

# VtWeb – Easy access to multi spatial database IT and data Use case analysis in Iran & Yemen

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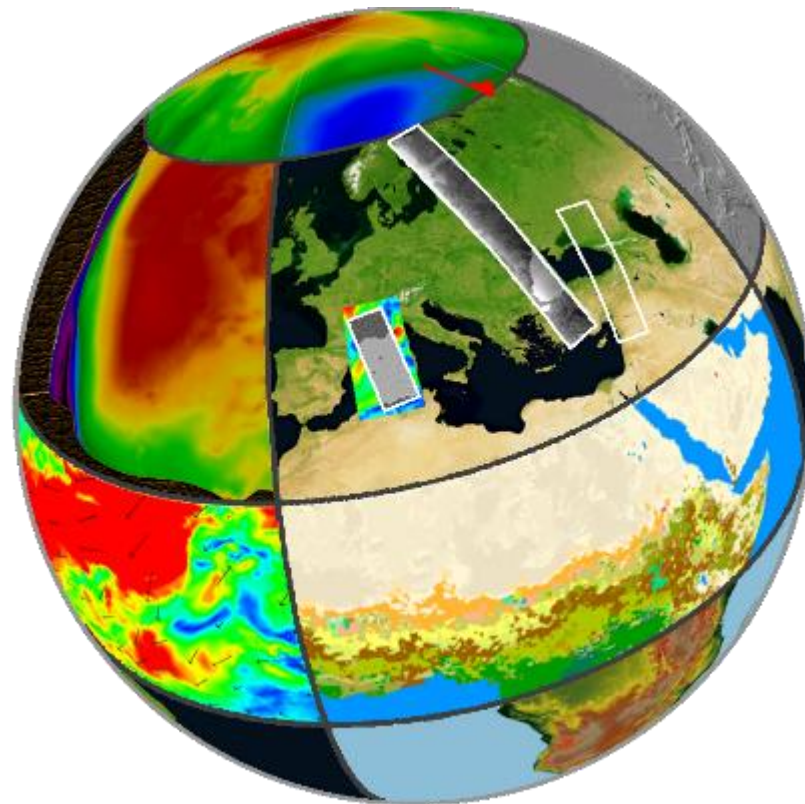
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*Project manager*

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<http://www.visioterra.fr>



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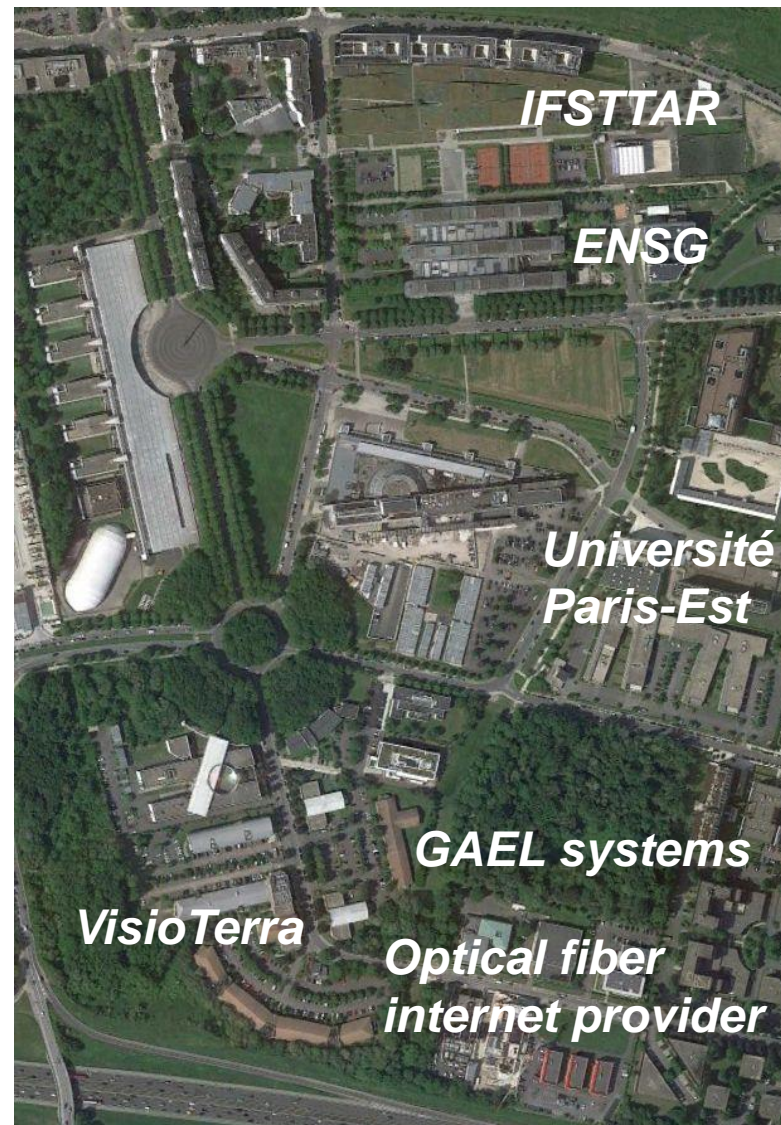


# VisioTerra in few numbers

➤ <http://visioterra.fr>



14 rue Albert Einstein  
Cité Descartes  
Champs-sur-Marne  
France





# Our skills - EO engineering and education



January 1990

March 2004



**GAEL Consultant**

1. Software development
2. Quality control
3. Cartographic production

May 2004



**VisioTerra**

## ***Science consulting for Earth observation***

1. **Software development** – Virtual globes, access to EO data
2. **Cartographic production** – geometry, radiometry, statistics
3. **Studies** - EO expert support, technical studies, audit
4. **Training** – Remote sensing, Image processing, Geodesy...
5. **Communication** – Web, scientific document editing

