



Copernicus for Local and Regional Authorities

Tsipelis Serafeim, Head of
Department of Environment,
Decentralized Administration of
Epirus, West.Macedonia

SAIMON – Satellite Near Real
Time Monitoring Network of the
Eutrophication Risk for the
marine waters over the Greek -
Albanian cross border area



Copernicus

Legal Framework at a Paneuropean Level

1. EC Water Directive 2000/60/EK

2.

The Marine Strategy Framework Directive adopted in June 2008 extends the aims of the WFD to achieve the good environmental status to all the E.U.'s marine waters by 2021

2010 Characteristics of the marine waters are identified

2012 Determination of the “good status” and establishment of a series of environmental targets and associated indicators

2014 The surveillance program is established



Copernicus

Νομικό πλαίσιο στην πράξη

The application of the E.U.'s WFD :

The percentile 90 of the chlorophyll distribution is the criterium chosen for the eutrophication risk in the Water Framework Directive

Productive season, 6 years, on coastal water bodies one mile from the shore

		percentile 90 chlorophyll ($\mu\text{g/l}$)				
		High	Good	Moderate	Poor	Bad
North Sea	Mar-Oct	0 - 10	10 - 15	15 - 20	20 - 40	> 40
Channel & Atlantic	Mar-Oct	0 - 5	5 - 10	10 - 20	20 - 40	> 40
West Mediterranean	Jan-Dec	0 - 2	2 - 4	4 - 8	8 - 16	> 16
East Mediterranean + Corsica	Jan-Dec	0 - 1	1 - 2	2 - 4	4 - 8	> 8
Mediterranean lagoons	Jun-Aug	0 - 5	5 - 10	10 - 20	20 - 40	> 40

CoastColour Cork, March 19th, 2009

A study carried out in the MarCoast project



Copernicus

Legal Framework into practice

Κατηγοριοποίηση Ελληνικών Θαλάσσιων Υδάτων κατά WFD

Classification scheme for Chlorophyll a biomass in $\mu\text{g/l}$

	Ecological Quality Ratios		Values ($\mu\text{g/l}$, 90%ile)	
Coastal Type	<i>High-Good boundary</i>	<i>Good-Moderate boundary</i>	<i>High-Good boundary</i>	<i>Good-Moderate boundary</i>
Type III E	0.80	0.20	0.1	0.4



Copernicus

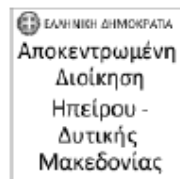
Εθνικό Νομικό Πλαίσιο

1. Το νομικό πλαίσιο για την προστασία και διαχείριση των υδάτων στην Ελλάδα τίθεται από το Ν.3199/2003 καθώς και από το Προεδρικό Διάταγμα 51/2007, τα οποία ενσωματώνουν και την Κοινοτική Οδηγία για τα Νερά 2000/60/ΕΚ
2. Υπουργική Απόφαση 47630 της 16^{ης} Νοεμβρίου 2005 για τη Διάρθρωση της Διεύθυνσης Υδάτων της κάθε Περιφέρειας Προκειμένου και για την εναρμόνιση με την Οδηγία 2000/60/ΕΚ
 - Ορίζεται (άρθρο 2) για την κάθε Περιφερειακή Υπηρεσία Υδάτων μεταξύ των άλλων αρμοδιοτήτων της
 - Να συγκεντρώνει και να επεξεργάζεται τα στοιχεία της ποσότητας και ποιότητας των υδάτων
 - Να παρακολουθεί και να ελέγχει ποιοτικές παραμέτρους και την ποσοτική κατάσταση των υδάτων



Copernicus

SAIMON



The Programme is co-funded by the European Union and by National Funds of Greece & Albania



SAIMON

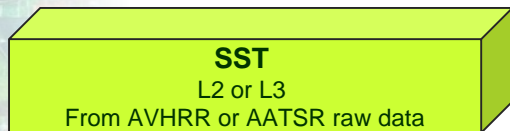
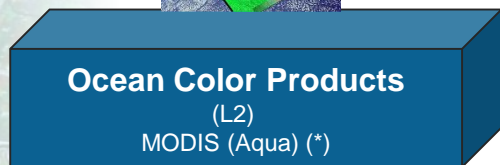
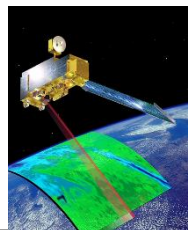
SAtellite Near Real Time MOnitoring Network of the Eutrophication Risk for the marine waters over the Greek-Albanian crossborder area

