

# Building ICT Tools For a Sustainable Future

*towards a sustainable future and a transition to green societies based on knowledge.*

JPM



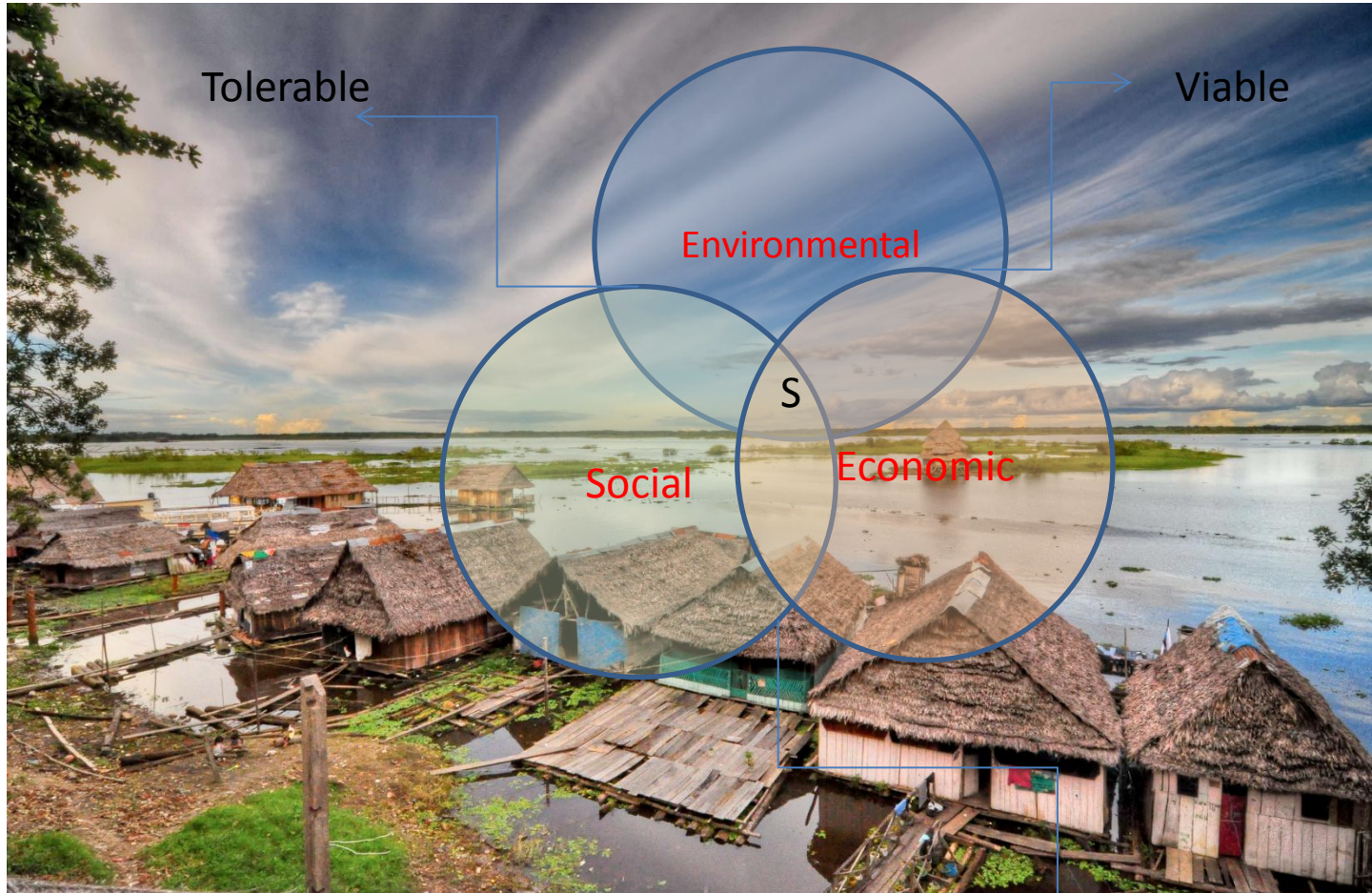
# A choice: A sustainable future or no future at all

What is sustainability standing on?

Social

Economical

Environmental



Tolerable

Viabile

Environmental

Social

Economic

S

Equitativo

# Challenges for sustainability

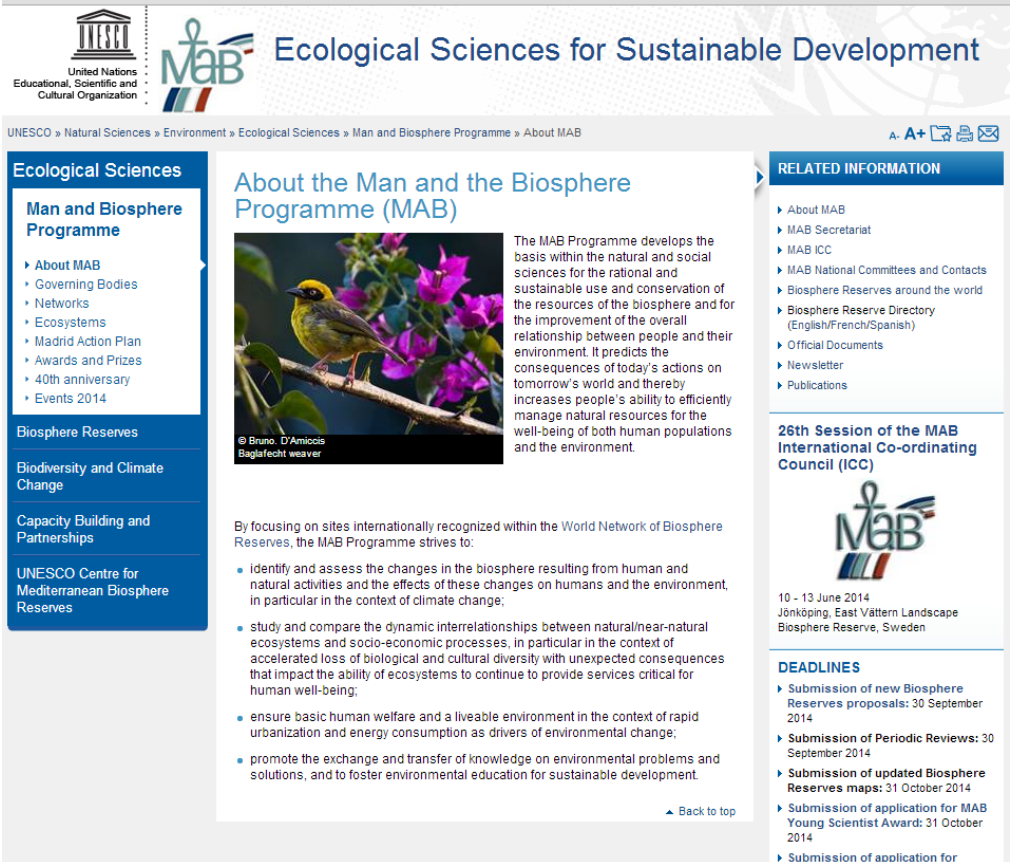
- Efficiency in Management
- Public Engagement
- Transparency
- Comunity Empowerment
- Knowledge and learning capacity (adaptativity)

all of them vertebrated by the territorial value.

ALLPAHUAYO MISHANA DESIGNATION: NATIONAL RESERVE

# UNESCO's MAB Philosophy

- ❑ identify and assess the changes in the biosphere resulting from human and natural activities and the effects of these changes on humans and the environment, in particular in the context of climate change;
- ❑ study and compare the dynamic interrelationships between natural/near-natural ecosystems and socio-economic processes, in particular in the context of accelerated loss of biological and cultural diversity with unexpected consequences that impact the ability of ecosystems to continue to provide services critical for human well-being;
- ❑ ensure basic human welfare and a liveable environment in the context of rapid urbanization and energy consumption as drivers of environmental change;
- ❑ promote the exchange and transfer of knowledge on environmental problems and solutions, and to foster environmental education for sustainable development.



The screenshot shows the UNESCO MAB website. At the top, it features the UNESCO logo and the text 'United Nations Educational, Scientific and Cultural Organization' and 'Ecological Sciences for Sustainable Development'. The main navigation bar includes 'UNESCO » Natural Sciences » Environment » Ecological Sciences » Man and Biosphere Programme » About MAB'. The page title is 'About the Man and the Biosphere Programme (MAB)'. The main content area includes a photo of a yellow-headed bird on a branch with purple flowers, captioned '© Bruno, D'Amicos Baglafecht weaver'. The text describes the MAB Programme's mission: 'The MAB Programme develops the basis within the natural and social sciences for the rational and sustainable use and conservation of the resources of the biosphere and for the improvement of the overall relationship between people and their environment. It predicts the consequences of today's actions on tomorrow's world and thereby increases people's ability to efficiently manage natural resources for the well-being of both human populations and the environment.' Below this, it states: 'By focusing on sites internationally recognized within the World Network of Biosphere Reserves, the MAB Programme strives to:' followed by a bulleted list of objectives. A 'Back to top' link is at the bottom right of the main content area. The sidebar on the right is titled 'RELATED INFORMATION' and lists various resources like 'About MAB', 'MAB Secretariat', 'MAB ICC', 'MAB National Committees and Contacts', 'Biosphere Reserves around the world', 'Biosphere Reserve Directory (English/French/Spanish)', 'Official Documents', 'Newsletter', and 'Publications'. Below this is a section for the '26th Session of the MAB International Co-ordinating Council (ICC)' with the date '10 - 13 June 2014' and location 'Jönköping, East Vättern Landscape Biosphere Reserve, Sweden'. A 'DEADLINES' section lists: 'Submission of new Biosphere Reserves proposals: 30 September 2014', 'Submission of Periodic Reviews: 30 September 2014', 'Submission of updated Biosphere Reserves maps: 31 October 2014', 'Submission of application for MAB Young Scientist Award: 31 October 2014', and 'Submission of application for'.