March 1993



**University Paris-Est Marne-la-Vallée – [Site of Pr. Serge RIAZANOFF](#)**

**Professor**

1. Image processing
2. Remote sensing
3. Trainees following

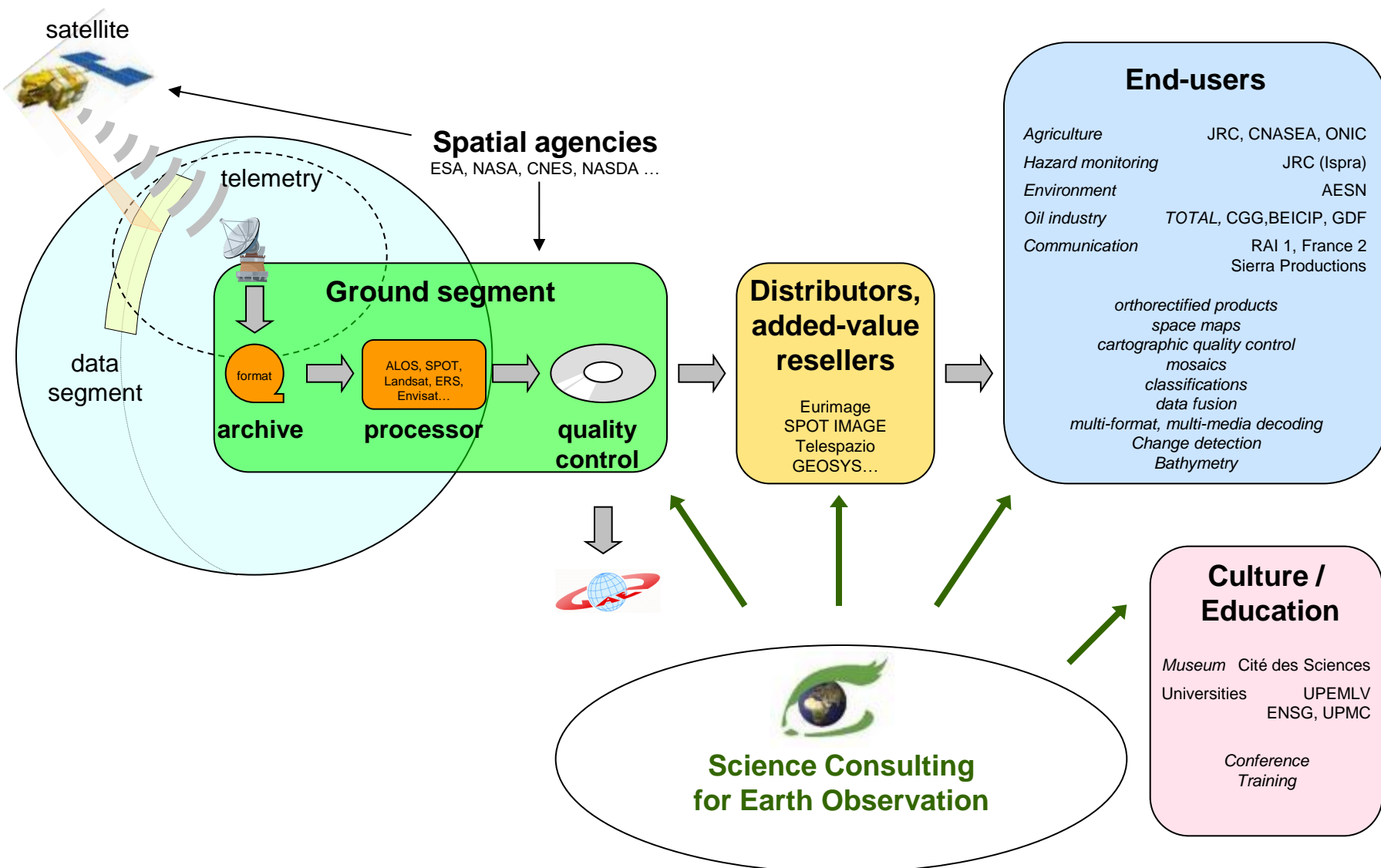
**ENSG (IGN school)**

**University Paris 7**

World univ. (Algeria, Morocco, Palestine, Douala, Kinshasa...)



# VisioTerra's skills - From satellite to end users





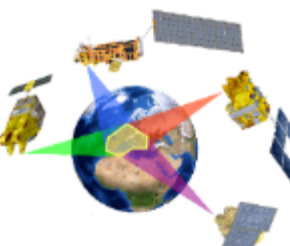
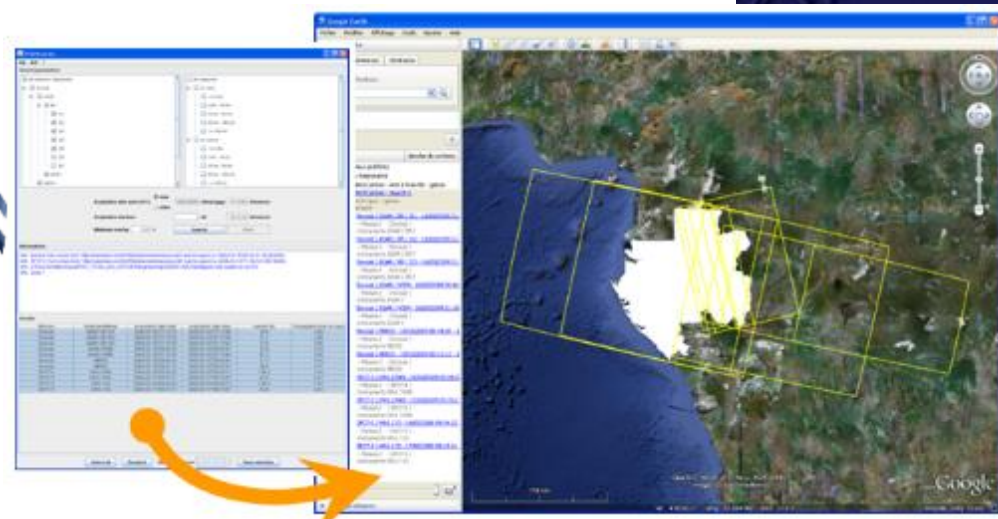
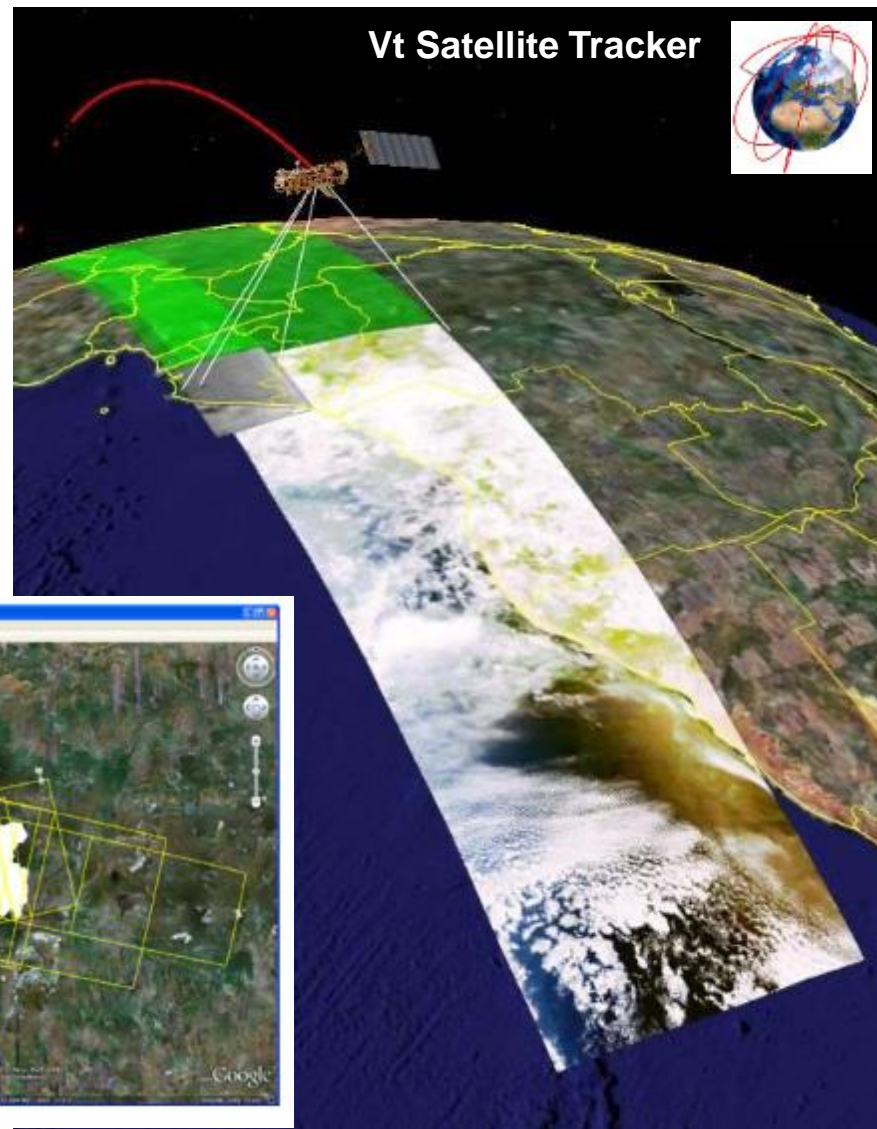
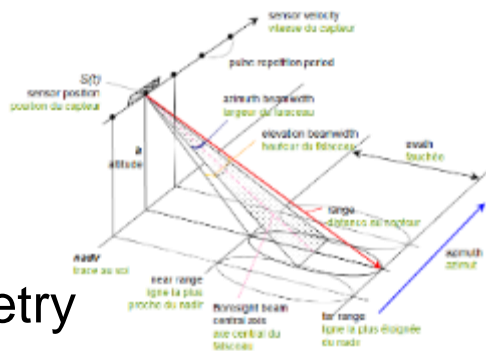
# A recognised scientific know-how

