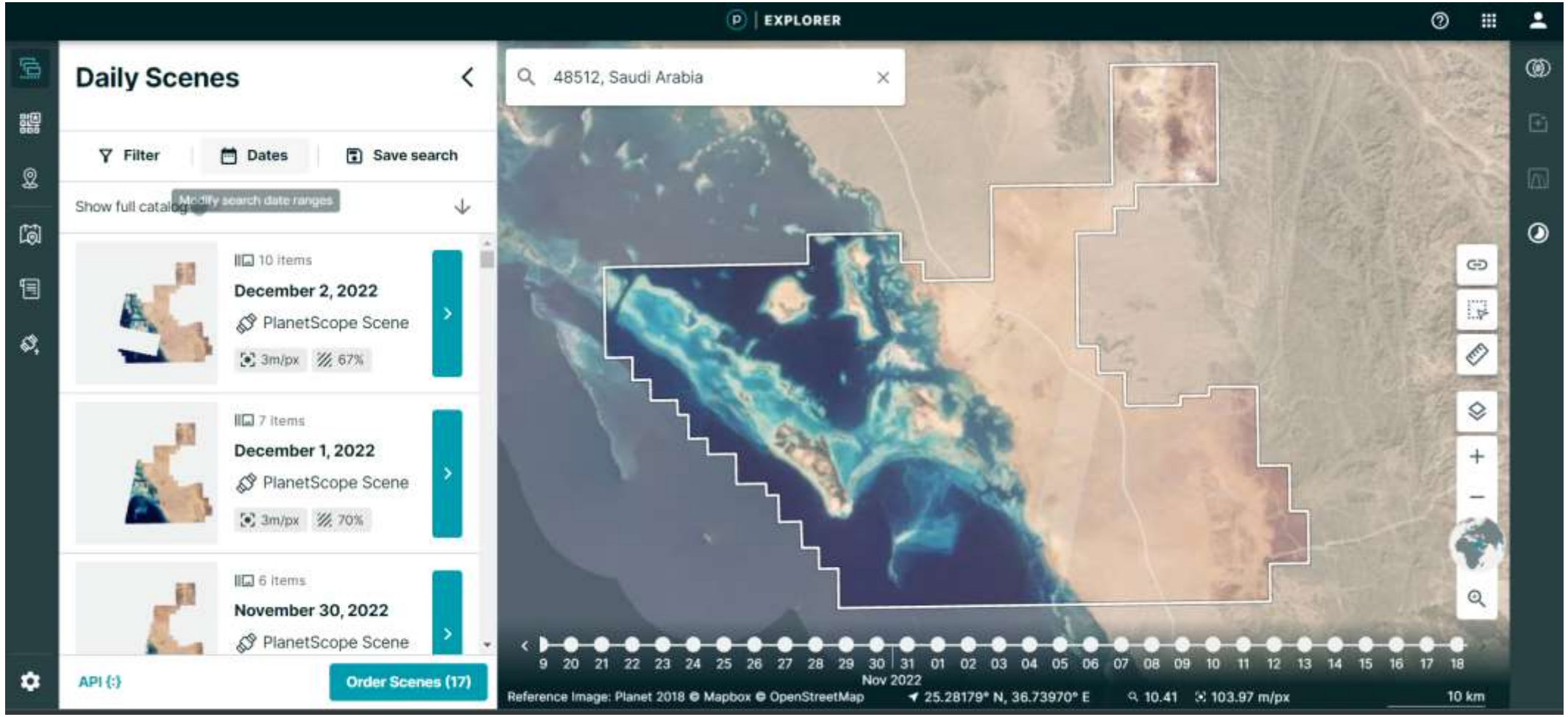
Nursery

Construction Village

Monitoring – Planet Contract

Contract with PLANET to access the *Planet Explorer* for near-daily imagery at 3m resolution.
Every day, we are using Planet data to reveal the changes happening in the areas we care about most.