Participants	
OLP	Decentralized Administration of Epirus-Western Macedonia
LP2	Milieucontact International Albania
PP3	Region of Ionian Islands
PP4	Regional Council of Vlora



Copernicus

SAIMON



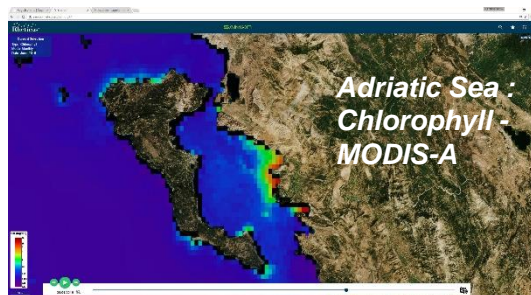
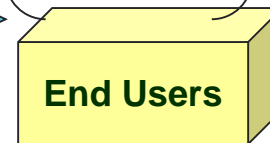
Services



webservice



Αποκεντρωμένη Διοίκηση Ηπείρου



(*) CHLA 1 km : MODIS (AQUA) L2.

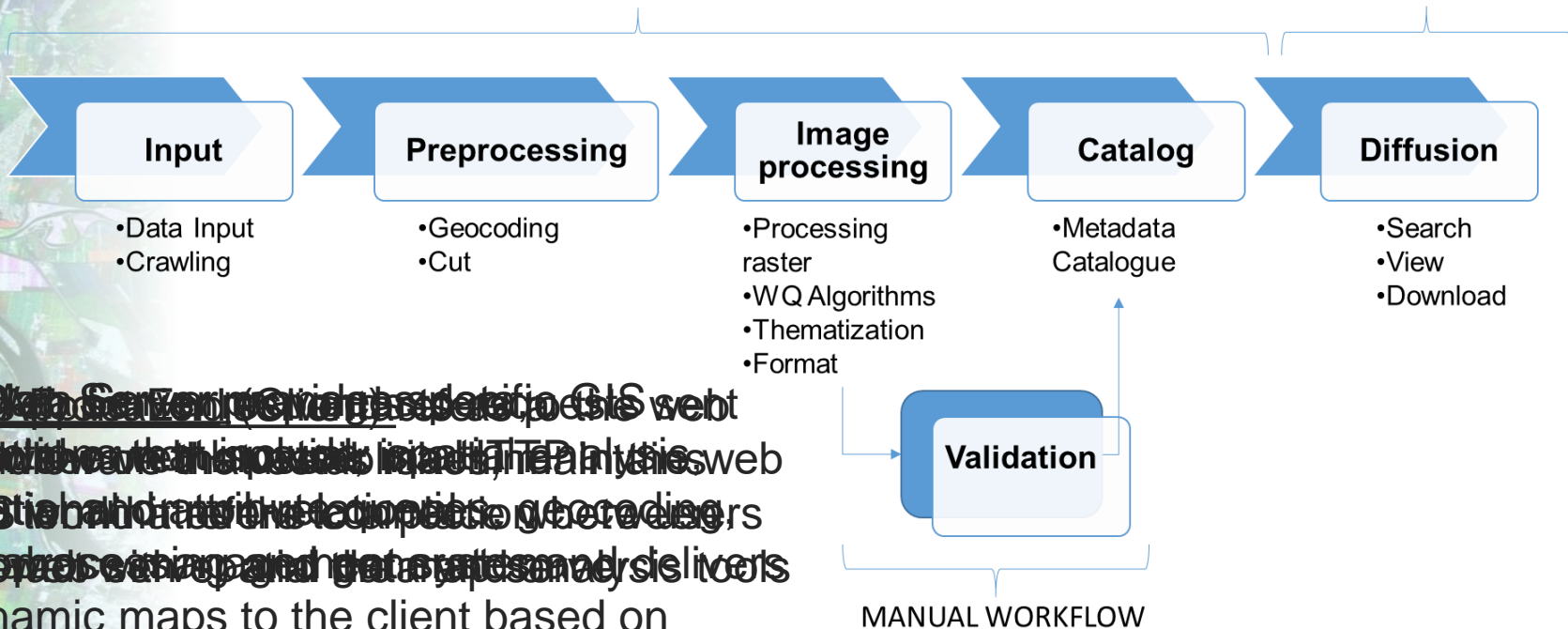


Copernicus

From Input to Diffusion..