# Is it possible to contribute?

- Priority should be given to projects aiming at making biosphere reserves **fully functional with effective participation of local communities and different sectors of society**
- Projects on biosphere reserves should give emphasis to UNESCO's mandate in education, science and culture, and to the MAB approach, promoting the integration of the natural and the social sciences. **Attention should be paid to cultural sensitivity, participation and benefits for local communities, tailoring scientific research to resolve natural resource use problems;** fostering dialogue amongst different stakeholders, conflict resolution, biodiversity education and awareness raising, and training of specialists



# Biosphere Smart Initiative

Biosphere Smart provides this web-based platform with the aim of:

- ❑ Sharing ideas and best practices on issues related to sustainable development and climate change;
- ❑ Sharing experience and lessons in using biosphere reserves as green economy models;
- ❑ Promoting sustainable urban futures issues within biosphere reserves and their surroundings;
- ❑ Providing an educational tool with mapping and advanced communication services;
- ❑ Empowering sustainable communities to improve their access to information and decision-making capacity;
- ❑ Improving information and response capacity for managers and scientific community in biosphere reserves;
- ❑ Share and facilitate access to the knowledge and expertise of the scientific community;
- ❑ Strengthen partnerships within the World Network of Biosphere Reserves (WNBR).

UNESCO | Education | **Natural Sciences** | Social and Human Sciences | Culture | Communication and Information | Media Services

About us | Science & Technology | **Environment** | IOC Oceans | Priority Areas | Special Themes | Resources

UNESCO  
United Nations  
Educational, Scientific and  
Cultural Organization

## Ecological Sciences for Sustainable Development

UNESCO » Natural Sciences » Environment » Ecological Sciences » Biosphere Reserves » BiosphereSmart Initiative

### Ecological Sciences

Man and Biosphere Programme

#### Biosphere Reserves

- Main Characteristics
- World Network (WNBR)
- Advisory Committee
- Designation Process
- Periodic Review Process
- From Strategy to Action
- Regional and Subregional Collaboration
- Biosphere Reserves in Practice
- ▶ **BiosphereSmart Initiative**

#### Biodiversity and Climate Change

#### Capacity Building and Partnerships

#### UNESCO Centre for Mediterranean Biosphere Reserves

## BiosphereSmart: sharing knowledge on climate change, green economies, and sustainable development

### Interactive Mapping Tool for Biosphere Reserves

BiosphereSmart is a global observatory created to share ideas, knowledge, good practices, and experiences among Biosphere Reserves on issues related to climate change, green economies, and sustainable development. The BiosphereSmart Initiative is based on the idea to maximise the use of new information technologies to build a covenant for a sustainable future and a transition to green societies based on knowledge. Citizens become both beneficiaries and key actors of the information and participation tools of the project. They can also be sensors able to provide information about their spatial experiences, improving their capacity of participation.

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- Promoting sustainable urban futures issues within biosphere reserves and their surroundings;
- Providing an educational tool with mapping and advanced communication services;

### RELATED INFORMATION

- ▶ About Ecological Sciences
- ▶ Who's who
- ▶ Events
- ▶ Videos
- ▶ Publications
- ▶ Multilingual Map of the World Network of Biosphere Reserves
- ▶ Brochure of the MAB Programme (English / French / Spanish)

### 26th Session of the MAB International Co-ordinating Council (ICC)

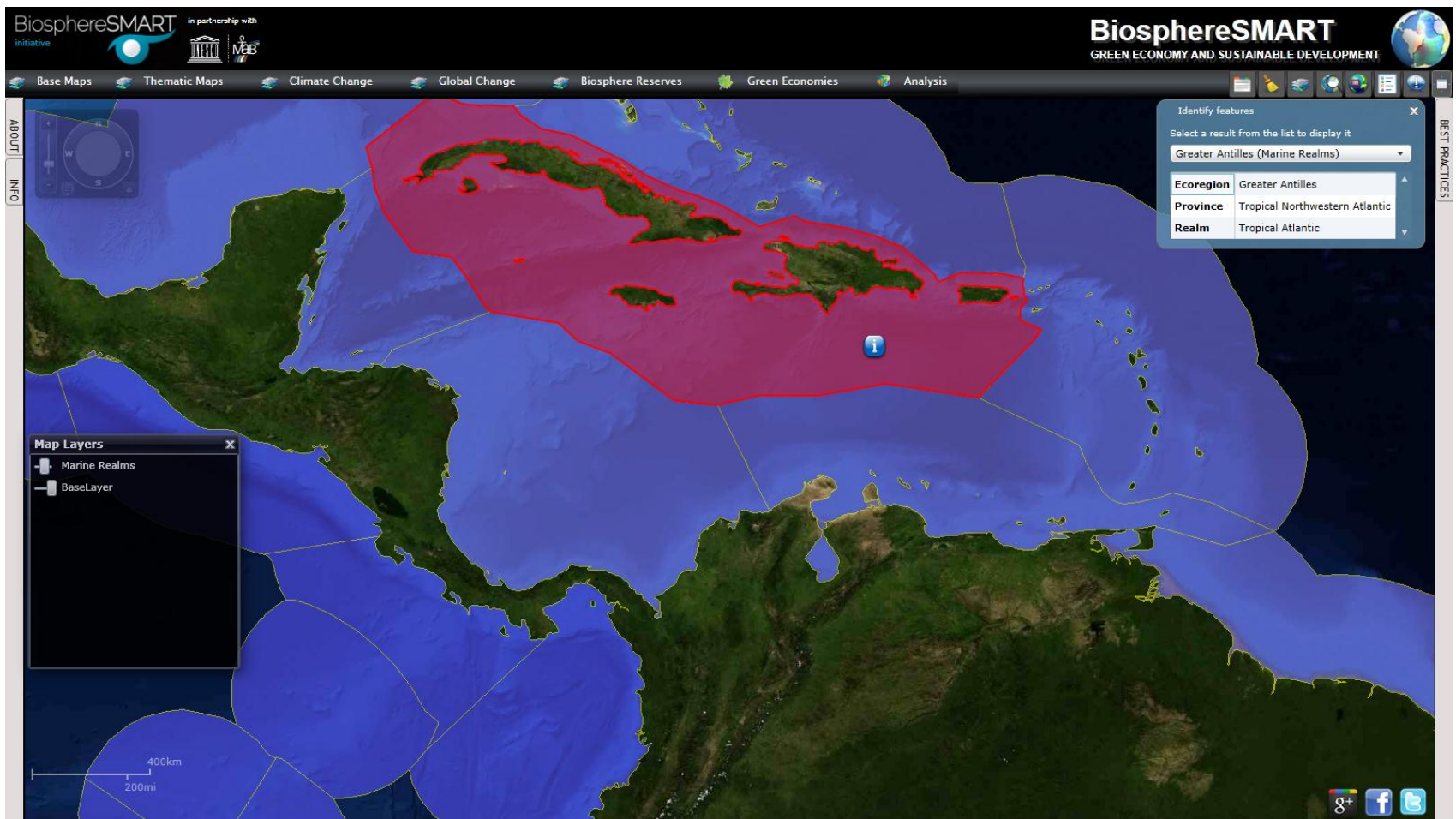
10 - 13 June 2014  
Jönköping, East Vättern Landscape Biosphere Reserve, Sweden

### DEADLINES

- ▶ Submission of new Biosphere Reserves proposals: 30 September 2014
- ▶ Submission of Periodic Reviews: 30 September 2014
- ▶ Submission of updated Biosphere Reserves maps: 31 October 2014
- ▶ Submission of application for MAB Young Scientist Award: 31 October 2014
- ▶ Submission of application for Michel Batisse Award for biosphere reserve management:

ological-sciences/biosphere-reserves/biospheresmart-initiative/nable communities to improve their access to information and

