



CRASTE-LF
affiliated to YONU

United Nations/Russian Federation Workshop on Human Capacity-Building in Space Science and
Technology for Sustainable Social and Economic Development : Samara 29/10 – 2/ 11/ 2017



CRASTE-LF

African Regional Centre for Space Science
and Technology Education

in French Language

Anas EMRAN

Study and analysis the current situation of EO in the African
French- Speaking Countries in benefit of the training program of
CRASTE-LF



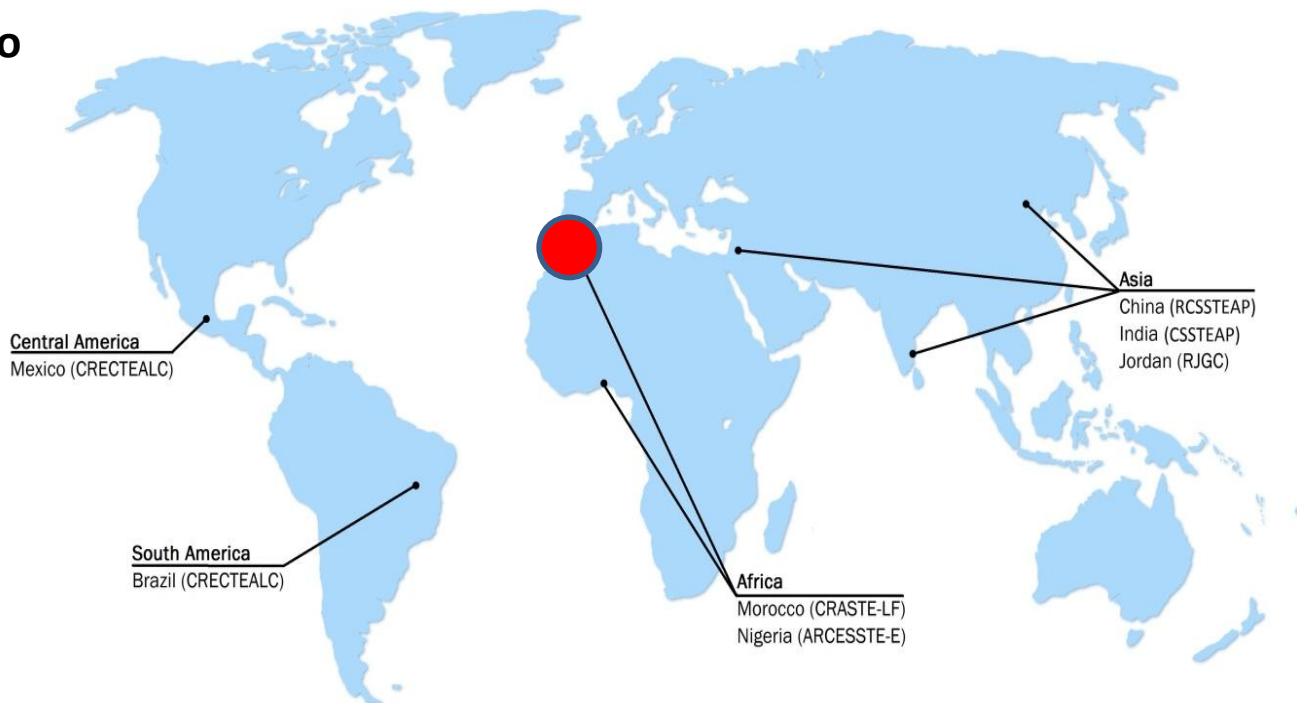
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Regional Centres for Space Science and Technology Education
(affiliated to the United Nations)

The CRASTE-LF was established in Morocco on 23 October 1998



under the initiative of the UNOOSA /UN General Assembly Resolution

- 45/72 of 11 November 1990

- 50/27 of 6 December 1995.



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The CRASTE-LF is based Morocco at the Mohammadia School of Engineers of the Mohammed V University of Rabat.