AUTOMATIC WORKFLOW

WebGIS

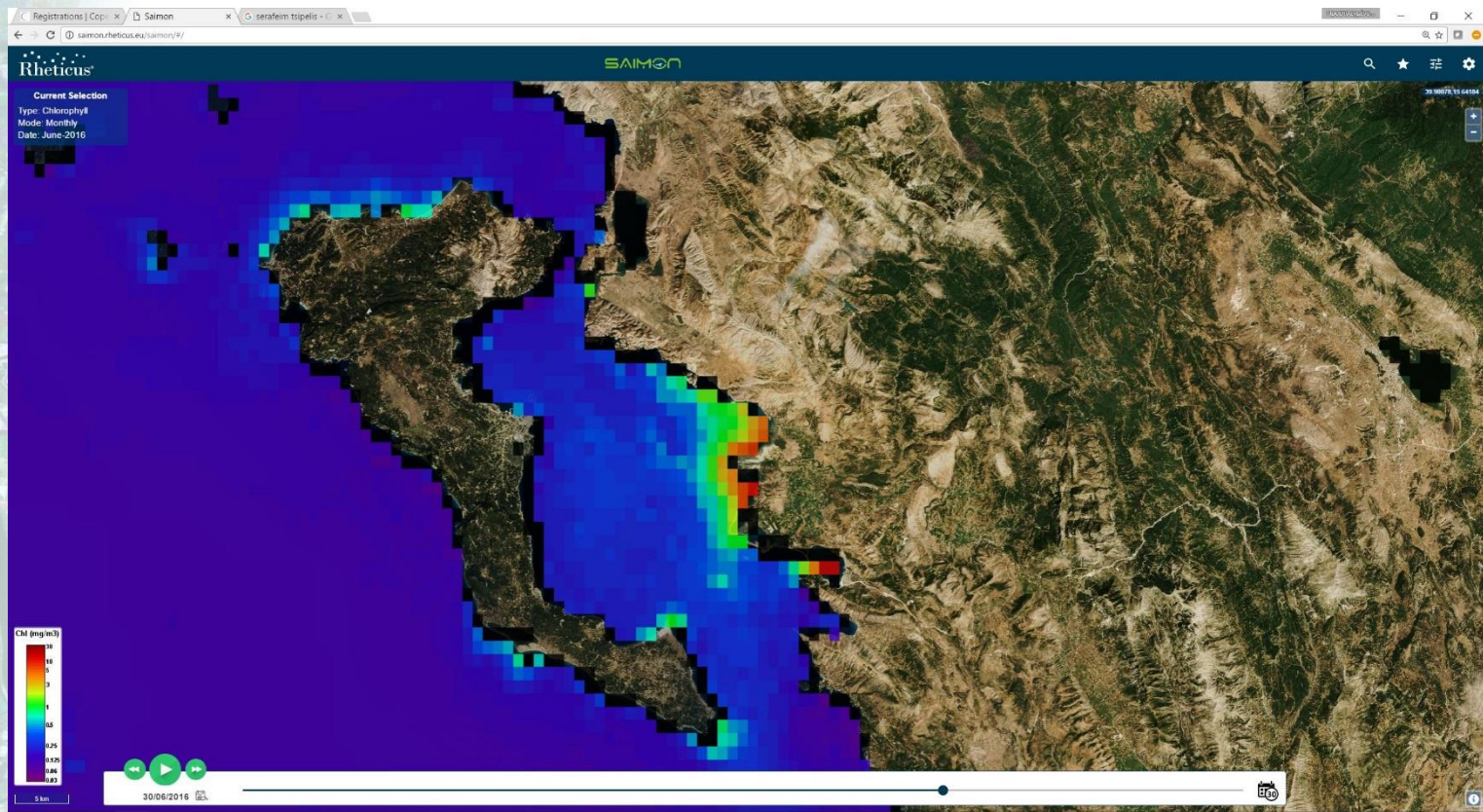


An WebGIS (Web Geographic Information System) web front-end to the GIS, which is implemented in a web application and runs on a computer. It provides a dynamic map to the client based on user requests.