# Share and facilitate access to the knowledge and expertise of the scientific community



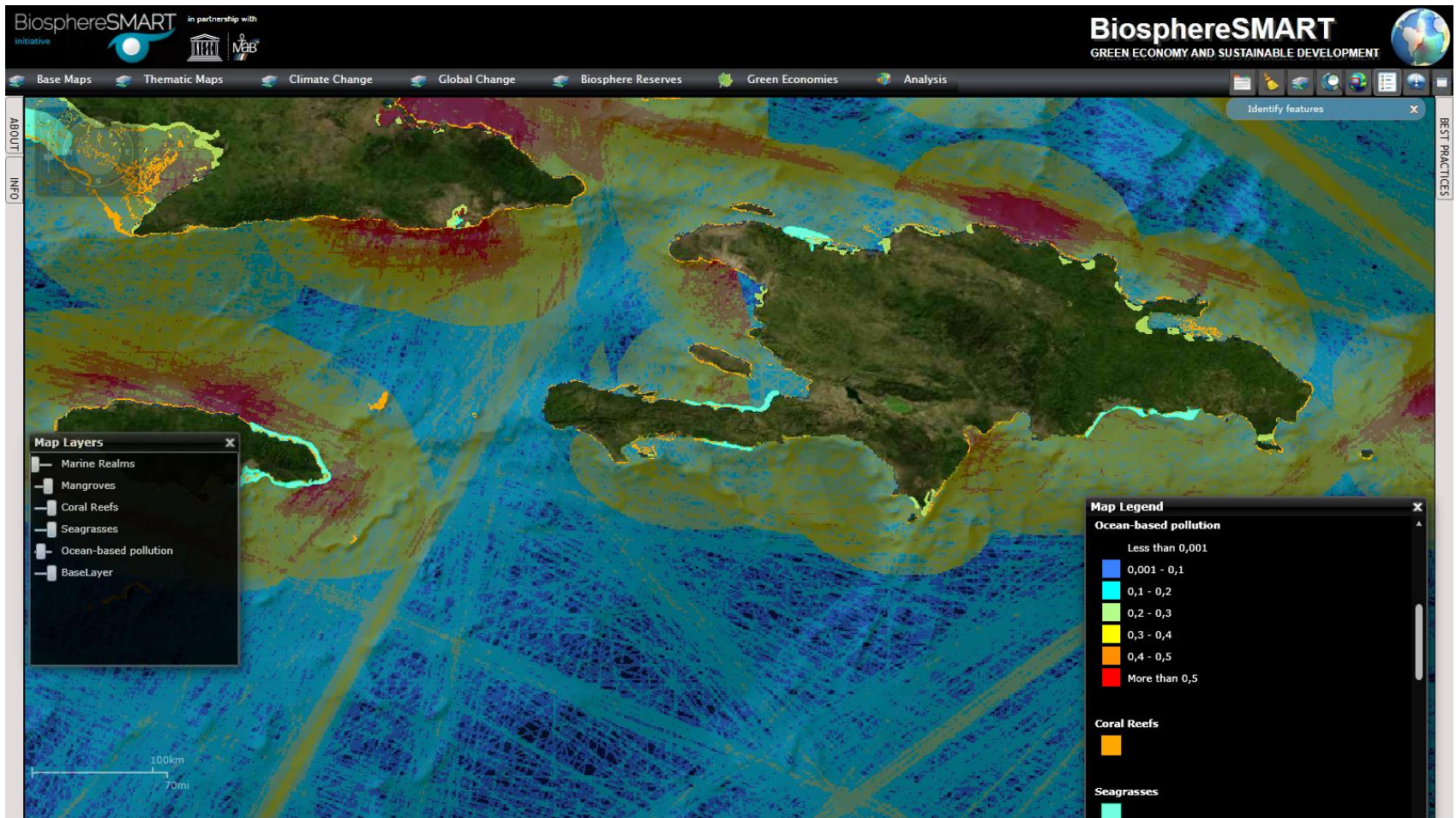


# Sharing experience and lessons in using biosphere reserves as green economy models

The image shows the BiosphereSMART web application interface. The main content is a satellite-style map of the Iberian Peninsula (Spain and Portugal) with various colored overlays representing different biosphere reserves and green economy models. The interface includes a top navigation bar with the following tabs: Base Maps, Thematic Maps, Climate Change, Global Change, Biosphere Reserves, Green Economies, and Analysis. The BiosphereSMART logo and tagline "GREEN ECONOMY AND SUSTAINABLE DEVELOPMENT" are visible in the top right corner. A sidebar on the left contains "ABOUT" and "INFO" links. A "Map Layers" panel is open in the bottom left, listing: Biodiversity Hotspots, Biomes, Mangroves, Coral Reefs, Seagrasses, and BaseLayer. A scale bar at the bottom left indicates 100km and 65mi. On the right side, there is a "HELP SHARING" section with the text: "Best Practices are examples of outstanding contributions to improving the green economies and sustainable development in the Biosphere Reserves." Below this text is a vertical list of categories, each with a plus sign icon: Climate Change action, Sustainable Energy, Biodiversity, Oceans and Marine, Water management, Waste management & recycling, Land & Resources Management, Quality economies, Sustainable Tourism, Urban sustainability, and Soft measures. A "BEST PRACTICES" link is visible on the far right edge of the interface.

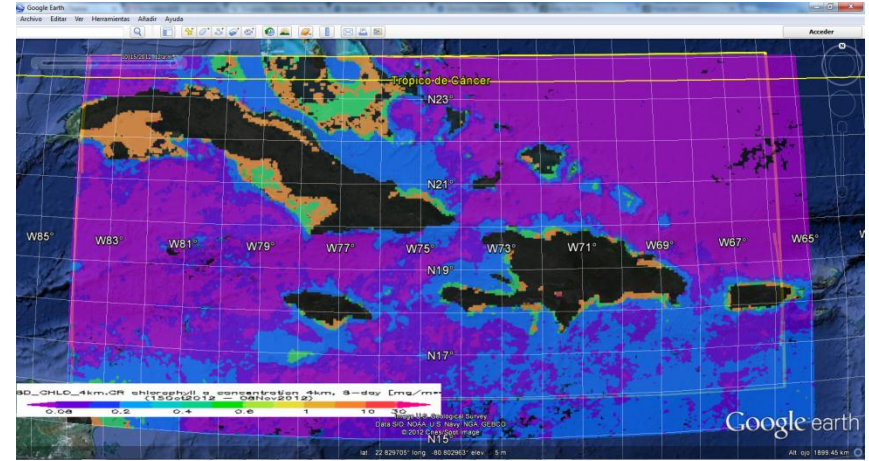
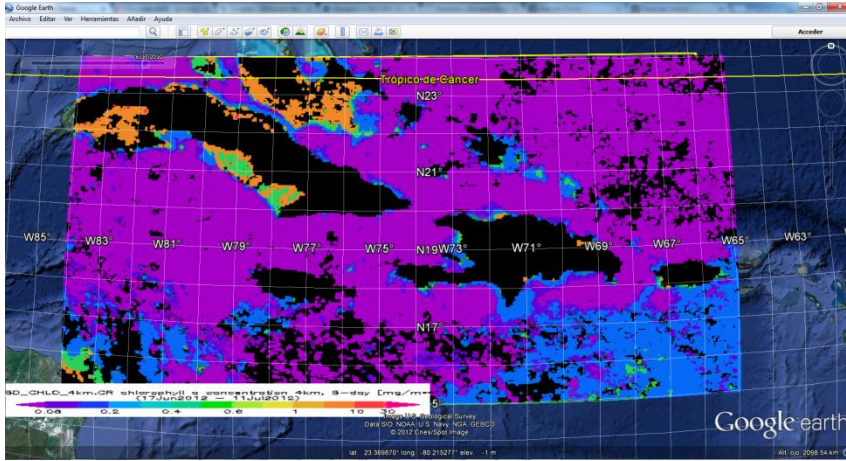


# Providing an educational tool with mapping and advanced communication services



[http://195.76.147.227/UserSites/pilots/Videos/BS\\_intro/BS\\_intro.html](http://195.76.147.227/UserSites/pilots/Videos/BS_intro/BS_intro.html)

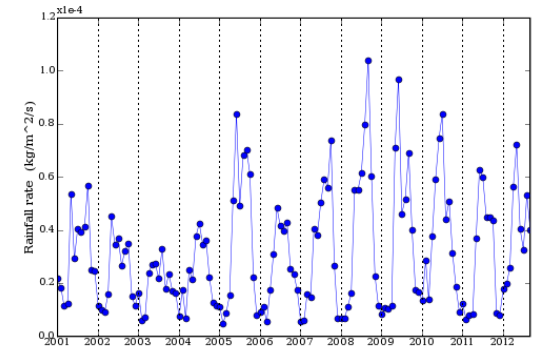
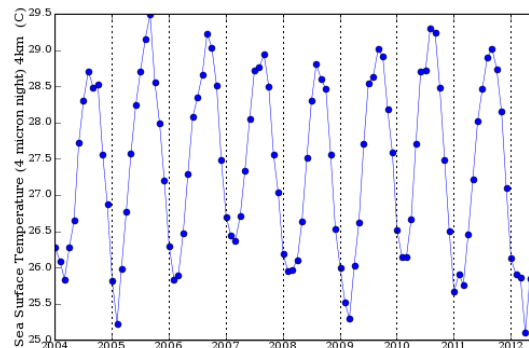
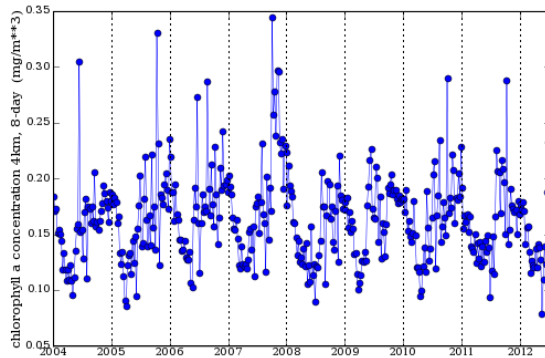
# Share and facilitate access to the knowledge and expertise of the scientific community: eg. Natural variability



Area-Averaged Time Series (MA8D\_CHLO\_4km.CR)  
(Region: 84W-65W, 15N-24N)

Area-Averaged Time Series (MAMO\_SST4\_4km.CR)  
(Region: 84W-65W, 15N-24N)

Area-Averaged Time Series (GLDAS\_VIC10\_M.001)  
(Region: 84W-65W, 15N-24N)





# And open to participation

- Anyone can benefit from knowledge: *a meeting point amongst decision makers, scientific community, and public participation.*
- E- learning platforms: ***to demonstrate and to promote balanced relationships between human beings and the biosphere***
- Public awareness campaigns: *facilitating the performance monitoring of every site through proper indicators sets.*
- Networking: *interchange of best practices, experiences, initiatives,...*

# Action Plans

- [The Madrid Action Plan](#)
  - E.1 COOPERATION, MANAGEMENT AND COMMUNICATION
  - E.2 ZONATION – LINKING FUNCTIONS TO SPACE
  - E.3 SCIENCE AND CAPACITY ENHANCEMENT
  - E.4 PARTNERSHIPS
- Biosphere Reserve's Action plans
  - Mandates- Functions
  - a **conservation function** - to contribute to the conservation of landscapes, ecosystems, species and genetic variation
  - a **development function** - to foster economic and human development which is socio-culturally and ecologically sustainable
  - a **logistic function** - to provide support for research, monitoring, education and information exchange related to local, national and global issues of conservation and development



# Whatever your requirements are you may benefit from Several generalized tools

- Deforestation
- Global Warming
- Biodiversity
- Renewable Energy
- Water
- Food production
- Tourism
- Agriculture
- Risk management
- Human footprint
- Resilience
- Equity
- Sustainable trans
- Waste Managem
- ....



