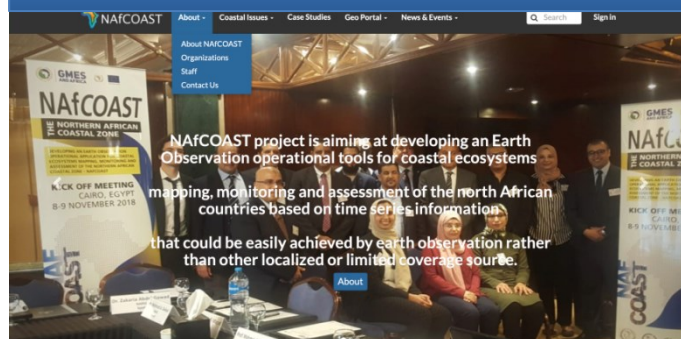


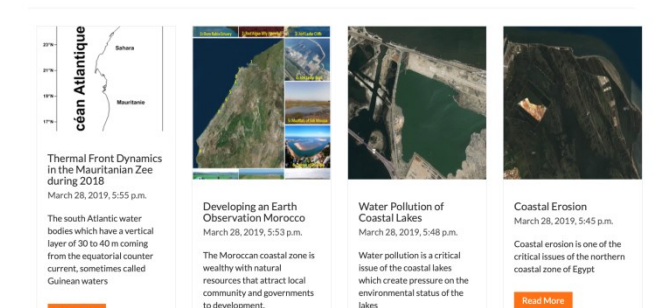
NAfCOAST website



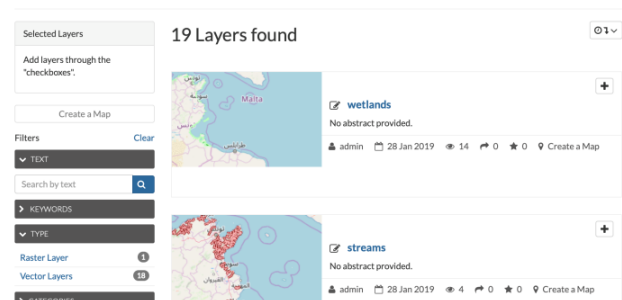
NAfCOAST has launched a new portal and website (www.nafcoast.org) that aims at developing an Earth Observation operational tools for coastal ecosystem. The portal is a specially designed website that brings information from NAfCOAST project activities.



Case Studies



Explore Layers



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PROJECT NEWS

- Stakeholders Meeting will be held in Tunisia from 24-26 April 2019
- The second technical training "Introduction to QGIS" will be held in Cairo on June 2019

First Training



A technical training on Optical Remote Sensing and Digital Image Processing was conducted from 24 – 28 February, 2019 at the premises of NARSS. The training targeted scientists with an interest in working with satellite observation data from different backgrounds and stakeholder's sectors : universities, research, NGO and private sector). The training aimed to provide knowledge and hands on the remote sensing technology and benefit from its applications in various fields. The training includes both theoretical and practical sessions on the functions of Remote Sensing and Digital Image Processing.

Satellite images such as Sentinel 2A and LandSat 8 for different years were used to study different changes and phenomena for each region.

The training was designed to meet the requirements of NAFCOAST project partners and was attended by participants from Tunisia, Morocco, Mauritania and Egypt. Practical training was conducted on the Erdas Imagine program. The trainee practiced on development of remote sensing technology and advantages and Different platforms of remote sensing.

The training also included the following

- EM spectrum, solar reflection and thermal emission remote sensing
- Interaction of EM radiation with atmosphere including atmospheric scattering

- Absorption and emission, including practical training on the history of Remote Sensing.
- Interaction mechanisms of electromagnetic radiation with ground, spectral response curves
- Principal of digital Image Processing of Remotely Sensed data
- Principal Components Analysis (PCA)
- A method of data compression that allows redundant data to be compressed into fewer bands.
- Fundamentals Color Models (RGB & CYMK models).
- A color space/color system specifies a coordinate system.
- The most commonly used models are the RGB (red, green, blue), CMY (cyan, magenta, yellow), CMYK (cyan, magenta, yellow, black) and IHS.
- Image Enhancement Techniques
- Image enhancement and Enhancement techniques and Image Filtering.