## ➤ Orbit propagators

- SGP4
- Nominal

## ➤ Acquisition geometry

- Optical / Radar
- Mission / Instrument / Mode

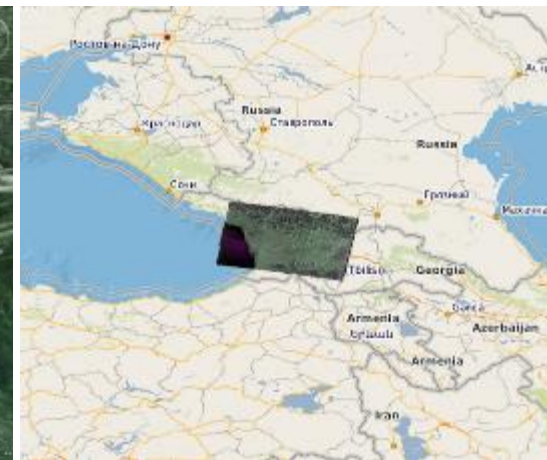


Vt Aoi Catcher



# On-the-fly Sentinel-1 radar orthorectification

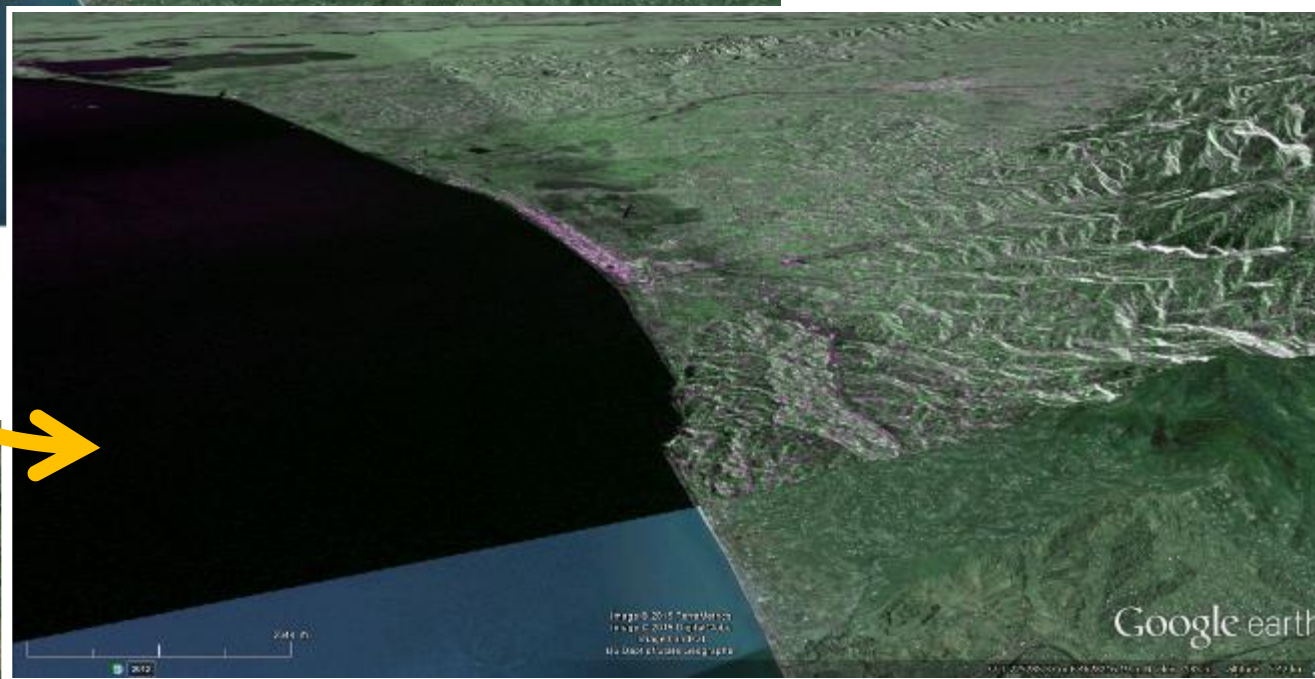
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[hyperlook](#)



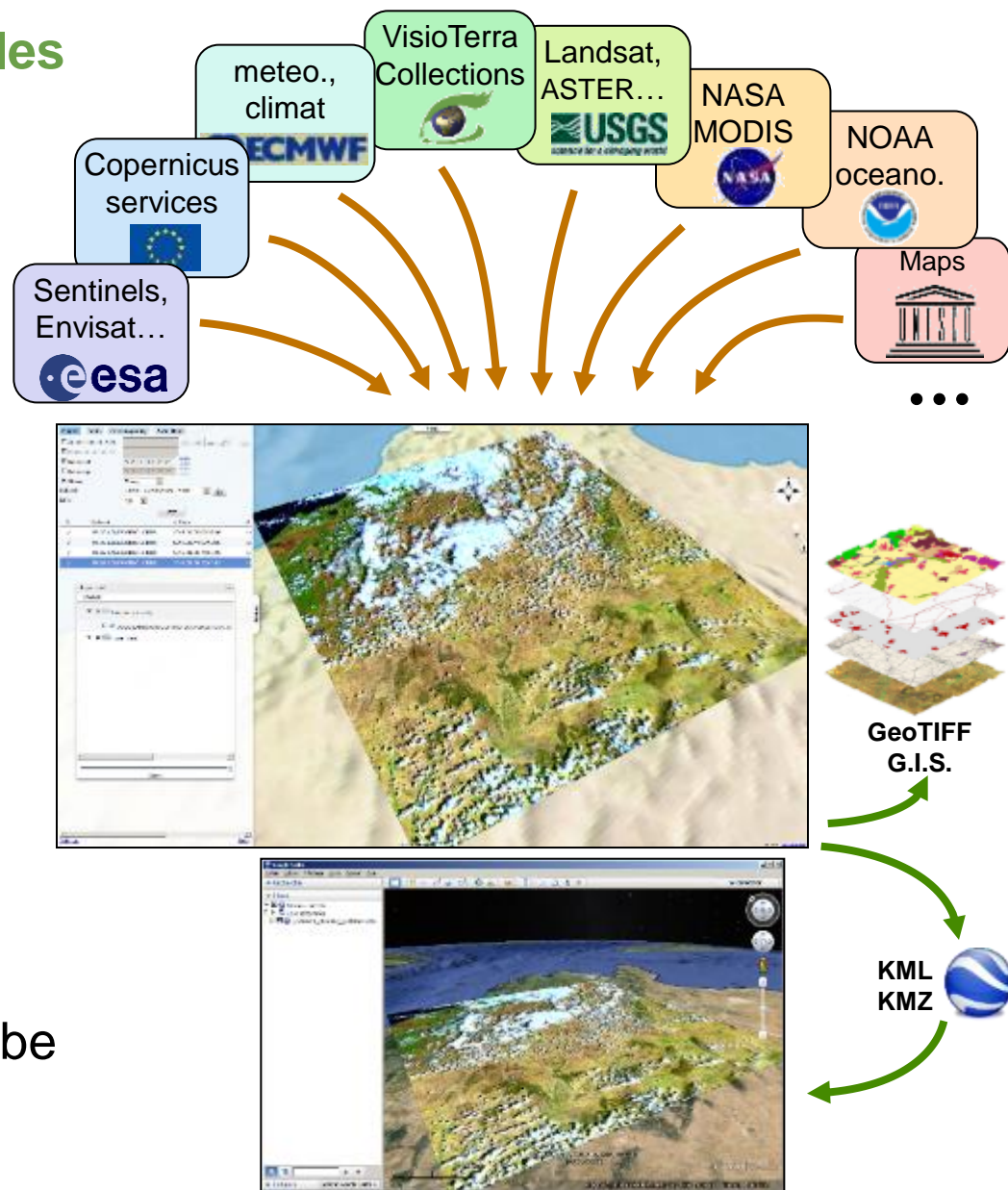
[KML](#)





## VtWeb – Design principles

- [www.visioterra.fr/?VtWeb](http://www.visioterra.fr/?VtWeb)
- global / free data
- data retrieval / data mining
- satellites / meteo / ECV / altimetry models / maps...
- Near Real-Time access
- automated processing
  - for citizen
    - default style
    - predefined styles
  - for scientists
    - parameter tuning
    - toward a P.O.F. toolbox
- collaborative infrastructure(s)
- 2D webmapping / 3D virtual globe
- on your area of interest
- archives to analyse changes
- value-added services, recurring monitoring, alarms...