**GIS Services**

**WEB 2.0**

**SENSOR  
Networks**

**MOBILITY  
apps**

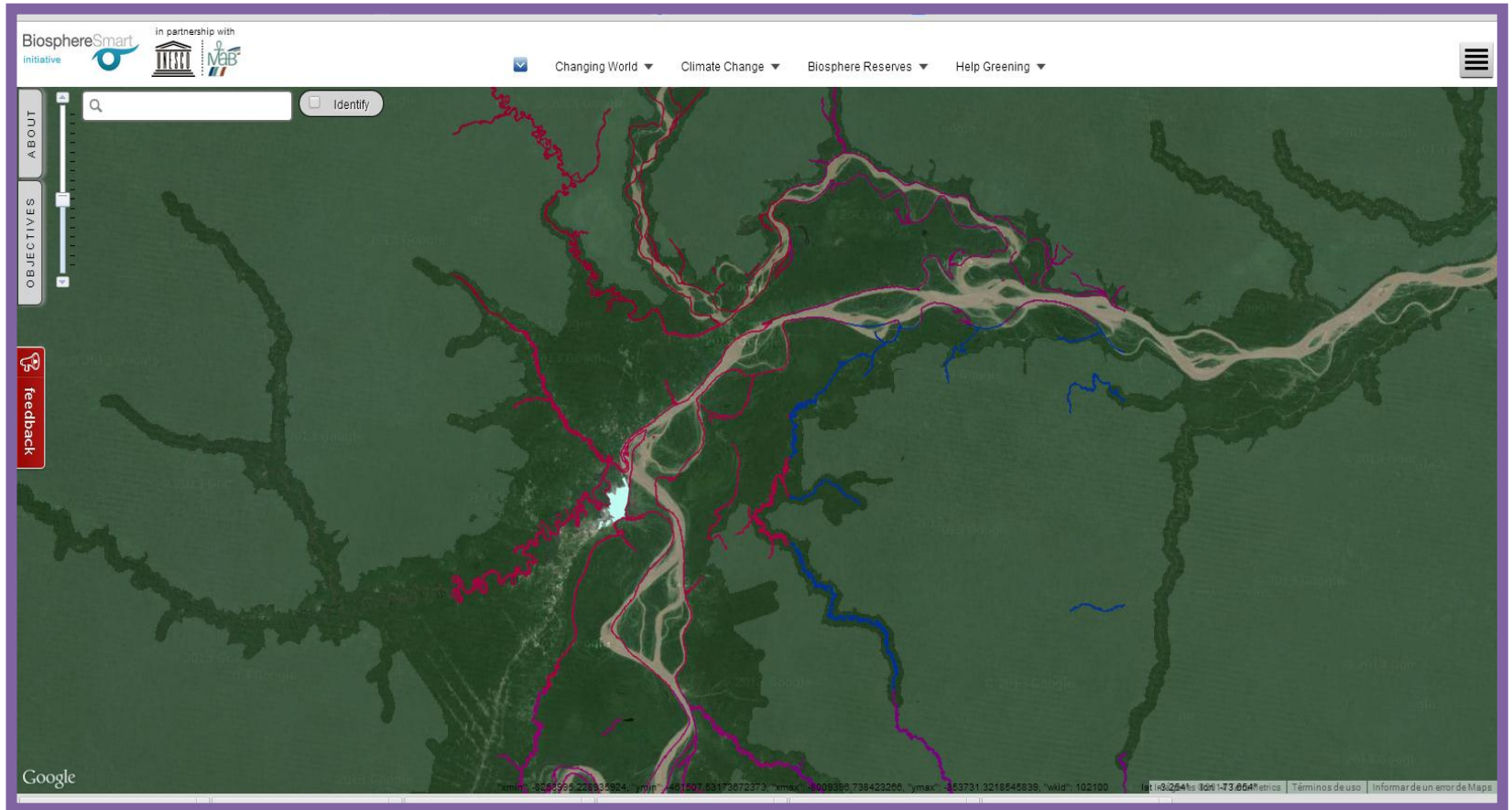
**OPENDATA/  
WEB  
SERVICES**

# Sustainability Assessment Tools

- Environmental Information Systems
- Participation
- Education
- Indicators Analysis
  - Pressure Response (DPSR)
  - Performance (EPI)
  - Sustainability Indicators



# Environmental Information Systems



**GIS:** forest degradation monitoring and assessment

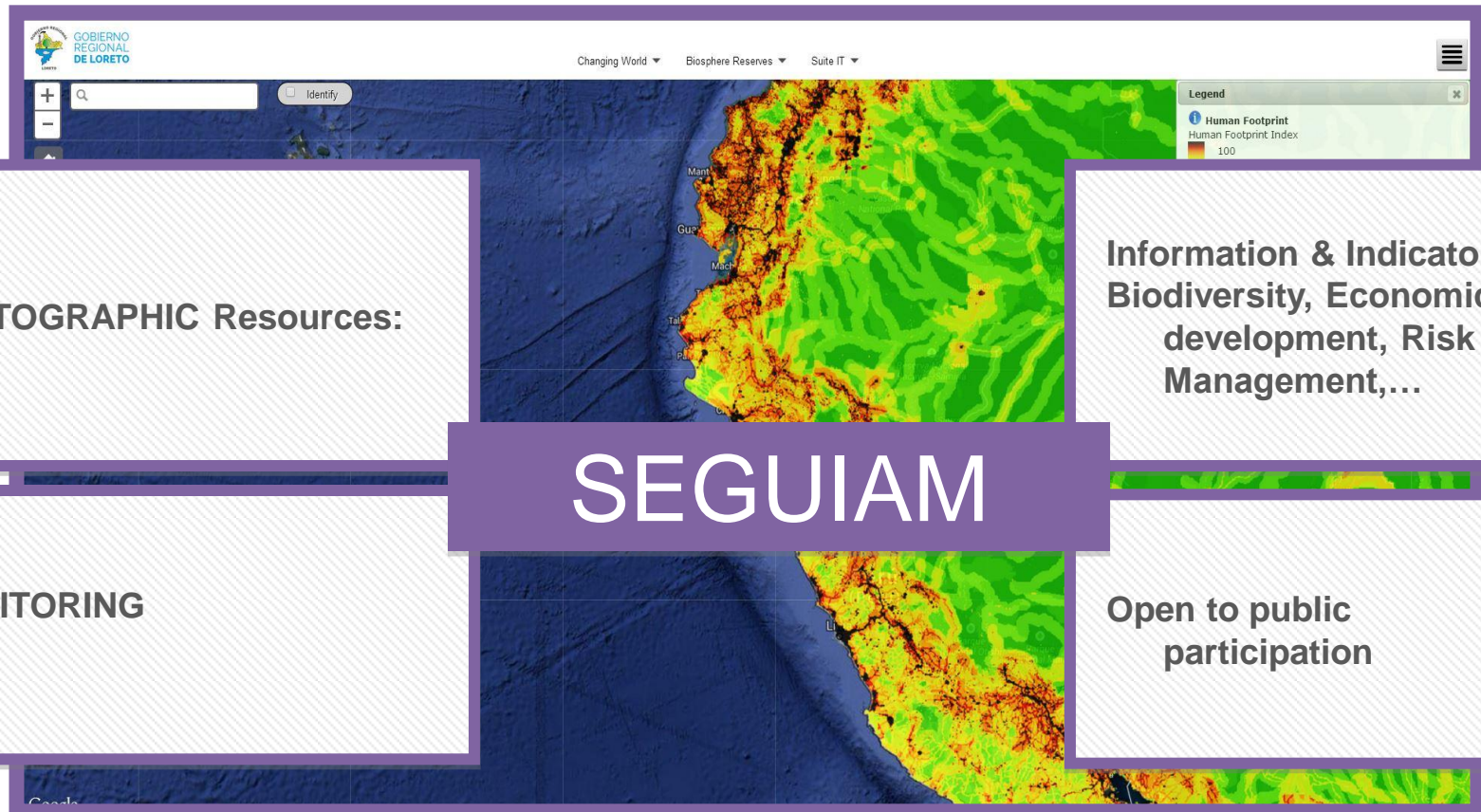
# Environmental Information Systems

- Modules
  - SIG and Remote Sensing
  - Human / Autonomous sensor networks
  - Numerical modelling
  - Hidrology
  - Meteorology
  - Climate
    - Solar radiation, rain, temperature, winds, waves,...
  - Land Cover- Land Use database

Compatible & flexible; Scalable.