13 Member States

Algeria, Cameroon, Cape Verde, Central African Republic, DRC, Ivory Coast, Gabon, Morocco, Mauritania, Niger, Senegal, Togo and Tunisia





Objectives of the Centre

- To **increase knowledge** in Space Sciences and Technologies by organizing Postgraduate and/or Short courses, Seminars, workshops, conferences at the Regional level.
- To improve the technical **competences** of the **experts, teachers, decision-makers** and to hold them informed about technical progress .
- To **assist** the countries of the region on the development of endogens capacities in space tools.
- To **Strengthen** the Local and Regional Capacities.
- To promote **Cooperation** between the **Developed Countries** and **Members** as well as among **these States**.
- To develop **expertise** in Space Sciences and Technology.

Capacity Building



Capacity Building

organized

✓ **24 Postgraduate training courses**

✓ **50 activities in space technologies** (Short courses, Seminars, Workshops and Conferences).


Thematic :

Climate change
water resources
Agriculture
Health
....


Biodiversity
Drought
Disasters
GNSS
....





Postgraduate Training courses

 Remote Sensing & GIS – **14 sessions / 237 trainees**

 Satellite Meteorology & Global Climate - **5 sessions / 52 trainees**

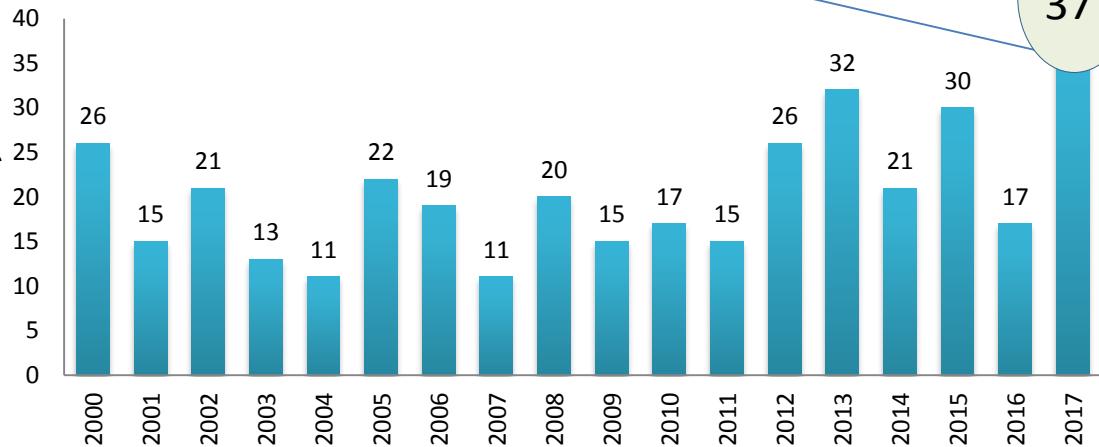
 Satellite Communications – **3 sessions / 38 trainees**