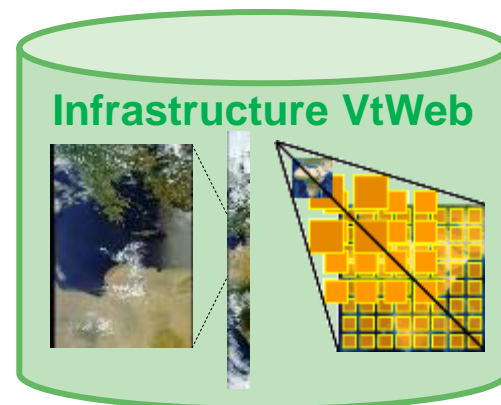
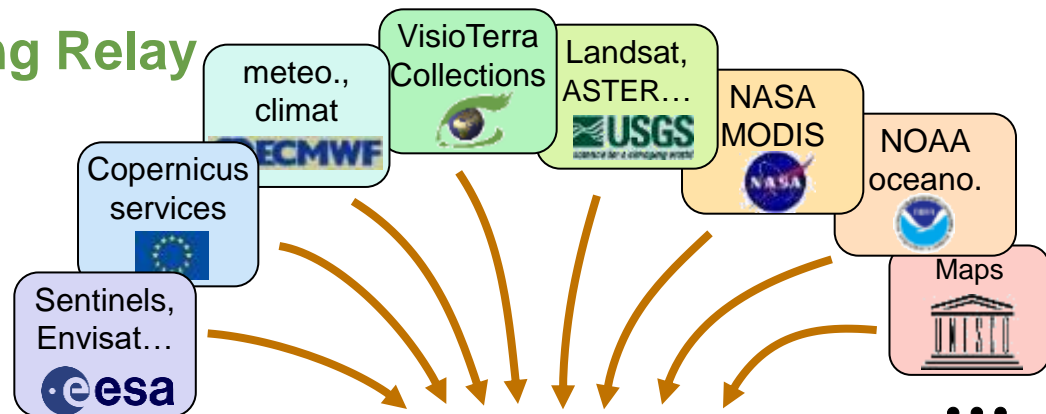
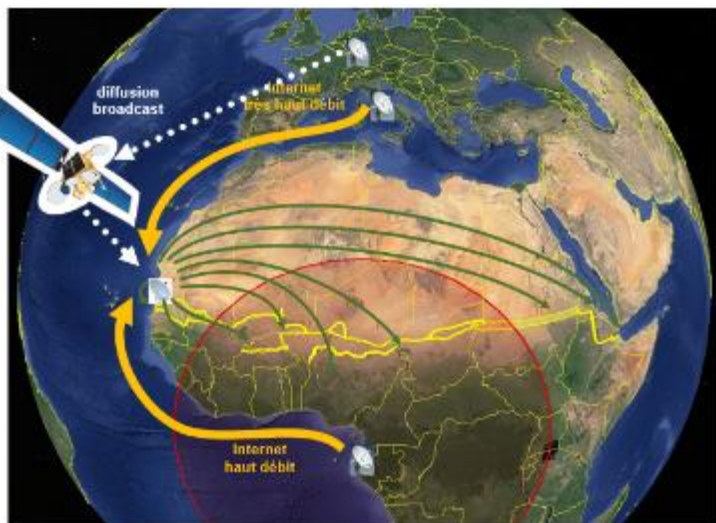


# VtWeb – Data Processing Relay

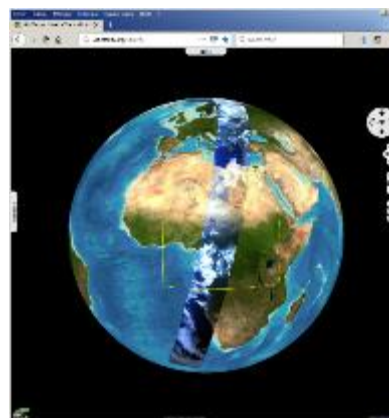
## ➤ VtWeb infrastructure

- ❑ 1 PB (1000 TB) available
  - 50 TB ASAR and ERS
  - 150 TB MERIS
- ❑ 1 Gb/s symmetric fibre
- ❑ 4 powerful servers

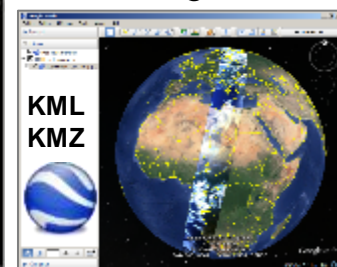
## ➤ DPR as a solution for Africa



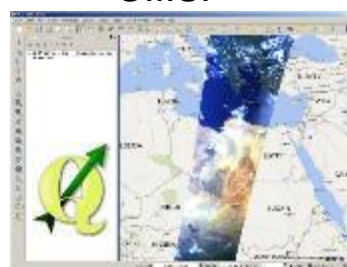
## VtWeb client



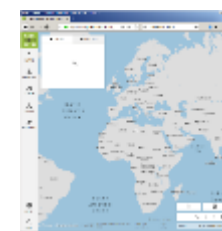
## Google Earth



## G.I.S.



Other infrastructures





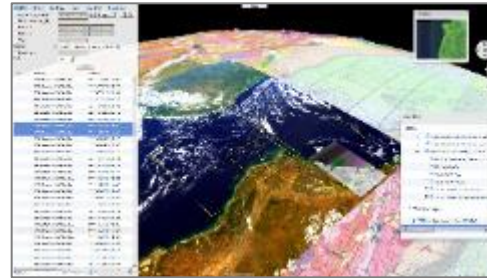
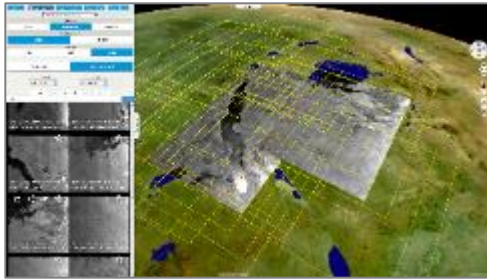
# VtWeb – Generic platform for customized platforms

<http://visioterra.org/VtWeb>

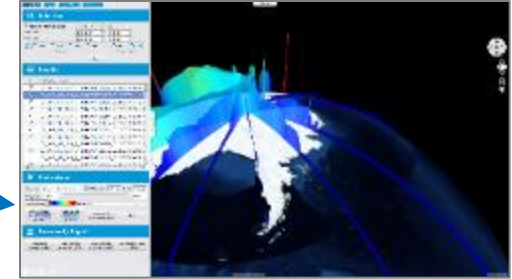
An advanced one-stop-shop model

A showcase capitalising VisioTerra know-how

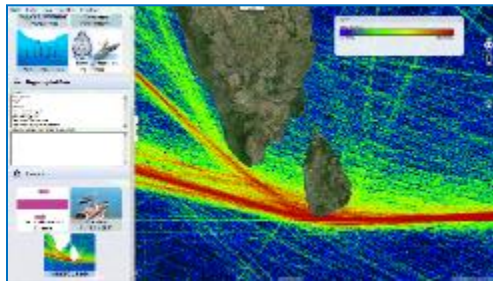
<http://hedavi.esa.int>



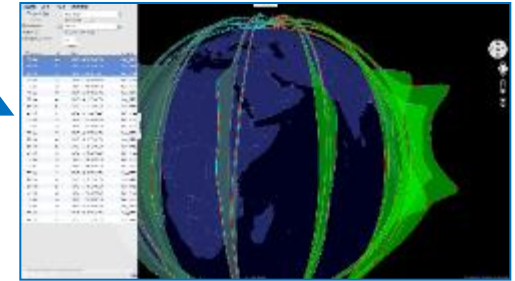
<http://visioterra.net/VtCryoSat>



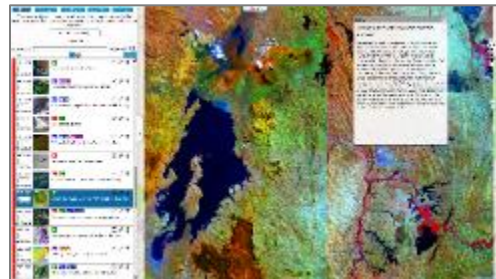
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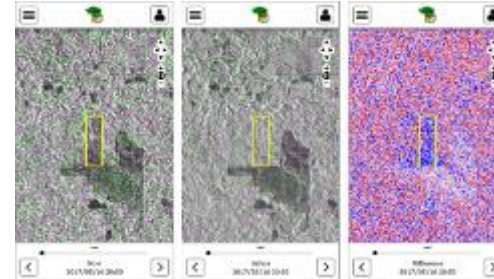
<http://visioterra.net/VtGsep>