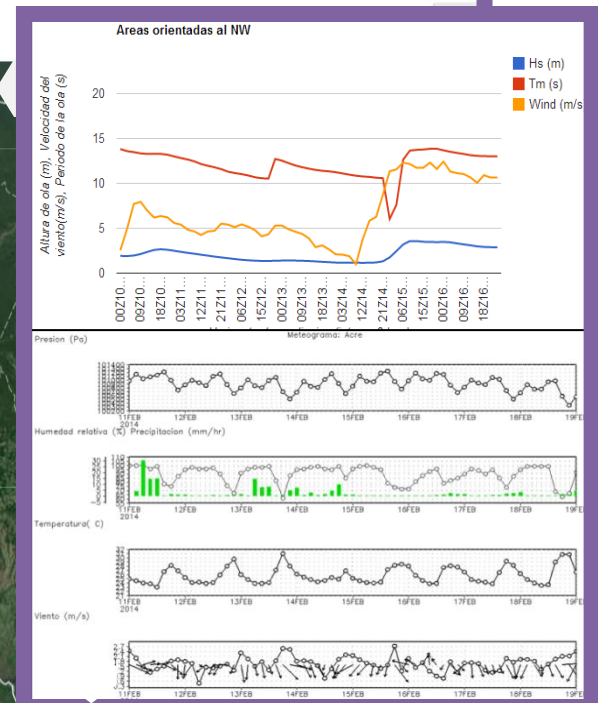
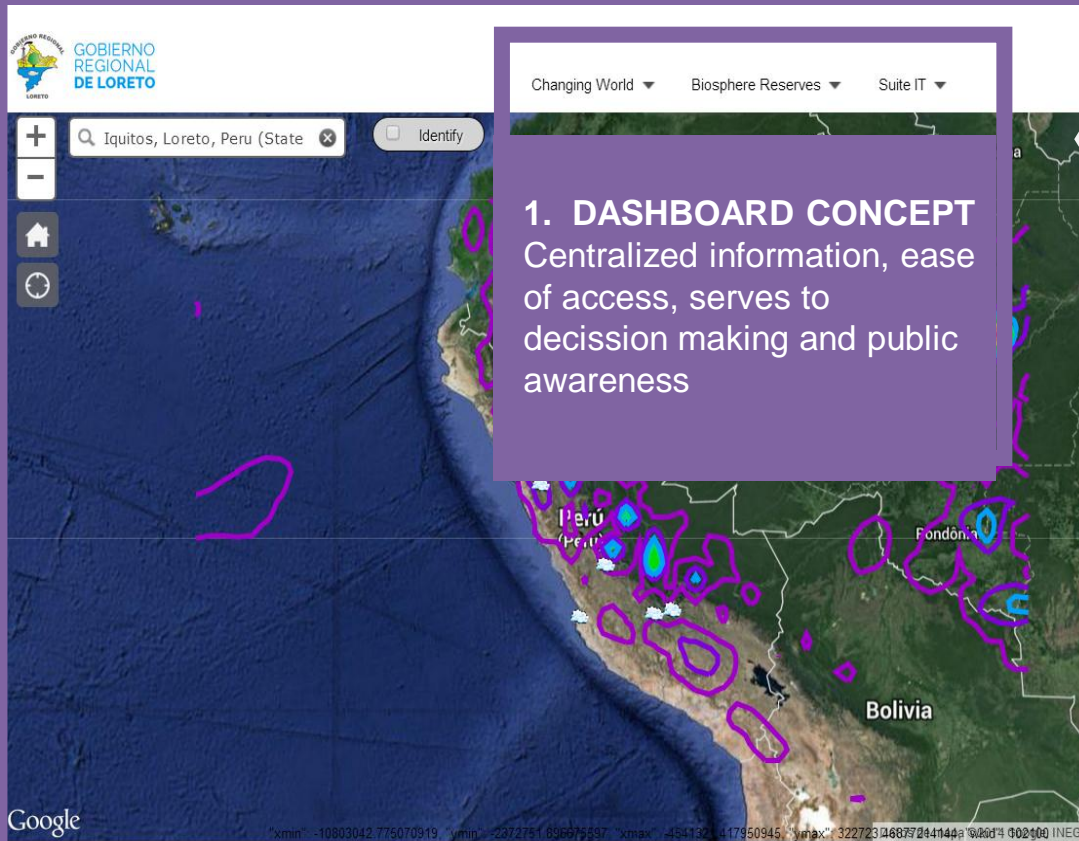
Added value through integration of multiple information sources.

Synergies





## CAPACIDAD PARA CENTRALIZAR LA INFORMACIÓN.

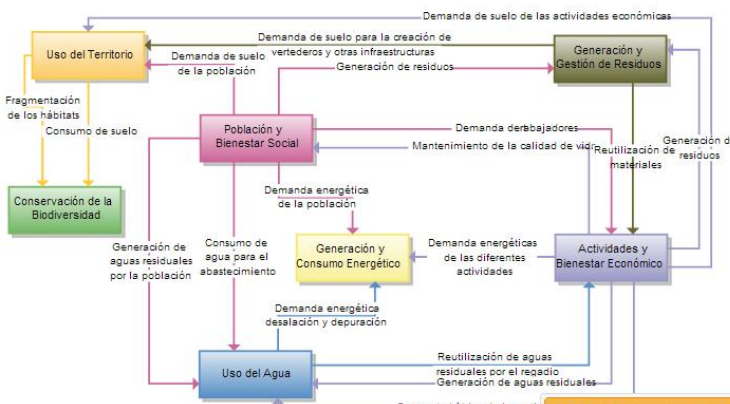


## 2. REAL TIME & FORECASTS data access.

# Indicators Analysis

88.2.223.20:10088/portal\_rb/elhierro/visuHierro.htm

Modelo Estratégico y Principales Factores para la Sostenibilidad en la Reserva de la Biosfera de El Hierro



**Gráfico 1** **Gráfico 2**

Densidad por municipio... Lin.

Año	El Pinar de El Hierro	Frontera	Valverde
2002	~60	~35	0
2004	~65	~45	0
2006	~70	~48	0
2008	~50	~22	~22
2010	~52	~20	~20

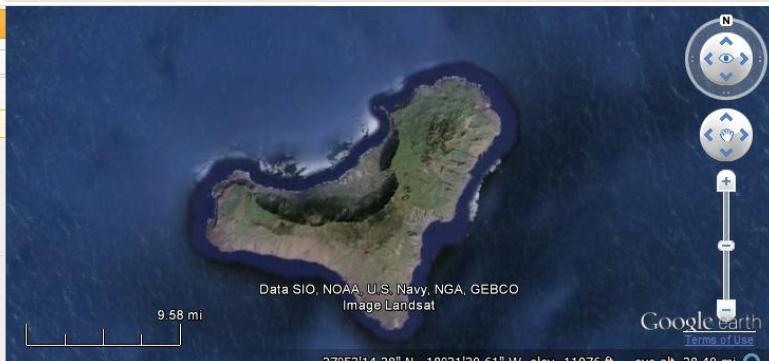
**Población y Bienestar Social**

1 seleccionados

- Tasa de crecimiento de la población
- Densidad de población por municipio**
- Estructura de edades de la población
- Tasa de ocupación turística
- Índice de ocupación de plazas hoteleras
- Población real

Ver más

- Población y Bienestar Social
- Conservación de la Biodiversidad
- Uso del Territorio
- Generación y gestión de residuos
- Actividades y Bienestar Económico
- Generación y consumo energético
- Uso del agua



Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
Image Landsat

9.58 mi

27°53'14.28" N 18°21'30.61" W elev -11976 ft eye alt 38.40 mi

# Indicators Analysis

The screenshot displays a web application interface for sustainability indicators analysis. The browser address bar shows the URL: [195.76.147.227:8081/Viewers/IElHiero/](http://195.76.147.227:8081/Viewers/IElHiero/). The application title is "INDICADORES PARA LA SOSTENIBILIDAD".

**Navigation Menu (Left):**

- USOS Y FUNCIONES DEL TERRITORIO
- CONSERVACIÓN- BIODIVERSIDAD Y PATRIMONIO
- POBLACIÓN Y BIENESTAR SOCIAL
- DESARROLLO Y BIENESTAR ECONÓMICO
- AGRICULTURA, GANADERÍA Y PESCA
- ENERGÍA Y EMISIONES GASES EFECTO INVERNADERO
- CICLO DEL AGUA
- RESIDUOS
- MOVILIDAD SOSTENIBLE Y TRANSPORTE
- TURISMO

**Indicator Selection (Bottom Left):**

- USOS Y FUNCIONES DEL TERRITORIO
- CONSERVACION - BIODIVERSIDAD Y PATRIMONIO - (1 seleccionado)
  - Directiva Hábitat
  - Número de Incendios
  - Extensión de las Plantas Invasoras
  - Especies Terrestres
  - Protección Cultural PIOH
  - Incendios superficie afectada
  - HotSpot jinama - Especies
  - Patrimonio Cultural
- POBLACIÓN Y BIENESTAR SOCIAL
- DESARROLLO Y BIENESTAR ECONÓMICO
- AGRICULTURA, GANADERÍA Y PESCA
- ENERGÍA Y EMISIONES GASES EFECTO INVERNADERO

**Bar Chart (Top Right):**

Gráficos Comparativa Indicadores: Directiva Hábitat Visor GIS

Orden: Directiva Hábitat (nº)

01/01/01

Color: Colores exclusivos

Selecccionar:

- Especies Anexo Directiva Ave...
- Especies Anexo I Directiva Aves
- Especies Anexo II con repre...
- Especies mencionadas en el A...
- Hábitats de Interés Comunitario...
- Hábitats de Interés Prioritario

**Map (Bottom Right):**

Territorio Desarrollo Sostenible Reserva de la Biosfera

Identify

Legend

Directiva Habitats-ZEC

Directiva Habitats (ZECs)

- Frontera
- Garóe
- La Caldereta
- Mar de Las Calmas
- Mencáfete
- Risco de Las Plavas

[http://195.76.147.227/UserSites/pilots/Videos/VIND1\\_coment1/VIND1\\_coment1.html](http://195.76.147.227/UserSites/pilots/Videos/VIND1_coment1/VIND1_coment1.html)



# Interra Vision RBD



## RBDigital. A solution for integral management of highly valuable natural spaces.

**RBDigital** is a suite of solutions to: grant friendly access to information required for management in protected environments (Biosphere reserves, natural parks,...). It offers a splendid visibility window for best practices and showing what it is being done in terms of policies and actions. Provides participation tools, linked to knowledge, facts and figures.

**RBDigital is endorsed by UNESCO** as a technological tool for the management of biosphere reserves and related sites (RAMSAR, GEOPARKS,...). which includes **learning tools**, **interactive information systems**, and a solid base of access to information supported by GIS viewers, allow its adaptation to the needs, objectives, and availability of each site.