Copernicus

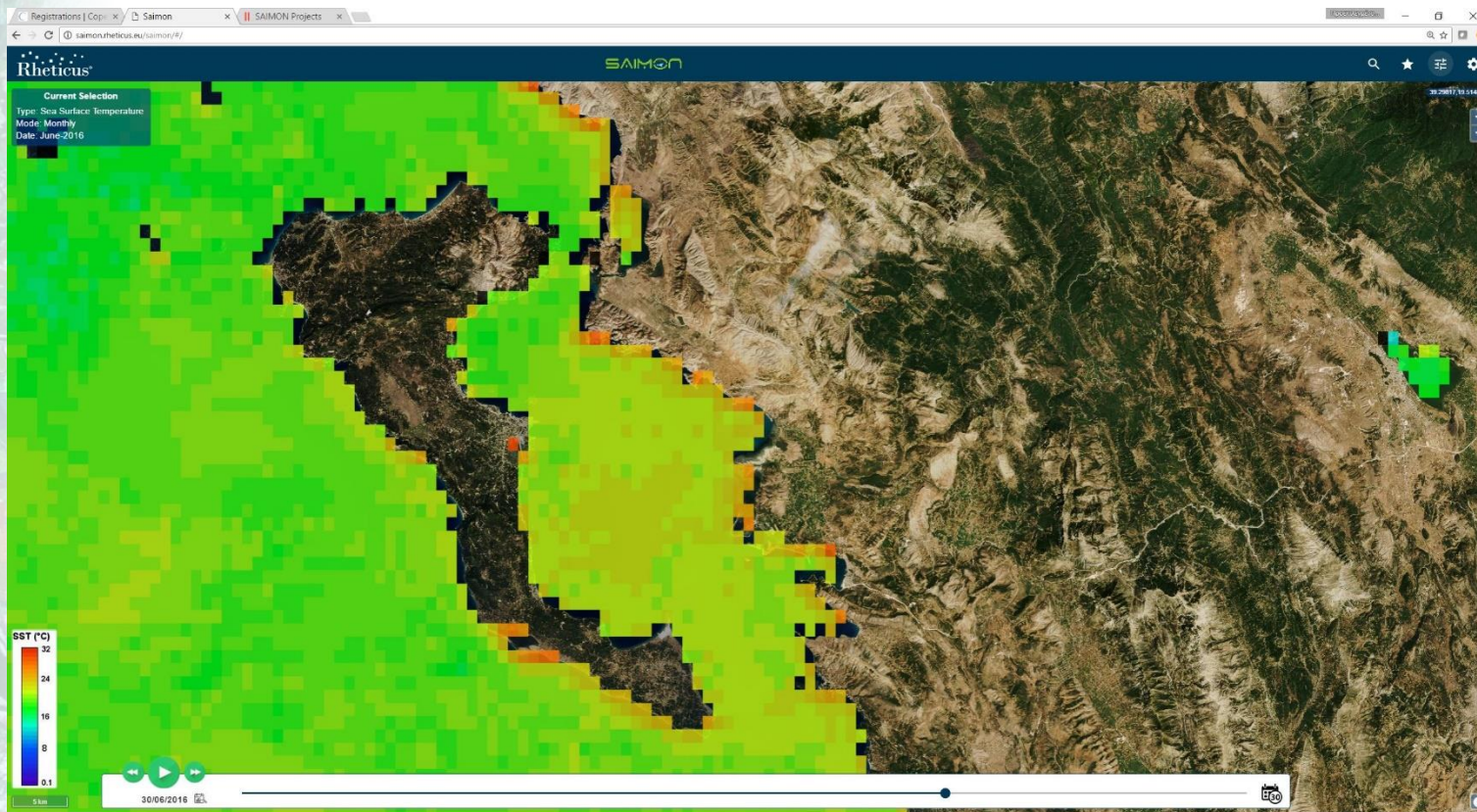
SAIMON - Chlorophyll-a (Chl-a_





Copernicus

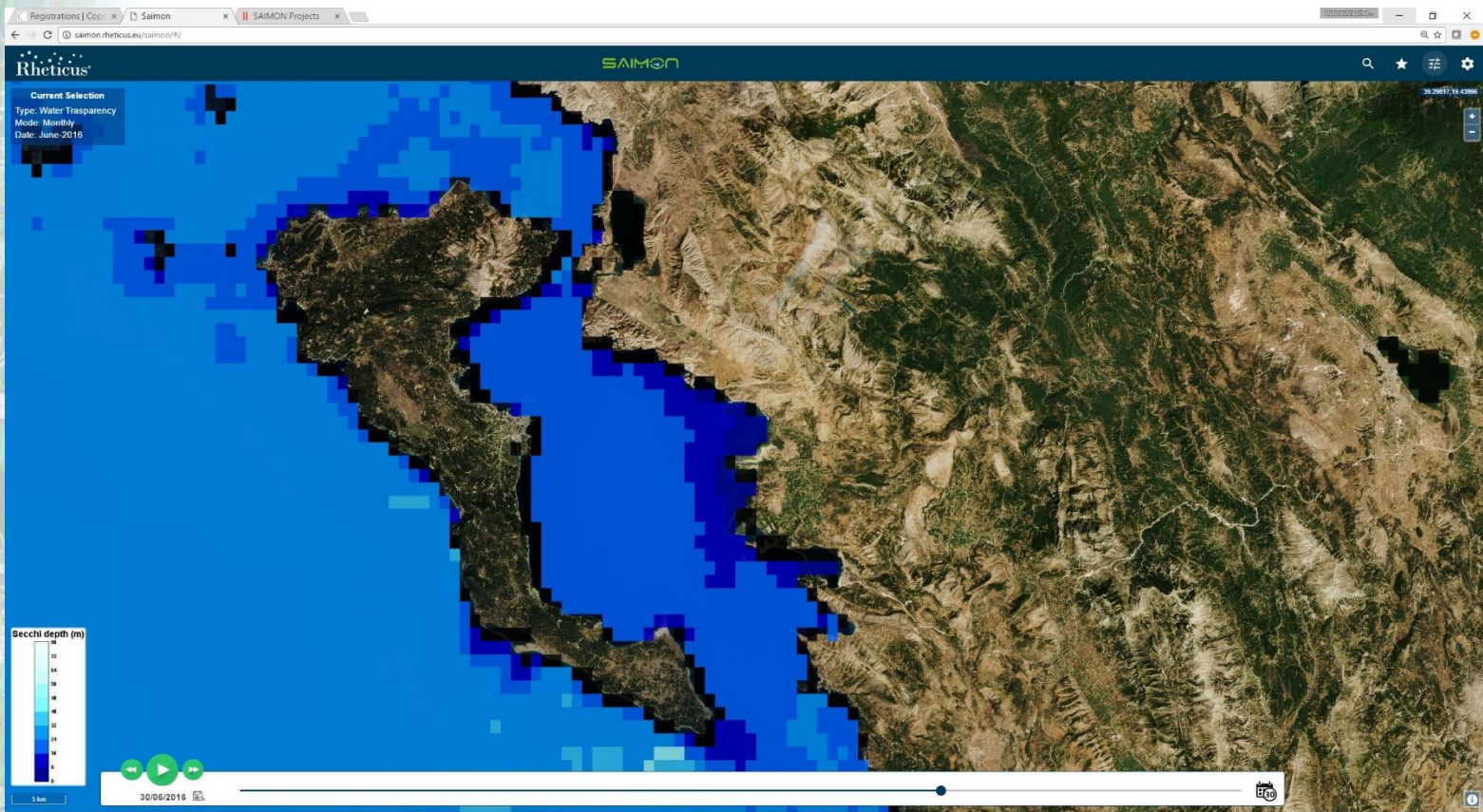
SAIMON – Sea Surface Temperature (SST)





Copernicus

SAIMON – Transparency





Copernicus

From Input to Diffusion..