<http://visioterra.net/svp>

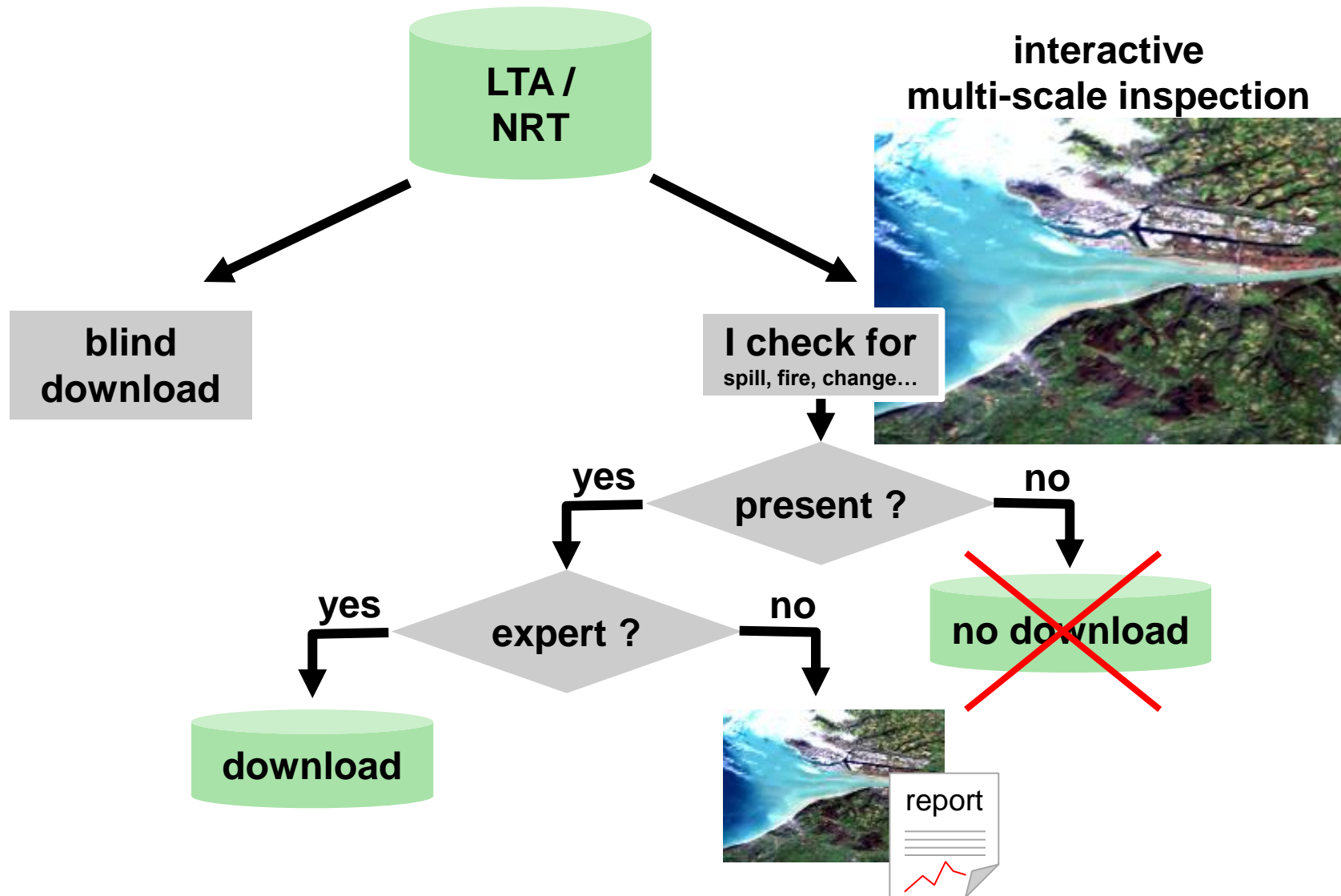


<http://visioterra.net/FlegtWatch>





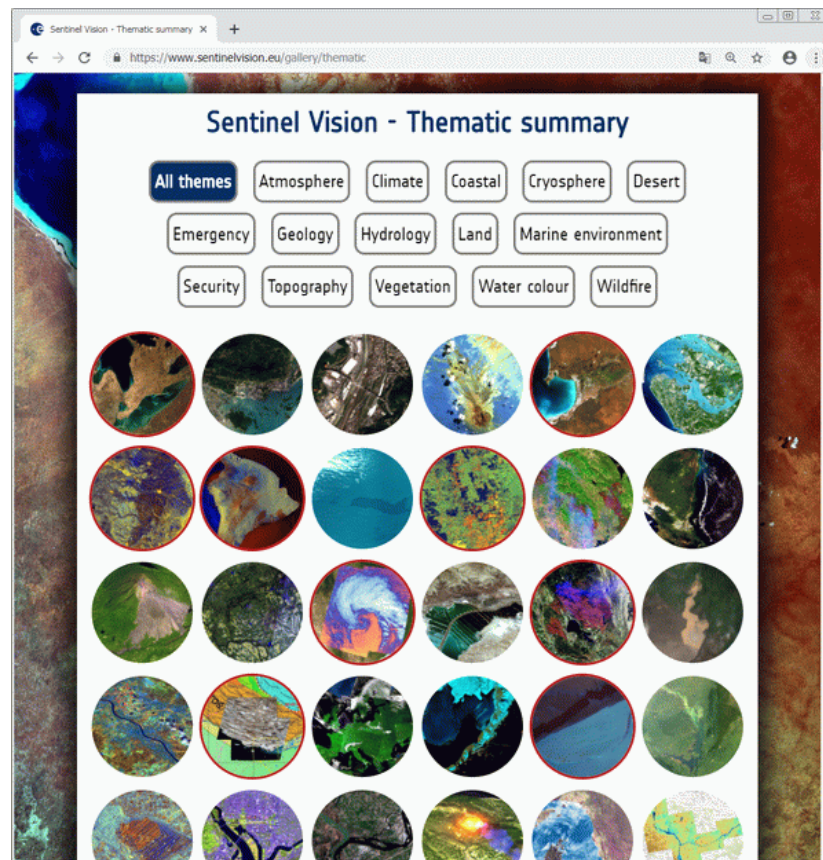
# VtWeb - Paradigm change: More access for less downloads





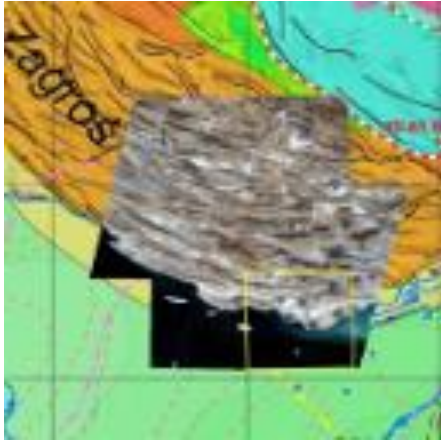
## Sentinel Vision Services: Tools for education

- 4 Sentinel-based stories each week
- 500+ stories published
- Education-ready
- Allows navigation in Sentinel -1/-2/-3/-5P images up to full resolution
- Available at:
  - ❑ Thematic list:  
<https://www.sentinelvision.eu/gallery/thematic>
  - ❑ Chronological list:  
<https://www.sentinelvision.eu/gallery/all>
  - ❑ Copernicus Sentinel App





## Sentinel Vision Services: Exemples of stories



**EVT-003 - Geology in Zagros as an open book**



**SED-037 - Sentinels show geometric patterns in Yemen for its Unity Day**



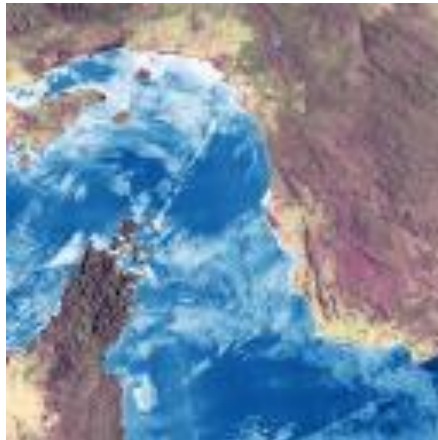
**EVT-207 - Zoom on a selection of Iranian wetlands**



**EVT-271 - Iranian landscapes**



**EVT-387 - 10 000 years old city to be drown by Ilisu dam**



**SED-452 - Strait of Hormuz, a strategic location for oil shipping**



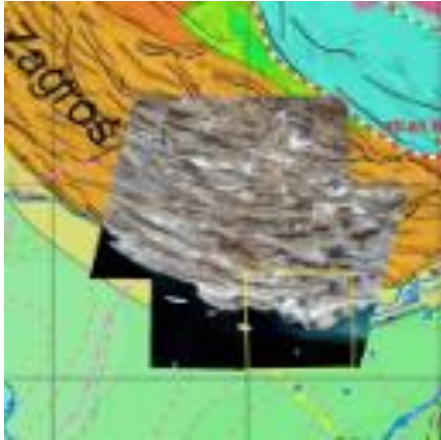
**EVT-487 - Struggle for the recovery of Mesopotamian marshes**