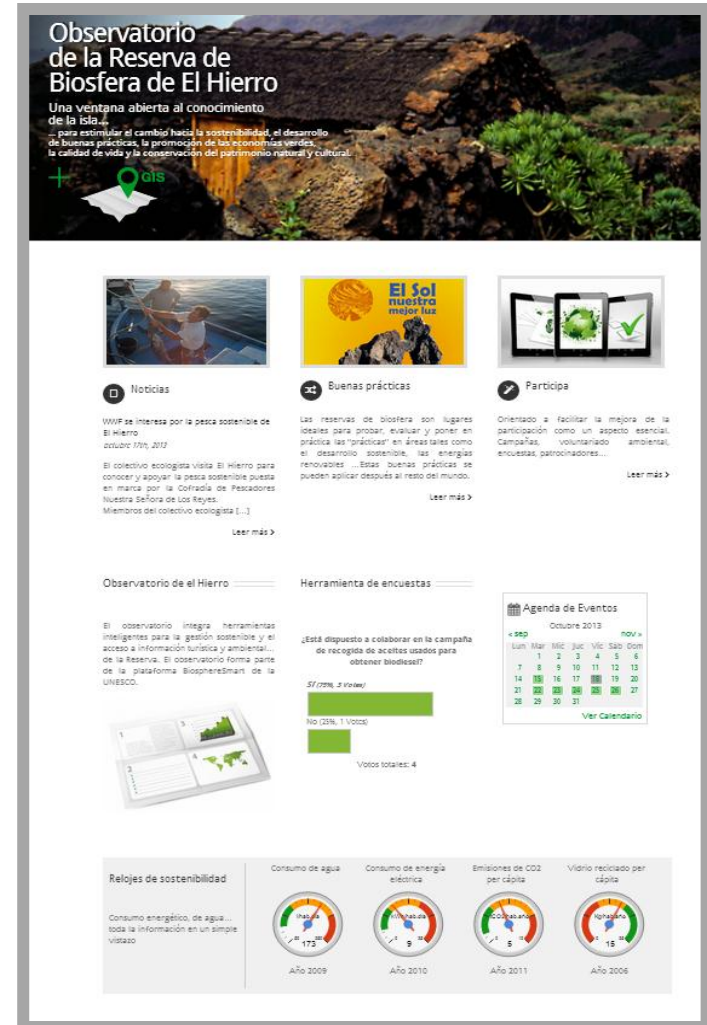
# RBDigital

A step forward from BiosphereSmart

**RBDigital** se a tool suite to help the integral management of a biosphere reserve in every aspect of their mandates: preservation, community development and support to research and education.

**RBDigital** is customized according the specific requirements of every site (islands, forests, arid zones,...). Flexible, Modular and Scalable

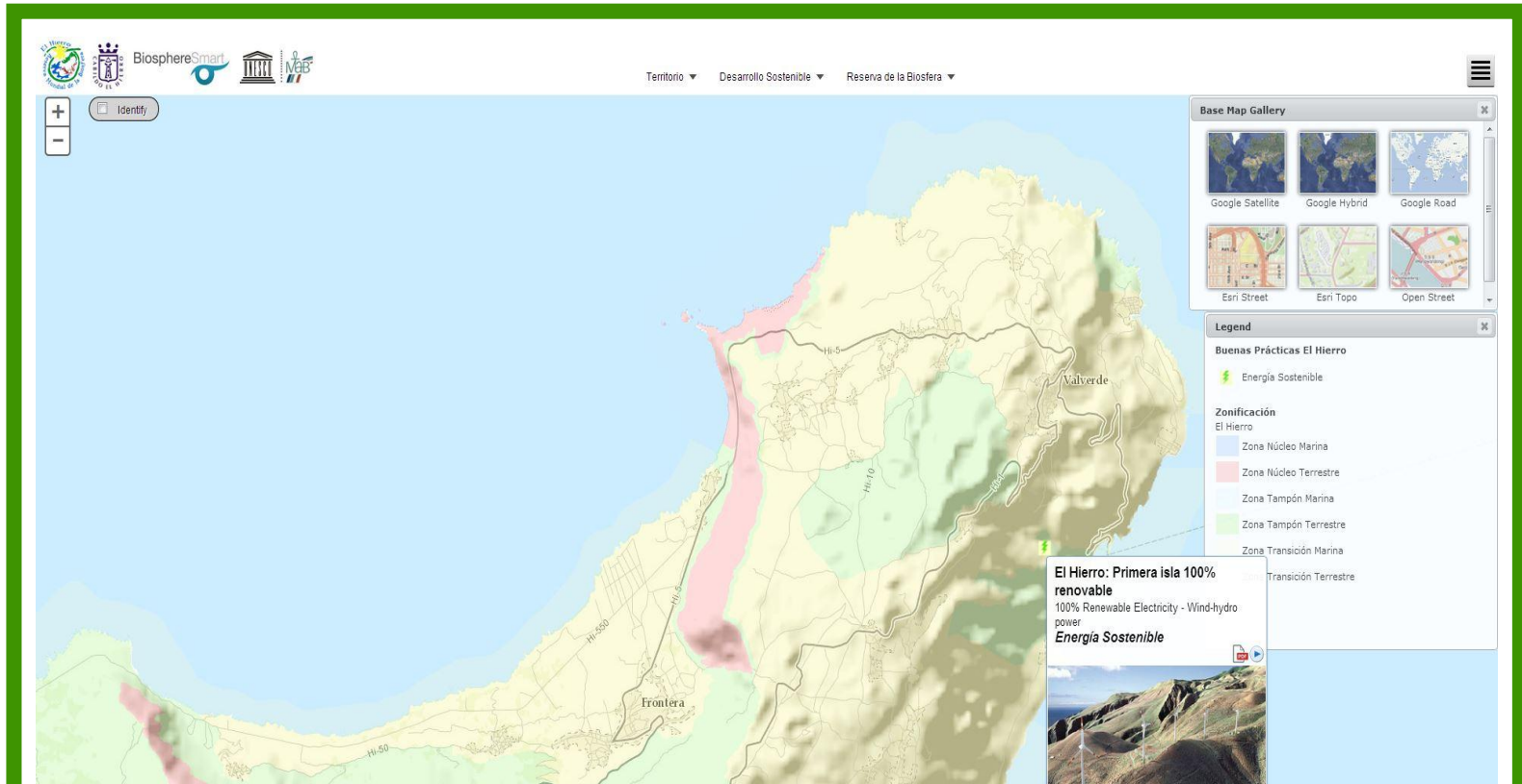
**RBDigital** can be adapted to any protected area adaptarse con facilidad a la gestión de otros **Espacios Naturales** como sitios **RAMSAR**, **Santuarios de fauna y flora**, **Áreas Naturales Únicas**, etc.





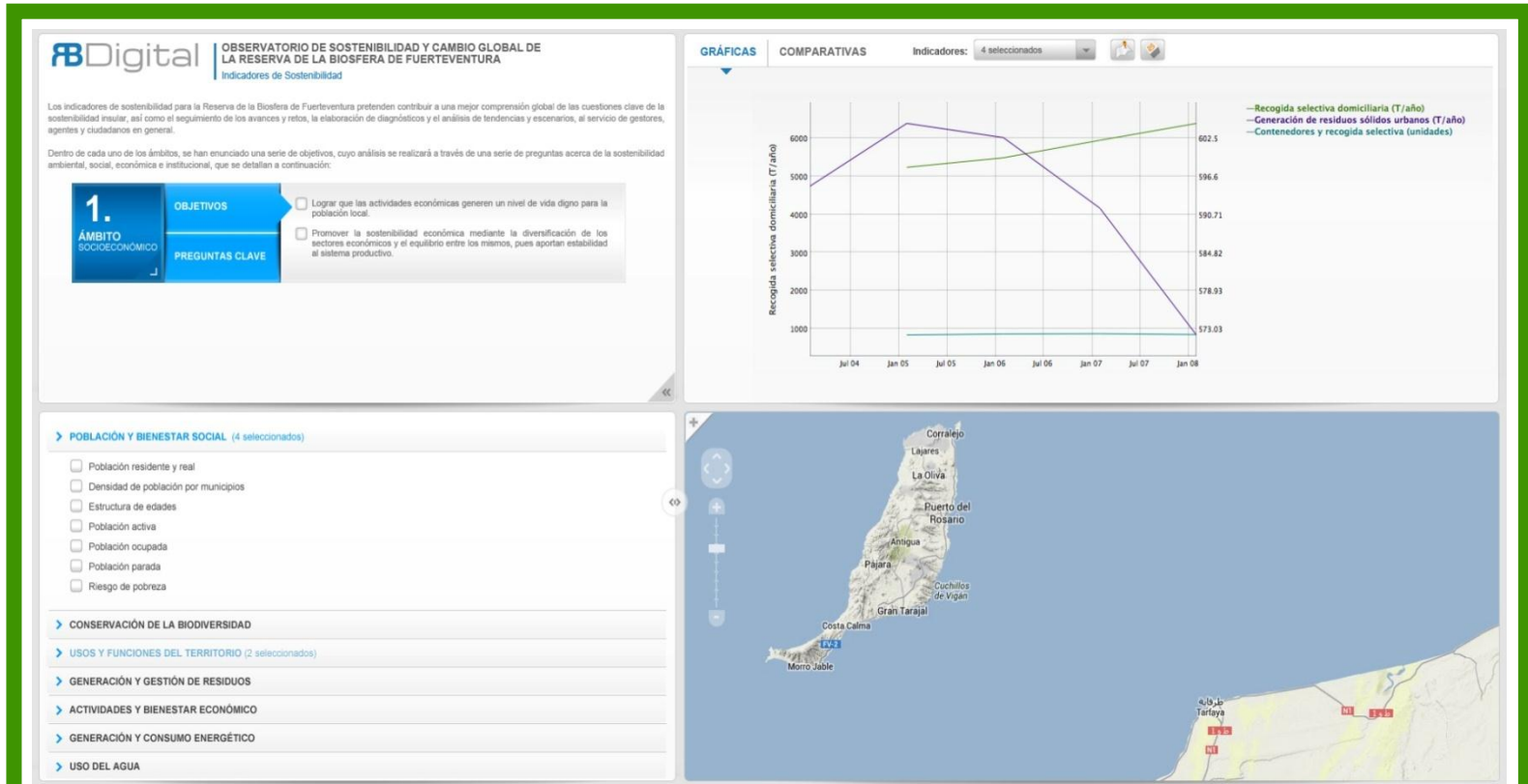


# RBDigital. GIS Viewer (+ Interactive GIS board).



El Módulo de la herramienta GIS cuenta con capas temáticas de sostenibilidad territorial y generales (zonificación, clima...) del espacio protegido o región. Permite realizar un seguimiento de los planes de acción de la región y representar la evolución temporal del desarrollo de infraestructuras o la evolución de hitos en planes mejoramiento, turismo, etc.