EVENTS

The GMES & AFRICA Monitoring & Evaluation TECHNICAL WORK GROUP



The GMES & AFRICA Monitoring & Evaluation TECHNICAL WORK GROUP was held in Tunis, Tunisia from 19-22 February 2019. Eng. Mohamed Hossam was representing NAFCOAST in this M&E meeting

Development of a National Strategy for Integrated Coastal Zone Management



Tunisia has started a study on the Development of a Strategy for a more efficient coastal management allowing a harmonization of sectoral strategies on the coastline for a coherent, sustainable and participative management, with a focus on integrating the issues inherent to the effects of climate change.

Geo-Referenced Infrastructure and Demographic Data for Development (GRID3) initiative workshop



NAFCOAST project was presented in the Geo-Referenced Infrastructure and Demographic Data for Development (GRID3) initiative workshop under the theme « Geo-Referenced Infrastructure and Demographic Data for Development. (Morocco, 19 – 22 March 2019)

scientific seminar under the theme «DATA SCIENCES and BIG DATA EARTH



NAFCOAST project was presented in a scientific seminar under the theme «DATA SCIENCES and BIG DATA EARTH for sustainable management of the natural environment». (Morocco, 14 February 2019)



Nature-based solutions to increase the resilience of Tunisian coastal ecosystems

By: Eng: Sonia Kammoun

Nature-based Solutions (NbS) aims at the adaption to climate change, enhance the resilience of coastal and marine natural ecosystems and reduce the risk of natural disasters. The Solutions identified value the services provided by ecosystems preserved, restored or managed sustainably. Healthy ecosystems help to reduce exposure to natural hazards and the impacts of climate change. It aims also to define and deploy interventions with soft and innovative Nature-based techniques Solutions and respectful of the environment of the Tunisian vulnerable coastal zones, on the basis of scientific, hydrodynamic, ecological and geomorphological parameters and in order to improve and increase the resilience of coastal ecosystems to the effects of human pressure and climate change.

The overall objectives are strengthen reflection on environmental aspects and prepare for announced changes in coastal ecosystems, particularly in relation to climate change; Increasing the resilience of coastal areas to the impacts of human pressure and climate change, including sea-level rise and extreme events, and this by study and proposal of innovative soft measures to protect coastal ecosystems services; Highlight the benefits of the natural defense of coastal ecosystems, including dunes by demonstrating the opportunity it offers for sustainable economic development in coastal communities; Preserve the important strategic value of the range and ensure that it continues to function as an effective buffer to natural variability; Strengthen national support capacities to accelerate the diffusion of technologies and innovative practices for adaptation of the most vulnerable coastal zones; and Identify innovative pilot demonstration projects in the field of coastal protection.

Innovative Nature-based Solution: Ganivelles

The Priority intervention zone is the east coast of Jerba Island. **Ganivelles** are barriers formed by the assembly of slats of wood slotted poles of "châtaignier".

This palisade is enough to cause a sharp decrease in the speed of the wind that crosses it and consequently the fall of transported materials such as sand. This power gives it a notorious utility in the actions of reconstitution or protection of the coastal dunes; their barrier function allowing at the same time a management of the human displacements on the sites.

The implantation of the ganivelles will take place according to a precise grid, composed of 3 rows spaced 5 m parallel to the coast line at the limit between the top of beach and the vegetated zone. Rows perpendicular to the coastline will be interspersed every 20m. Every 5m, a wooden post will be stuck in the sand at a depth of 2m to hold the rows of ganivelles. The installation of the ganivelles will be done at the upper limit of the reloading. In width, the right of way will be 10m.

Objective of the Implementation of Ganivelles

- Reconstitution and stabilization of the coastal dunes;
- It is a soft technique to fight against marine erosion and prevention against coastal risks;
- Maintain and improve dune services and beaches;
- Strengthen resilience and develop an effective adaptation mode;
- Rehabilitation of the dunes and the regeneration of the specific flora and therefore the restoration of natural habitats;
- The fight against the phenomenon of silting;
- Channeling flows by creating pedestrian and vehicular passages.



Beach enlivened by its dune and vegetation, including palm trees (Djerba island)



Implantation of ganivelles: Reconstruction dunes with sand reloading.