**EVT-511 – Biodiversity in Socotra Island**

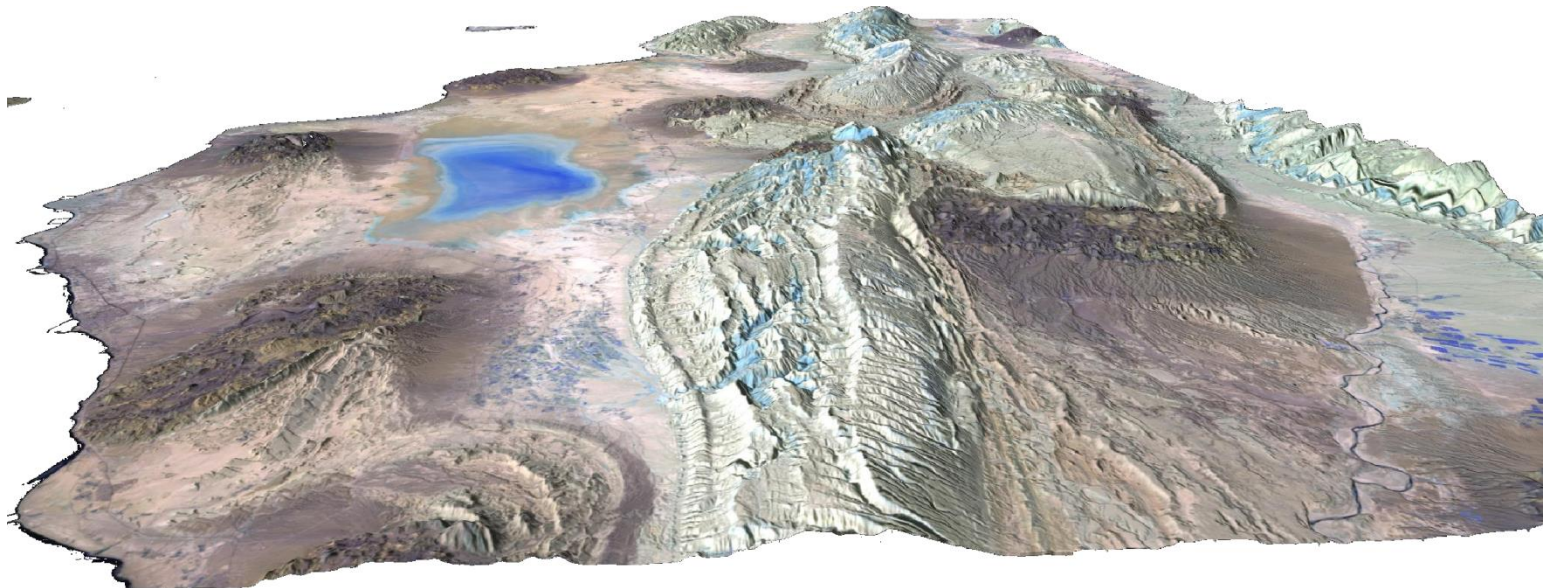


## Sentinel Vision Services: Use cases expanded from existing stories



### ***EVT-003 - Geology in Zagros as an open book***

- Study geology of remote regions from your desk
- Follow mm/year moves on whole regions using interferometry



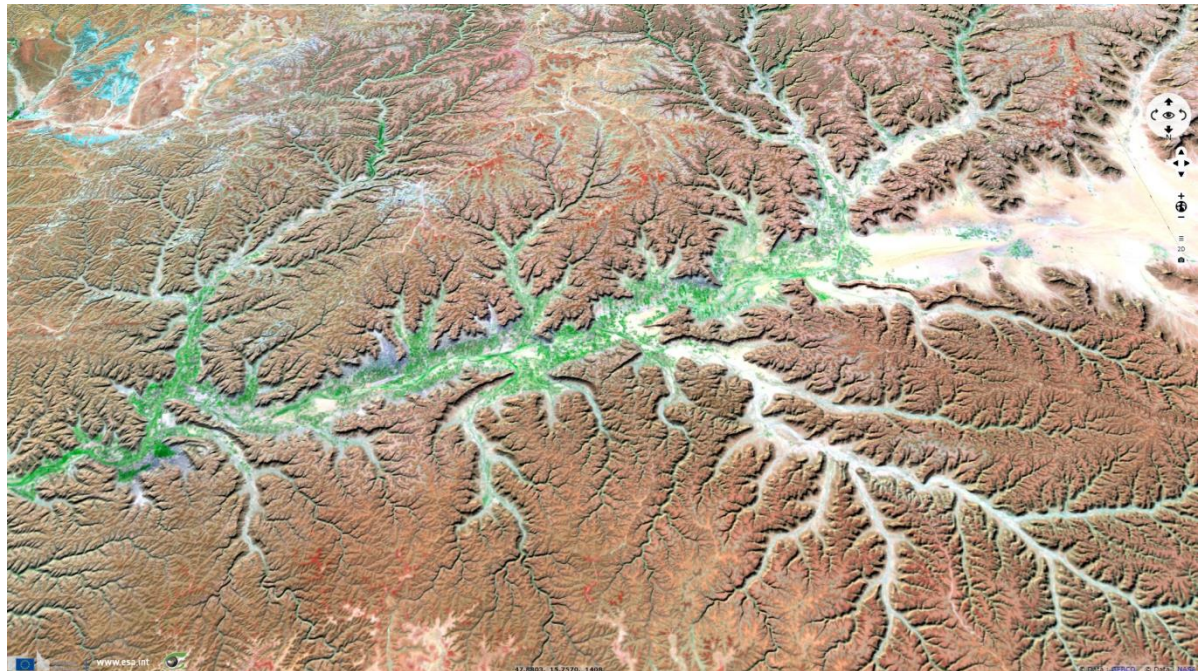


## Sentinel Vision Services: Use cases expanded from existing stories



### ***SED-037 - Sentinels show geometric patterns in Yemen for its Unity Day***

- Guess likely location of subsurface water
- Assess the result of flash floods



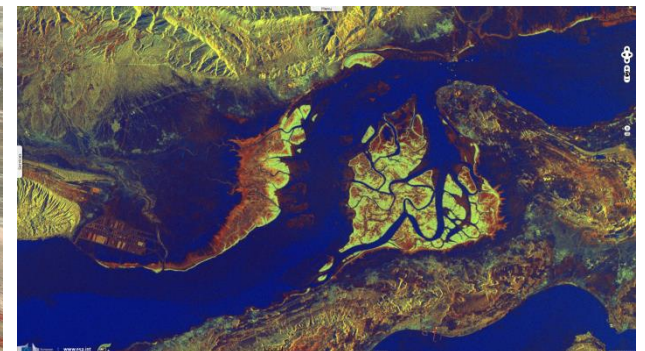
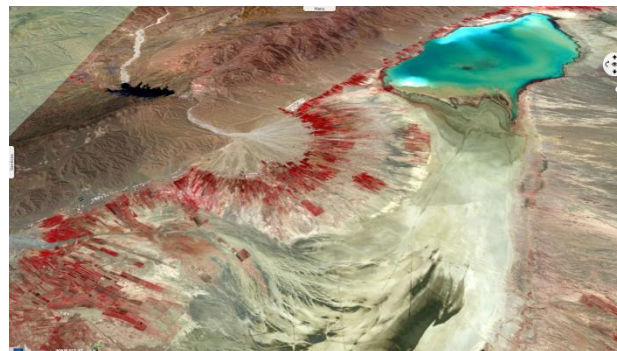
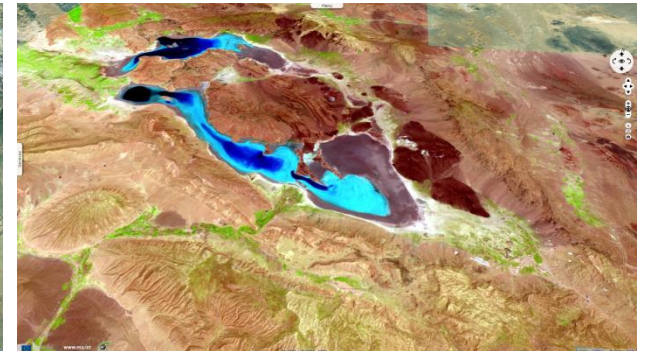
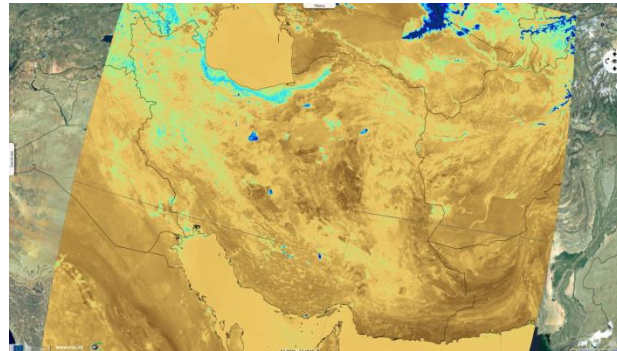