 Space Science and Atmospheric

 GNSS (Since 2012) – **2 sessions / 41 Trainees**

 Space Law

Since 2000
24 sessions - 368 trainees
22 Countries

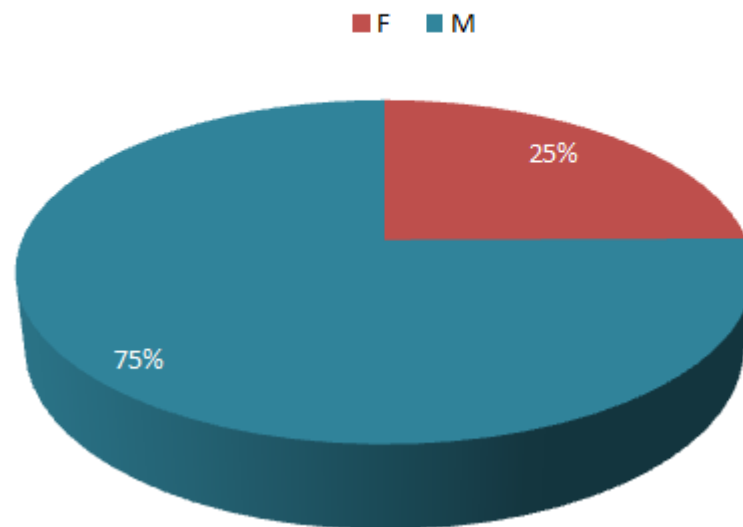




Étiquettes de lignes **Nombre de stagiaires par Pays**

Algérie	32
Bénin	2
Burkina Faso	3
Burundi	2
Cameroun	34
Cap Vert	2
Centrafrique	16
Congo (Brazzaville)	2
Côte d'Ivoire	9
Gabon	7
Madagascar	1
Mali	1
Maroc	140
Mauritanie	31
Niger	25
RD. Congo	11
Sénégal	25
Swaziland	1
Syrie	1
Tchad	1
Togo	9
Tunisie	14
Total général	368

% Gender





Postgraduate Training courses /Master

Since 2012, CRASTE-LF has agreed its post-graduate training in partnership with the Mohammed V University of Rabat and the Agronomic and Veterinary Institute Hassan II

Each Training Session takes place in 2 phases / in four (04) semesters



Phase I : 3 semesters , in CRASTE-LF, theoretical and practical courses, land study and pilot project.



Phase II: 1 semester , achieve the Research Project in their institution.



End of phase II : Defense of Memoire in Centre (Jury Members are Professors and Experts) .