# RBDigital. Indicators Viewer.



in order to facilitate decision making and objective planning, Indicators Viewer are customized according to each reserve's defined objectives and indicators. It allows for identification, and analysis of indicators, and provides a linkage to an interactive GIS viewer, to cope with the spatial dimension of management



# Ecosmart. Concepto Dashboard.

EcoSmart Ilha Principe



**SOCIAL.**  
Integración con redes sociales para aumentar la llegada del mensaje.



**DINAMICA**  
Posibilidad de ocultar menús.

- |   |   |  |
|---|---|--|
| <b>Accommodation Smart</b>  | <b>Smart Tourism</b>  | <b>Be Smart</b>  |
| <ul style="list-style-type: none"> <li>+ We are sustainable</li> <li>+ Our commitment in figures</li> </ul> | <ul style="list-style-type: none"> <li>+ Sea Tourism</li> <li>+ Cultural Tourism</li> <li>+ Active Tourism</li> <li>+ Nature Tourism</li> </ul> | <ul style="list-style-type: none"> <li>+ Apps/downloads</li> <li>+ News events</li> <li>+ Links</li> <li>+ Smart Biophere Tourism</li> </ul> |

**SENCILLEZ**  
Acceso sencillo a los menús para facilitar la consulta rápida de información.

**CONCEPTO DASHBOARD.**  
Información (indicadores, proyectos...) accesible de un solo vistazo.

**Our vacations in Prince Island...**  
Favorite 1 year+ 5 months ago

**Solidarity projects**  
Tato Program: protection of sea turtles.  
collaborates +

**Levels of excellence (satisfaction)**

Comfort Index	Tourist Satisfaction Index	Tourism Service Quality Index	Local Satisfaction with Tourism
poor to excellent	poor to excellent	poor to excellent	poor to excellent

# Ecosmart. Dashboard.

EcoSmart Ilha Principe



in f t

**Be Smart Apps**

**Accommodation Smart**  
Our commitment in figures

	ACTUAL	OBJECTIVE
Energy	774 kw / hb	120 kw / hb
Water	774 L / hb	120 L / hb
Waste	774 Kg / hb	120 Kg / hb

**Accommodation Smart**

- + We are sustainable
- + Our commitment in figures

**Smart Tourism**

- + Sea Tourism
- + Cultural Tourism
- + Active Tourism
- + Nature Tourism

**Be Smart**

- + Apps/downloads
- + News events
- + Links
- + Smart Biophere Tourism

**Our vacations in Prince Island...**

Favorite 1 year+ 5 months ago

**Solidarity projects**

Tato Program: protection of sea turtles.

collaborates +

**Levels of excellence (satisfaction)**

Comfort Index	Tourist Satisfaction Index	Tourism Service Quality Index	Local Satisfaction with Tourism
60	80	90	70

# Ecosmart. Friendly yet useful approach to information.

The image shows a screenshot of the EcoSmart website for Ilha Principe. The main page features a map of the island with various icons representing different activities and landmarks. Below the map, there are social media icons for LinkedIn, Facebook, and Twitter. The page is divided into two main sections: "Accommodation Smart" and "Smart Tourism".

**Accommodation Smart**

- + We are sustainable
- + Our commitment in figures

**Smart Tourism**

- + Sea Tourism
- + Cultural Tourism
- + Active Tourism
- + Nature Tourism

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The detailed view of the Bom Bom Island Resort listing includes:

- BOMB BOM ISLAND RESORT** Bom Bom Island Resort
- CONTACT:**
  - >> Phone: 00239 225 11 14
  - >> Reservations Consultations: [reservations@bombomprincipe.com](mailto:reservations@bombomprincipe.com)
  - >> [www.bombomprincipe.com](http://www.bombomprincipe.com)
- Sustainability Index**

Responsible ratings .....	8,6	Authenticity .....	9,7
Energy efficiency .....	8,6	Customer satisfaction .....	9,6
- tripadvisor** **Booking.com**
- ACTIVITIES:**
- CERTIFICATES:**

**Toda la información y oferta del destino visible de forma sencilla**



# Ecosmart. Sustainability through facts and figures.

EcoSmart Ilha Principe

biosfera ilha do príncipe BiosphereSmart

Be Smart Apps

Accommodation Smart Our commitment in figures

Todas las acciones desarrolladas en materia de sostenibilidad fácilmente seleccionables

La sensorización en destinos y establecimientos permite mostrar datos a tiempo real y contrastables.

in f

**Accommodation Smart**

- + We are sustainable
- + Our commitment in figures

**Smart Tourism**

- + Sea Tourism
- + Cultural Tourism
- + Active Tourism
- + Nature Tourism

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# Ecosmart. Dashboard Concept.

Energy Savings  
**MEASURES IMPLEMENTED**

**Using renewable energy**

**Use energy saving light bulbs**

**Water-saving elements.**

**Efficient appliances Type A**

**VISUAL**  
Todas las medidas de sostenibilidad implantadas en el destino

**COMMITTED TO THE DEVELOPMENT OF OUR ENVIRONMENT.**

**Economy.**  
We buy local produce and fair trade as cocoa and coffee.

**Landscape..**  

- Impact on the landscape "0".
- Hotel not visible from the sea and sky.

**Plastic Free.**  
Hotel to use "0" plastic.

**Committed.**  
We support initiatives for health development, ecological ... of the island.

Saving water and electricity 2009-2011

Year	Water (Liters)	Electricity (kW)
2009	~150,000	~550,000
2010	~100,000	~450,000
2011	~50,000	~350,000

**DIDÁCTICA**  
¿En qué se han traducido? Toneladas de CO2, agua... ahorradas.

- Accommodation Smart**
  - + We are sustainable
  - + Our commitment in figures
- Smart Tourism**
  - + Sea Tourism
  - + Cultural Tourism
  - + Active Tourism
  - + Nature Tourism
- Be Smart**
  - + Apps/downloads
  - + News events
  - + Links
  - + Smart Biophere Tourism

# Ecosmart. Geolocation of interest points.

EcoSmart Ilha Principe

biosfera Ilha do príncipe BiosphereSmart



Playa Banana  
Playa Grande  
Playa Salgada

in f t

**Accommodation Smart**  
+ We are sustainable  
+ Our commitment in figures

**Smart Tourism**  
+ Sea Tourism  
+ Cultural Tourism  
+ Active Tourism  
+ Nature Tourism

**Be Smart**  
+ Apps/downloads  
+ News events  
+ Links  
+ Smart Biophere Tourism

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## Playa Grande



» Length: 1600 meters, sand composition, occupation: Medium, bathroom: Calm waters, type: Dorada. Difficult access to them.

**WEATHER:**  WEDNESDAY: 16:00 H PARTLY CLOUDY | MOISTURE: 77% WIND: 32KM/H

**ACTIVITIES:**  **APPS:** 

**LINKS:**  
» [www.enlace.es](http://www.enlace.es)  
» [www.enlace.es](http://www.enlace.es)  
» [www.enlace.es](http://www.enlace.es)

Un detallado resumen contiene toda la información de interés para el turista sobre el punto turístico elegido.



# Ecosmart.

EcoSmart Ilha Principe



Diving x cerrar



» Blue Waters » high visibility, with insignificant currents, temperature and constant excellent sheltered areas, allow shallow dive safely.

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**USEFUL DATA:**

**Temperature** 27°/29°

**Equipment**

3mm

3mm



PICO DE PRINCIPE (948 M)

**Accommodation Smart**


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**Smart Tourism**

- + Sea Tourism
- + Cultural Tourism
- + Active Tourism
- + Nature Tourism

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Ilha Principe Biosphere Reserve x cerrar



» The Reserve includes all the emerged part of the island of Principe and islets Bom Bom, Bone do Jóquei, Mosteiros, Santana and Pedra da Galei even Tinhosas islands.

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**LOCAL SPECIES:**




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**WEB:**

[www.principebiosfera.com](http://www.principebiosfera.com)

**INFO. A TIEMPO REAL.**  
 Información a tiempo real útil para la práctica deportiva: temperatura, mareas...

**Información sobre flora y fauna, comunidades tribales...**

# Ecosmart. Mobilty & Innovation.

EcoSmart Ilha Principe

biosfera  
ilha do principe

BiosphereSmart

MAB

**APPS MÓVILES.**  
Personalizadas a distintas actividades:  
senderismo, buceo, avistamiento de cetáceos...



**INNOVACIÓN.**  
Novedosas tecnologías como el geofencing, que permiten establecer vallas virtuales para delimitar una zona para el desarrollo de una actividad en una zona protegida.  
Al mismo tiempo velan por la seguridad del turista advirtiéndole del peligro