## Sentinel Vision Services: Use cases expanded from existing stories



### ***EVT-207 - Zoom on a selection of Iranian wetlands***

- Assess soil moisture
- Evaluate the surface and volume of shallow water bodies
- Monitor crops growth
- Measure the evolution of mangrove forests





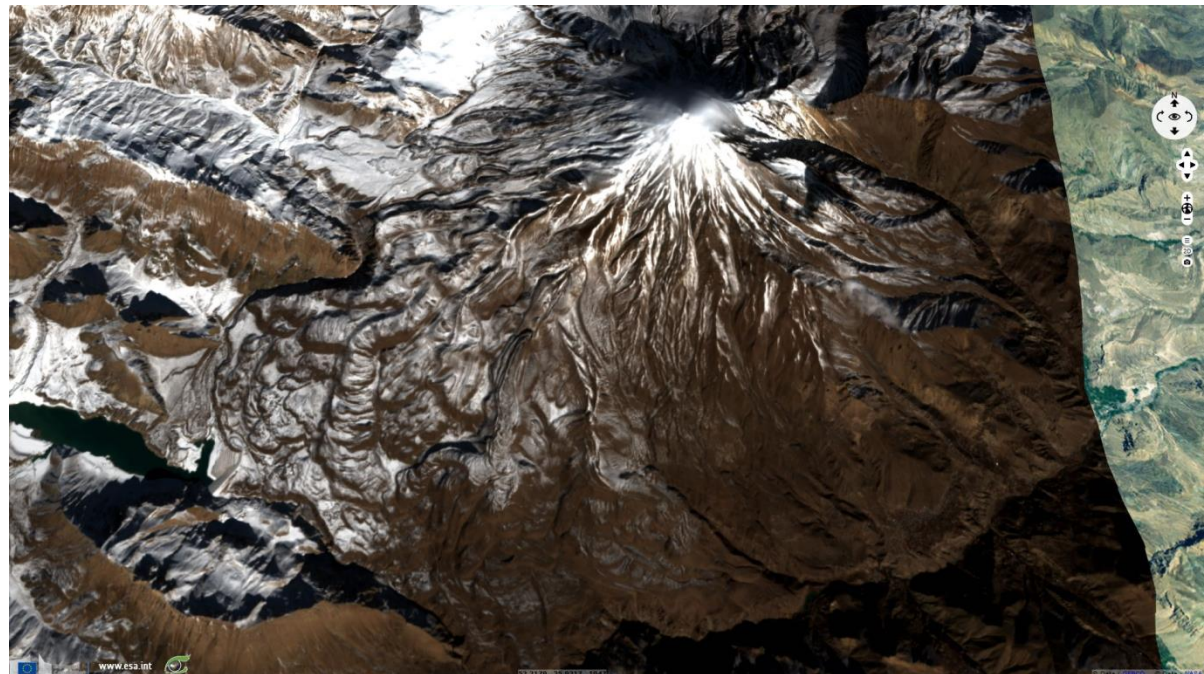


## Sentinel Vision Services: Use cases expanded from existing stories



### ***EVT-271 - Iranian landscapes***

- Monitor the evolution of snow cover surface and duration
- Follow the long term trends



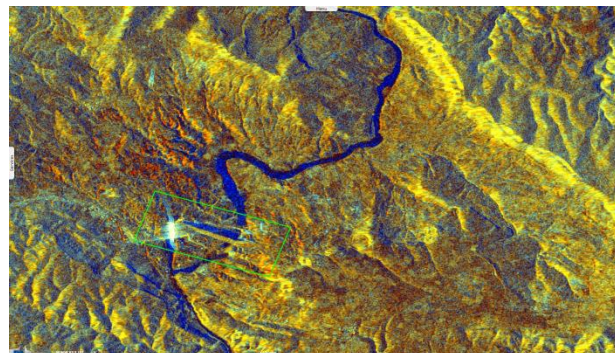
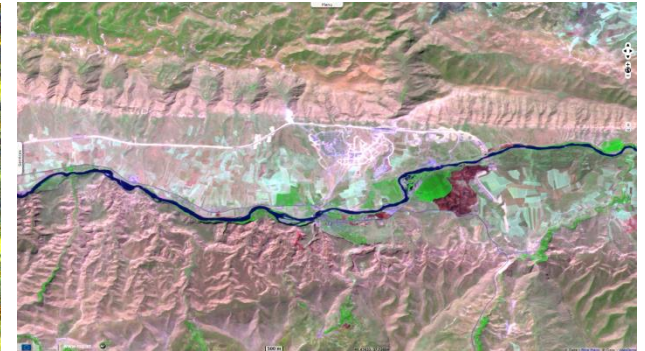
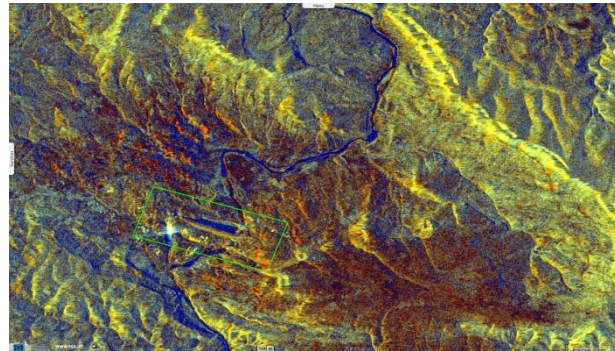


## Sentinel Vision Services: Use cases expanded from existing stories



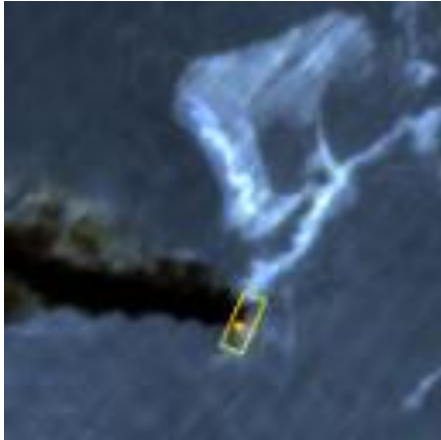
### ***EVT-387 - 10 000 years old city to be drown by Ilisu dam***

- Measure the surface impacted the dam lake
- Evaluate the lake's volume & associated constrains
- Monitor the stream management
- Follow the development of cities and infrastructures