Total area covered daily = 5,000 SqKm



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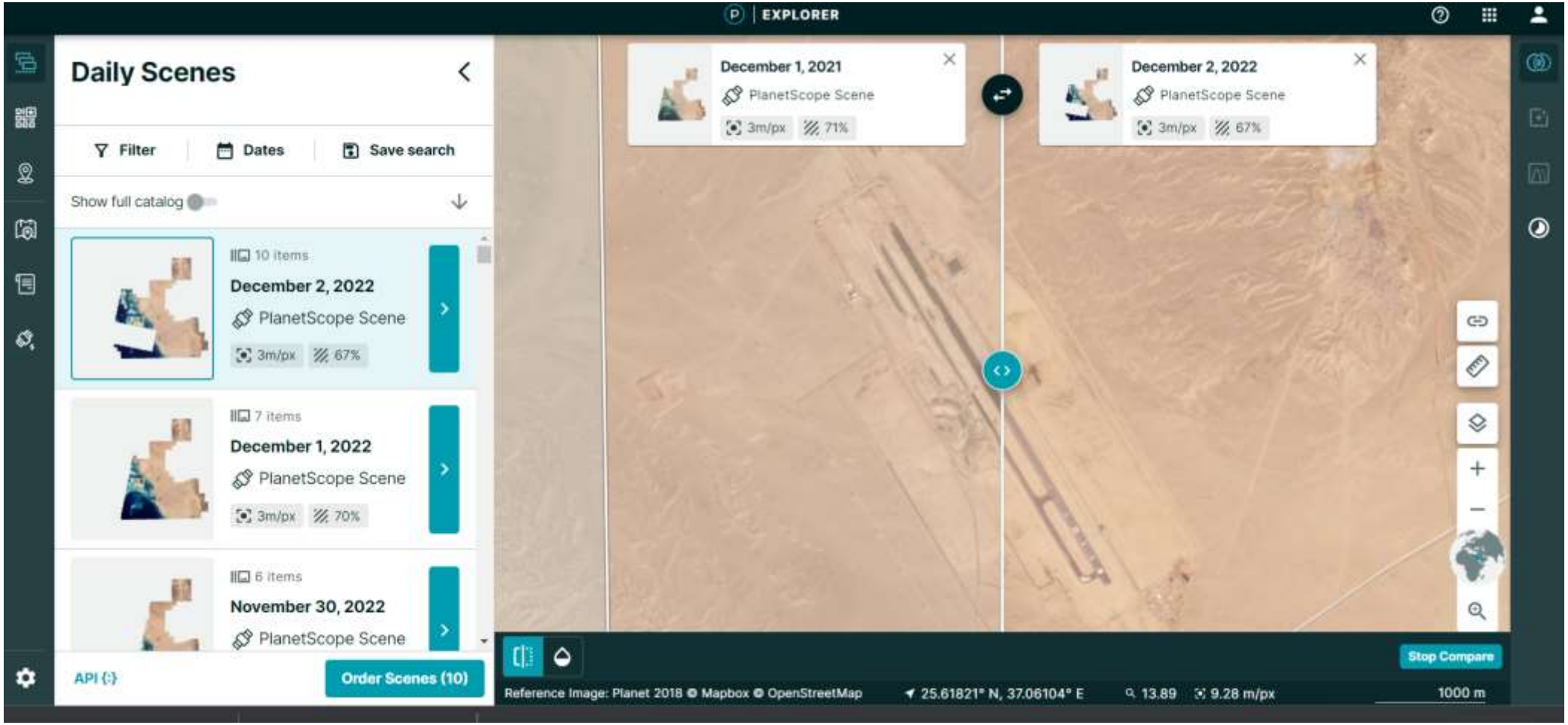

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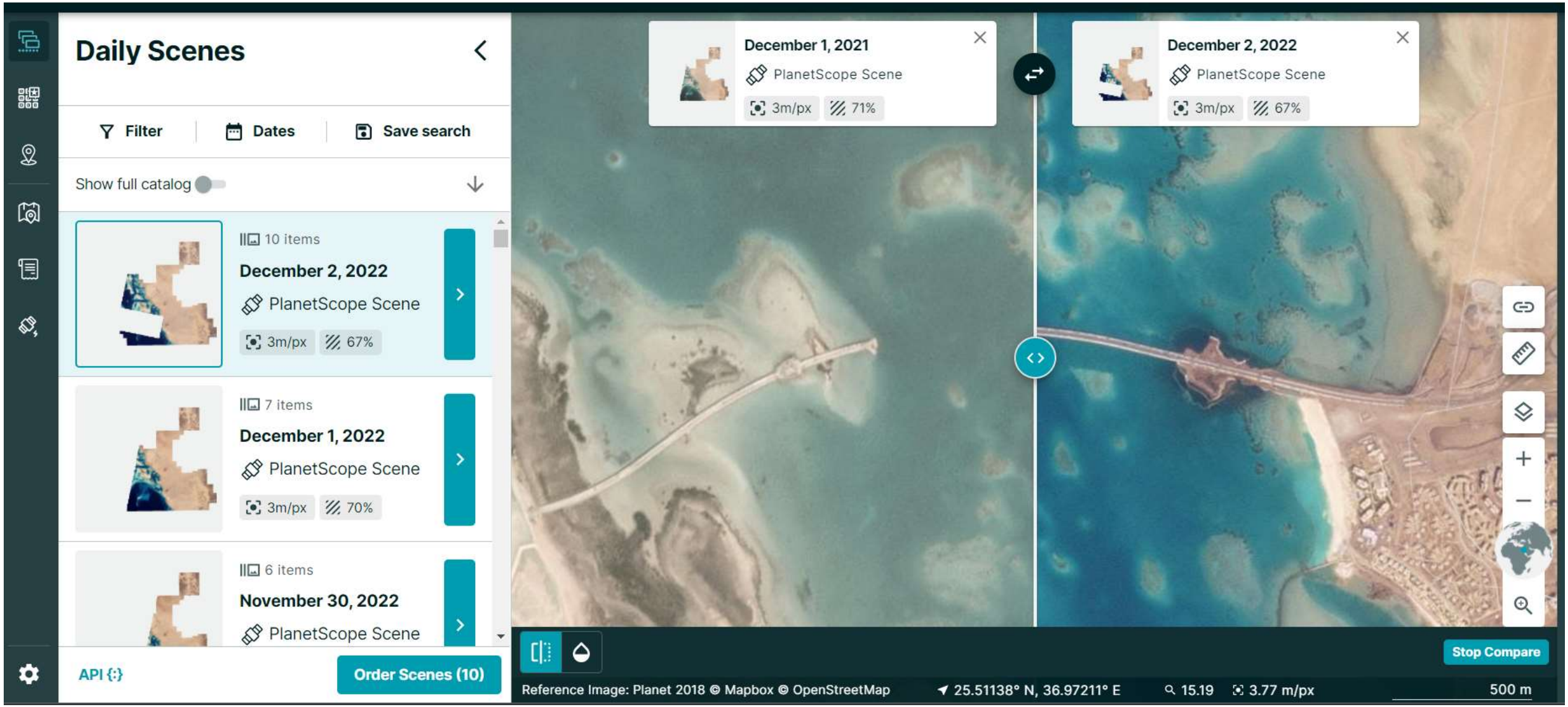

Red Sea Global

Thank You