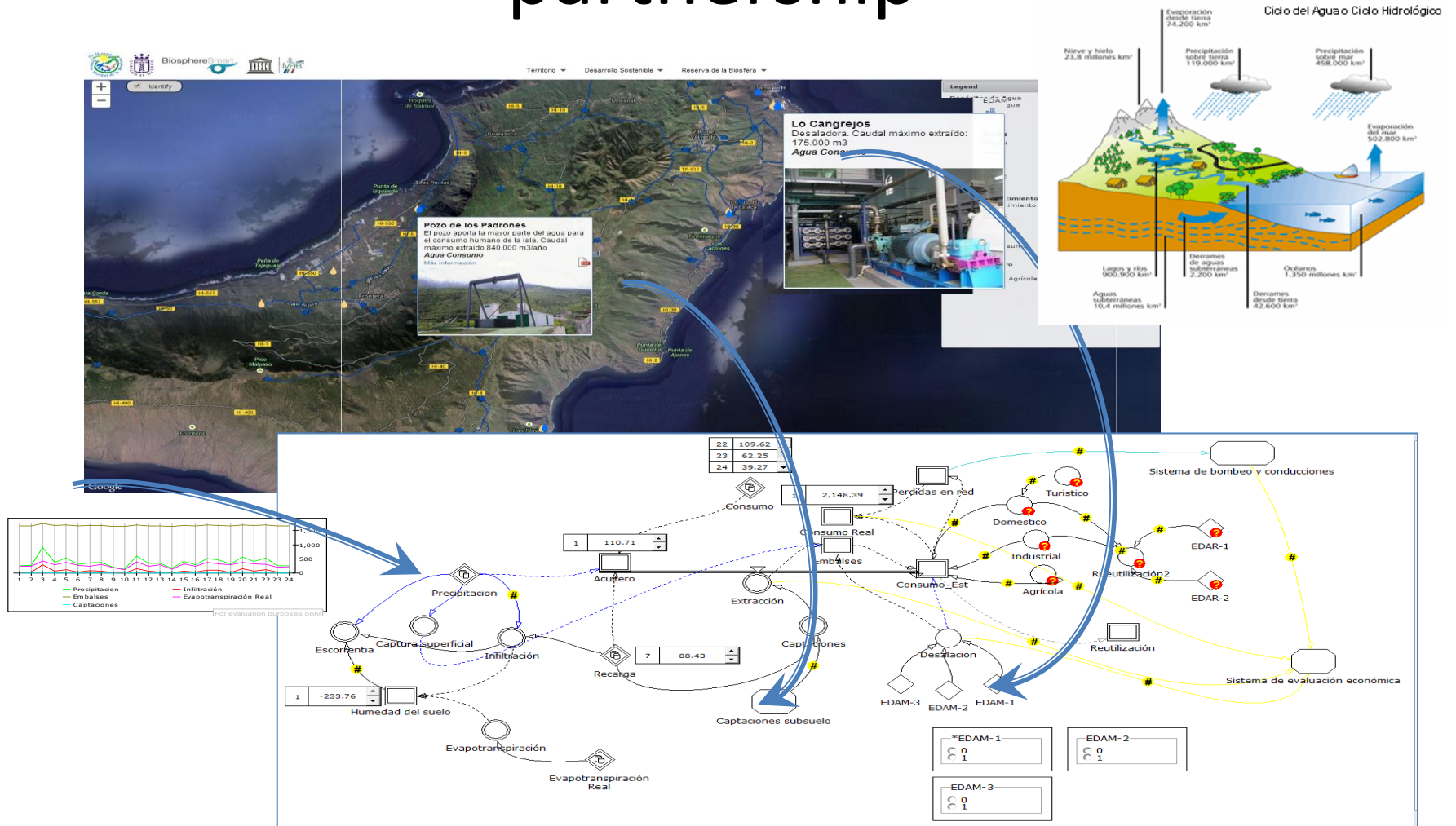
**GEOFENCING**

Available on the App Store

GET IT ON Google Play

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# Putting tools to work: consultancy & partnership





# Wacth our company profile at

INGENIERIA Y RECURSOS S.L.U.

- <http://195.76.147.227/interra.es/portfolio/>
- <http://issuu.com/interraingenieria>
- <http://issuu.com/interraingenieria/docs/brochurebs-opt>

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+ Interra



+ Biosphe



# RIMAP

Plataforma colaborativa para la gestión integral de los riesgos naturales, es una herramienta de apoyo y decisión para todos los actores que intervienen: ciudadanía, Planificación de infraestructuras, Políticos y administradores, Comunidades educativa y Servicios de emergencia

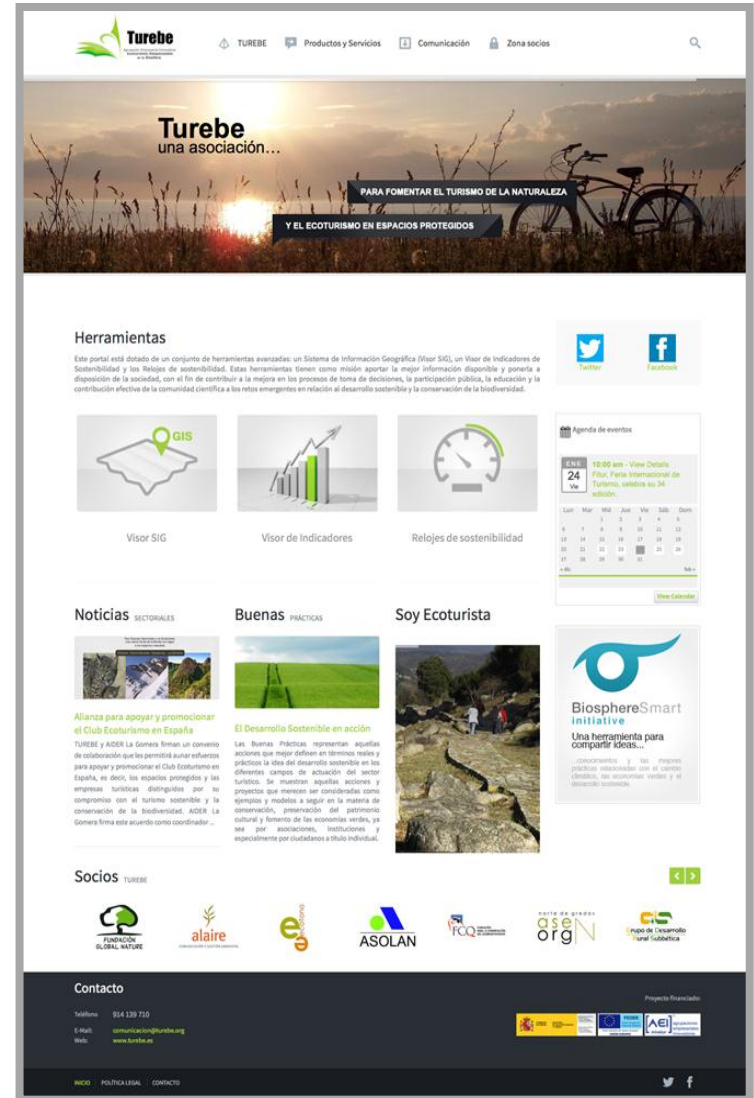


# ECOTOURISM SMART DESTINATIONS.

Sistema multiplataforma inteligente de apoyo a la toma de decisiones para la cooperación y la mejora de la competitividad, la sostenibilidad y la calidad de la experiencia turística .

Aplicación tecnológica útil para los destinos de ecoturismo sostenibles certificados a nivel internacional que integre las TIC en la gestión de destinos inteligentes.

**Ecotourism** integra SIG, sistemas de indicadores de turismo sostenible ligados a los planes de acción de los destinos



The screenshot displays the Turebe website interface. At the top, the Turebe logo and navigation menu (TUREBE, Productos y Servicios, Comunicación, Zona socios) are visible. The main banner features a sunset landscape with a bicycle and the text: "Turebe una asociación... PARA FOMENTAR EL TURISMO DE LA NATURALEZA Y EL ECOTURISMO EN ESPACIOS PROTEGIDOS".

**Herramientas**

Este portal está dotado de un conjunto de herramientas avanzadas: un Sistema de Información Geográfica (Visor SIG), un Visor de Indicadores de Sostenibilidad y los Relojes de sostenibilidad. Estas herramientas tienen como misión aportar la mejor información disponible y ponerla a disposición de la sociedad, con el fin de contribuir a la mejora en los procesos de toma de decisiones, la participación pública, la educación y la contribución efectiva de la comunidad científica a los retos emergentes en relación al desarrollo sostenible y la conservación de la biodiversidad.

- Visor SIG
- Visor de indicadores
- Relojes de sostenibilidad

**Agenda de eventos**

24 de Mayo 18:00 am - View Details  
Foro Internacional de Turismo, sábado 24 edición

**Noticias SECTORIALES**

**Alianza para apoyar y promocionar el Club Ecoturismo en España**  
TUREBE y AIDER La Gomera firman un convenio de colaboración que les permitirá aunar esfuerzos para apoyar y promocionar el Club Ecoturismo en España, en dicho, los espacios protegidos y las empresas turísticas distinguidas por su compromiso con el turismo sostenible y la conservación de la biodiversidad. AIDER La Gomera firma este acuerdo como coordinador...

**Buenas PRÁCTICAS**

**El Desarrollo Sostenible en acción**  
Las Buenas Prácticas representan aquellas acciones que mejor definen en términos reales y prácticas la idea del desarrollo sostenible en las diferentes campos de actuación del sector turístico. Se muestran aquellas acciones y proyectos que merecen ser consideradas como ejemplos y modelos a seguir en la materia de conservación, promoción del patrimonio cultural y fomento de las economías verdes, ya sea por asociaciones, instituciones y especialmente por ciudadanos e título individual.


**Soy Ecoturista**


**BiosphereSmart initiative**  
Una herramienta para compartir ideas...  
Construyamos, entre los mejores, prácticas innovadoras con el cambio climático, los ecosistemas marinos y el desarrollo sostenible.

**Socios TUREBE**

EMERSON GLOBAL NATURE, alaire, ASOLAN, FCC, CITE DE BIENOS org, Pápa de Desarrollo Local Gobierno

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Proyecto Financiado: 

WCO POLITICA LOCAL CONTACTO 



# RENFORUS

Renforus es el acrónimo en inglés de la expresión “un futuro de energías renovables para los sitios de la Unesco”. Espacios donde viven cientos de millones de personas y que abarcan una superficie muy importante en el planeta, posiblemente la más valiosa en términos de diversidad cultural y natural.

Renforus facilita la toma de decisiones en la implantación de energías limpias en los sitios UNESCO. Al mismo tiempo supone un espacio colaborativo y difusión de buenas prácticas en este campo. Renforus se compone de:

- Portal Web.
- Visor GIS