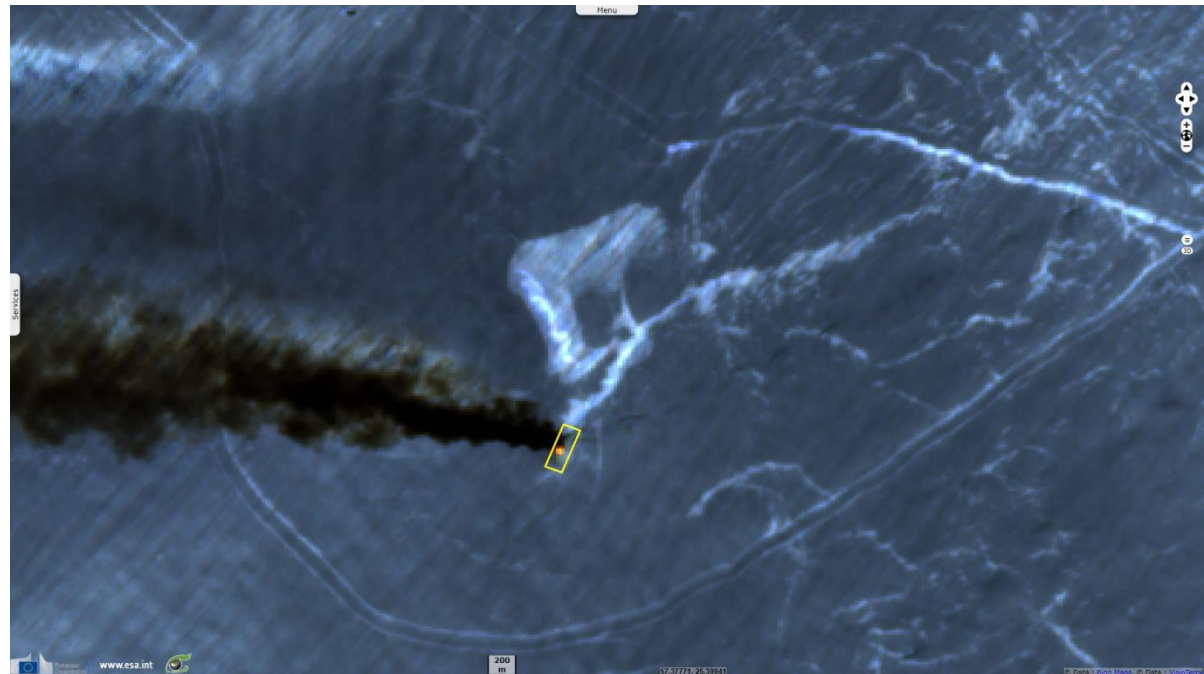


## Sentinel Vision Services: Use cases expanded from existing stories



### ***SED-468 - Tensions rise further near Strait of Hormuz***

- Find the shipping lanes
- Evaluate the difference in traffic density within the corridors
- Monitor atmospheric pollution
- Assess water pollution



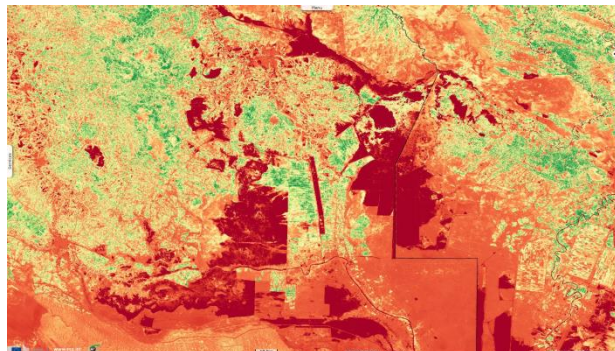
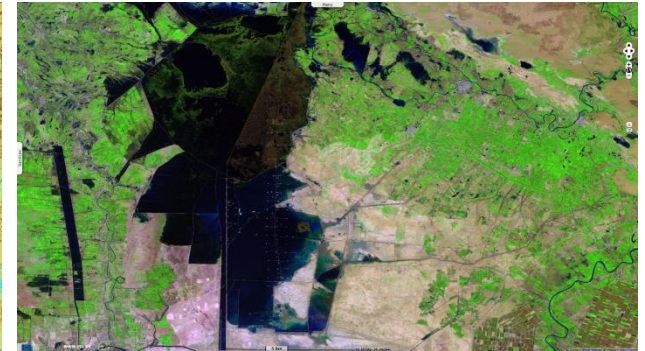
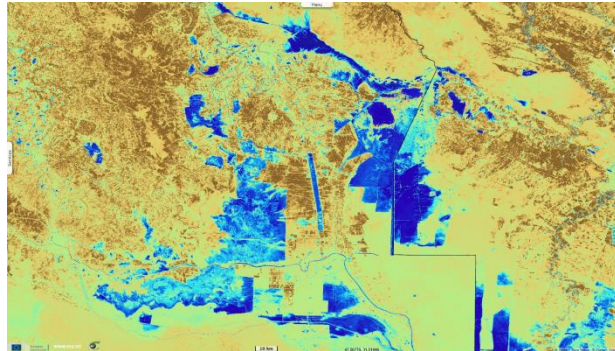


## Sentinel Vision Services: Use cases expanded from existing stories



### ***EVT-487 - Struggle for the recovery of Mesopotamian marshes***

- Assess the health of wetland vegetation
- Find the location of gas torching facilities



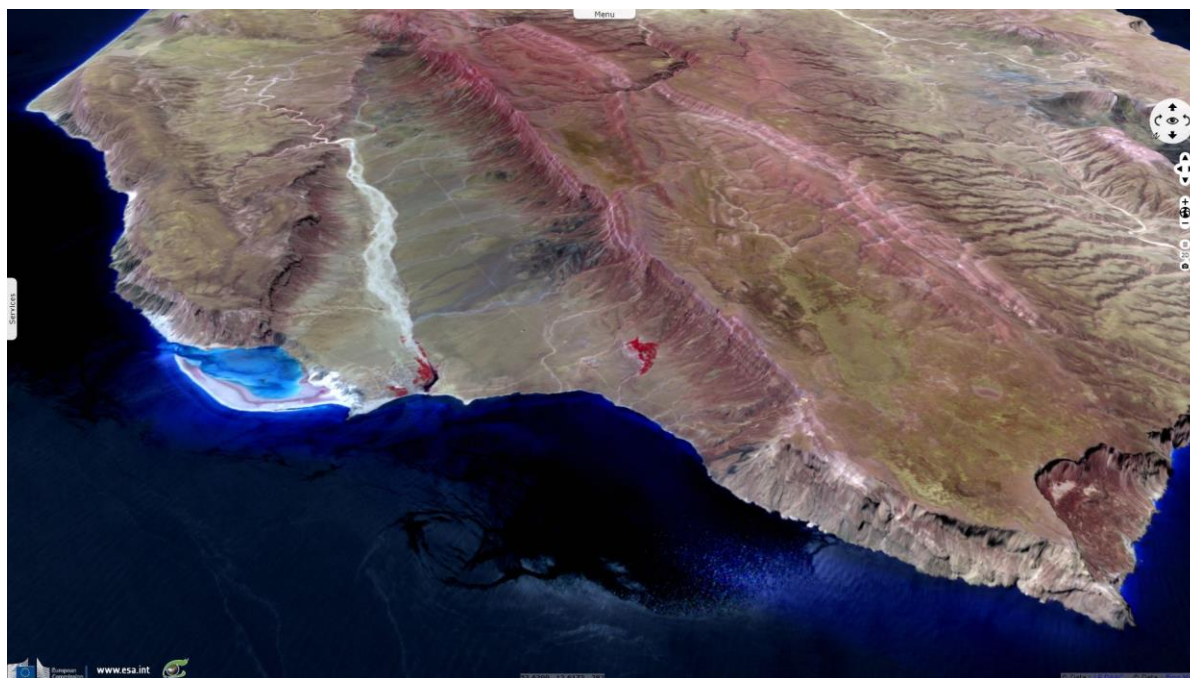


## Sentinel Vision Services: Use cases expanded from existing stories



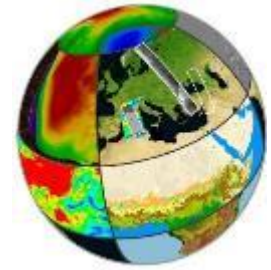
### ***EVT-511 – Biodiversity in Socotra Island***

- Identify hydrogeological structures and processes





# VtWeb – The world at your fingertip



<http://visioterra.org/VtWeb/>

The screenshot shows the VtWeb website interface. At the top left is the VtWeb logo with the tagline 'The world at your fingertip'. To the right are links for 'Report a problem', 'Help', and 'Login', along with a search bar and a language dropdown set to 'English'. The main content area is a world map with a large blue question mark overlaid in the center. The map shows topographic and bathymetric data. On the right side of the map are navigation controls (directional arrows, zoom in/out, and a full-screen button). On the left side, there is a vertical sidebar labeled 'Servers'. At the bottom of the map, there is a scale bar (0 to 1000 km), a coordinate display (4.92843, -4.95520), and a copyright notice for '© Data: Natural Earth'.



# Thank you for your attention

## Questions ?



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[www.visioterra.fr](http://www.visioterra.fr)