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in the field







Short courses, Seminars, Workshops and Conferences – 51 activities

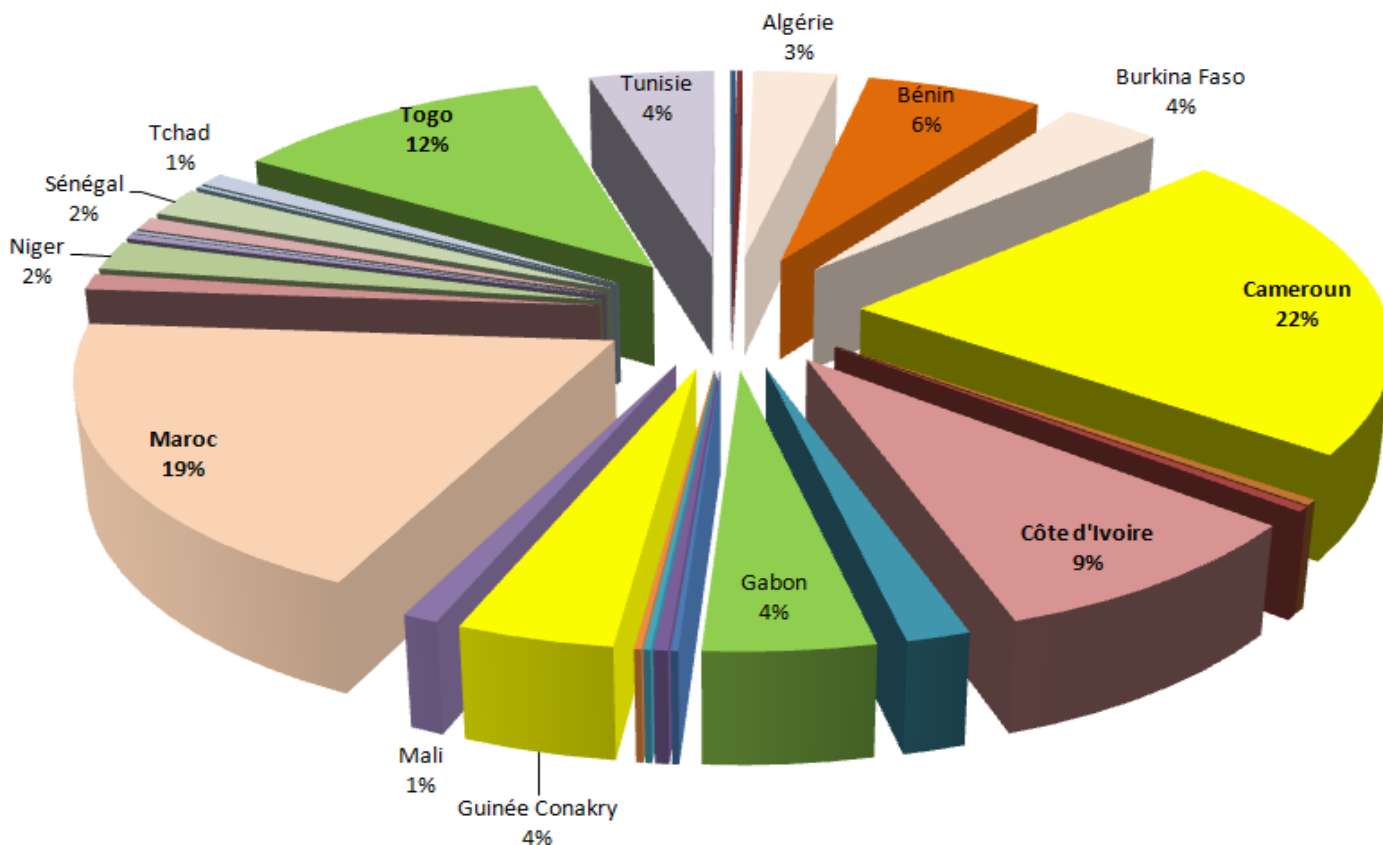
**Between
2010 -2016**

-34 activities

-1756 participants

- 47 countries

Short Courses





Short courses, Seminars, Workshops and Conferences

**Between
2010 -2016**

-34 activities

-1756 participants

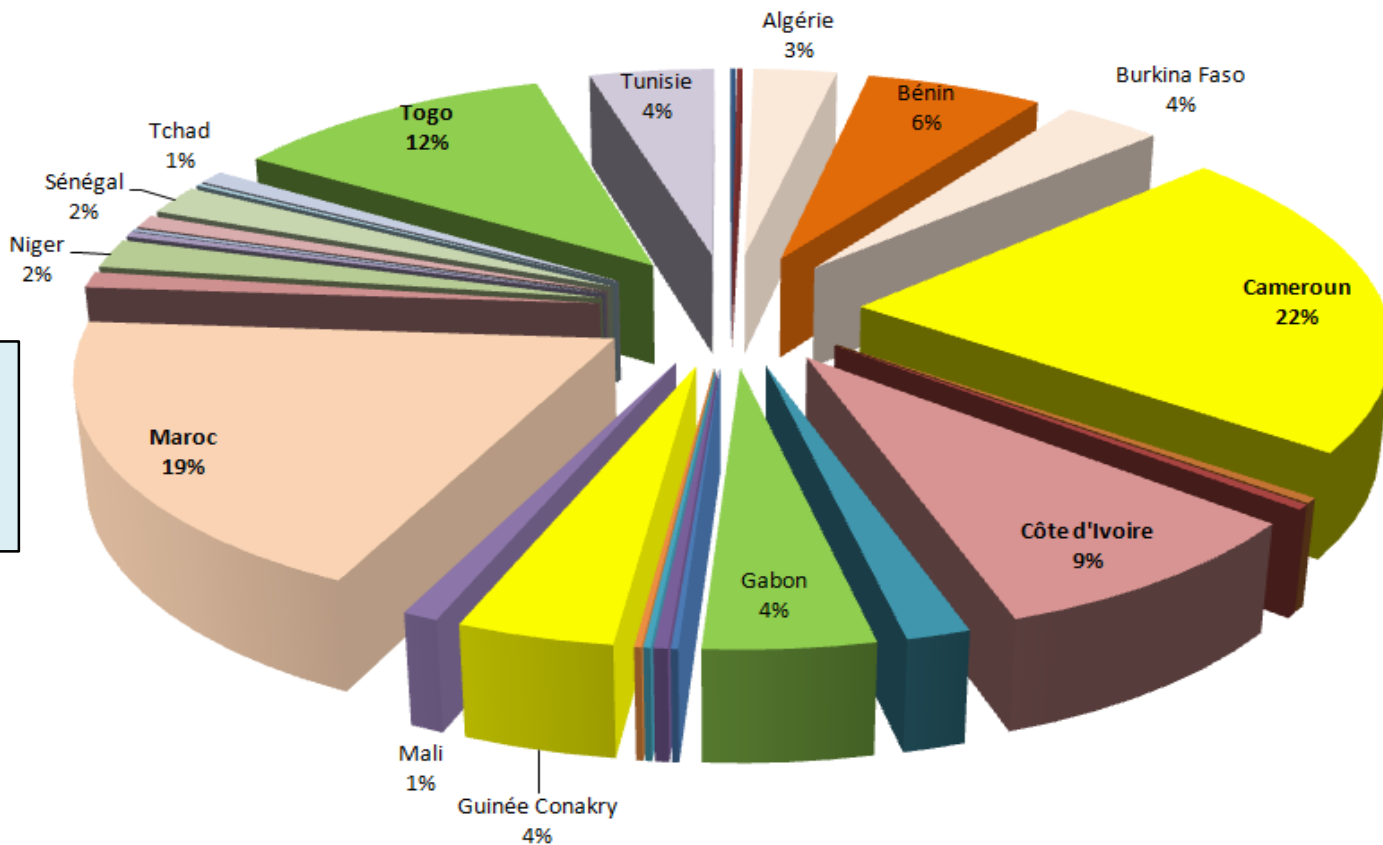
- 47 countries

16 short Courses

537 participants

28 countries

Short Courses





Short courses, Seminars, Workshops and Conferences

**Between
2010 -2016**

-**34** activities

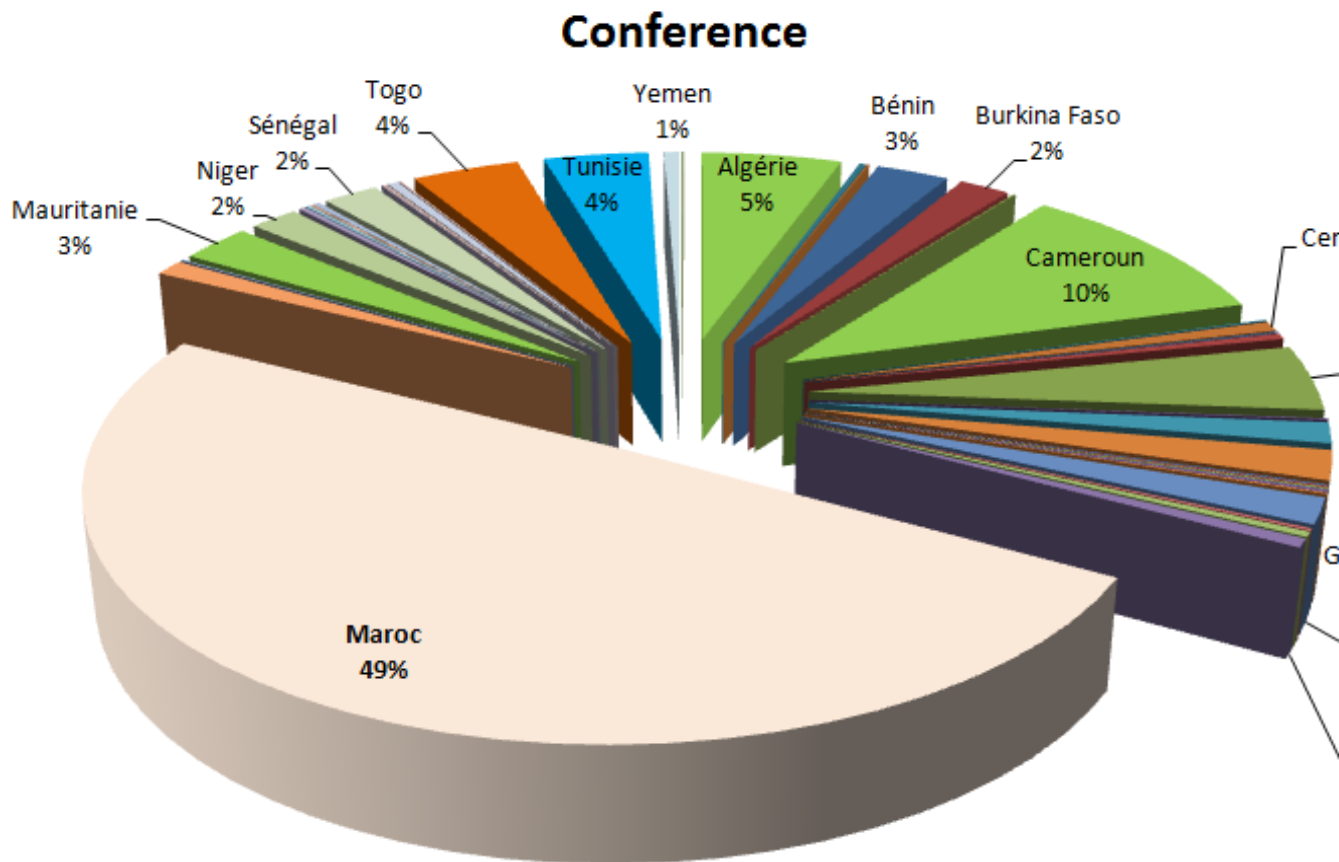
-**1756** participants

- **47** countries

18 Conferences

1219 participants

42 countries





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Short courses, Seminars, Workshops and Conferences

1 GNSS School : January 16 to 21, 2017 – Rabat Morocco

22 participants 5 countries : Central Africa, Niger, Cameroon, Morocco, Tunisia