OGC - Open Standards

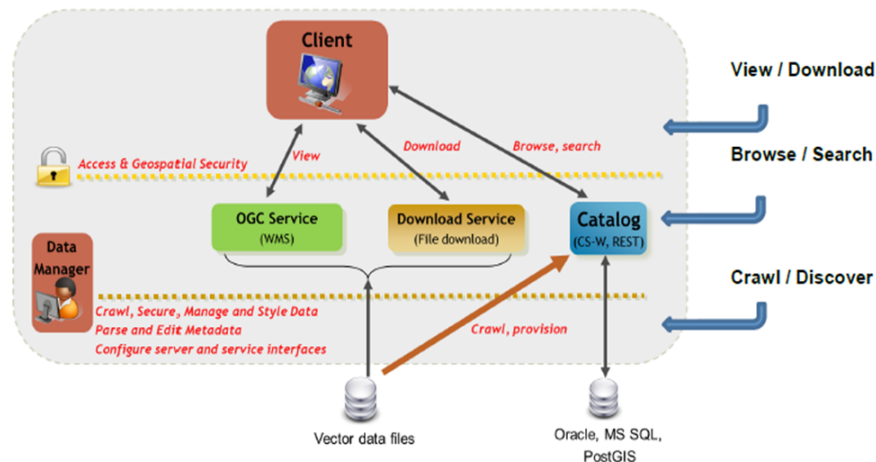
- Catalog Service for the Web (CSW), exposes a catalogue of geospatial records in XML on the Internet (over HTTP), made up of records that describe geospatial data, geospatial services, and related resources.
- Web Map Service (WMS), provides a simple HTTP interface for requesting geo-registered map images from one or more distributed geospatial databases.
- Web Feature Service (WFS), offers access to geographic information at the feature and feature property level.
- Web Coverage Service (WCS), offers multi-dimensional coverage data representing space/time-varying phenomena that relate a spatio-temporal domain to a wide range of properties.





Web Services – INSPIRE

- Discovery Service allows to search for spatial data, spatial data sets and network services based on corresponding metadata stored in data collection system. It is based on the open standard CSW 2.0.2 ISO Profile and has been developed in accordance with the specifications of the directive 2007/2/EU (INSPIRE).
- View Service allows the visualization of dynamic spatial data in the form of digital image files. It is based on the standard WMS 1.3.0 of OGC and it is compliant with the directive 2007/2/EU (INSPIRE).
- Download Service allows downloading spatial data. It is based on the standard WFS 2.0. that enables access to particular data and reach resources of spatial information.





Copernicus

From Input to Diffusion..

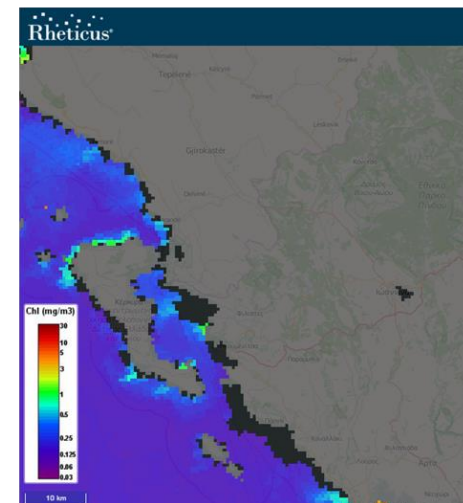
Rheticus Platform #1

Rheticus is a cloud-based data and services hub able to deliver Earth Observation added-value products through automatic complex processes

Most relevant features of Rheticus are:

- Integration towards external data sources with strong emphasis for Open Data;
- Ability to calculate geospatial indicators generated as results of the knowledge about any given geographic area;
- Capacity to involve and coordinate back-office operators claimed to operate throughout the production workflow;
- Accessibility as Cloud service (Software As a Service - SaaS)

Rheticus®





Copernicus

Τελικοί Χρήστες

Οφέλη

Από την ενσωμάτωση των δορυφορικών τεχνολογιών για την παρακολούθηση του περιβάλλοντος

1. Συνολική και Τακτική/Αδιάλειπτη Παρακολούθηση των Υδάτων
2. Συμμόρφωση με την σχετική Κοινοτική και Εθνική Νομοθεσία
3. Βέλτιστη δυνατή σχέση κόστους/ωφέλειας των υπηρεσιών που λαμβάνουν

(έως και **10€** για την ημερήσια παρακολούθηση των ακτών όλης της περιφέρειας)

- Αξία στα χρήματα του Έλληνα Φορολογούμενου



Copernicus

LIVE DEMO



Copernicus

Thank you very much

Serefeim Tshipelis, Project Coordinator

Decentralized Administration of Epirus, Western Macedonia

SAIMON – Satellite Near Real Time Monitoring Network of the Eutrophication Risk for the marine waters over the Greek-Albanian cross border area

<http://saimon.rheticus.eu/saimon/#/>