2017 – 6 activities



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Short courses, Seminars, Workshops and Conferences

2. Regional Workshop : Multi-scale remote sensing for sustainable development:
from satellite to drone **July 3 to 6, 2017 – Libreville Gabon**

40 participants 6 countries : Cameroon, Gabon, Ivory Coast, Morocco, Mali, Togo



Organisé par l'Organisation Islamique pour l'Éducation, les Sciences et la Culture (ISESCO)
En coopération avec le Centre Régional Africain des Sciences et Technologies de l'Espace en Langue Française (CRASTE-LF)
Avec la collaboration de l'Agence Gabonaise d'Études et d'Observations Spatiales (AGEOS)
Et le Ministère de l'Enseignement Supérieur, de la Recherche Scientifique et de la Formation des Cadres (MESRSEC) du Gabon





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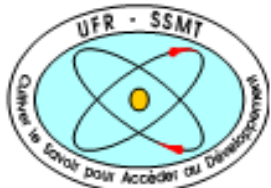
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Short courses, Seminars, Workshops and Conferences

3. Space Wheeler School ISWI : October 16 to 28, 2017 – Abidjan Ivory Coast

49 participants 12 countries : Algeria, Burkina Faso, Cameroon, Democratic Congo, Congo, Ivory Coast, France, Guinea Conakry, Morocco, Rwanda, Senegal, Tunisia





Short courses, Seminars, Workshops and Conferences

5. Regional Workshop : Web mapping, space infrastructure, data sharing on water resources and agriculture in Africa **October 25 to 27, 2017 – Abidjan Ivory Coast**
30-77 participants 5 countries : Gabon, Ivory Coast, Morocco, Benin, Nigeria, Cameroon



2017 activities



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Short courses, Seminars, Workshops and Conferences

4. Thematic School : Modeling Geospatial Technologies for Water Resources in Africa
October 19 to 21, 2017 – Meknes -Morocco



L'association SAWIS, l'Université Moulay Ismaïl, le CRASTE-LF et PT4 -CUI-VLIRUOS, organisent:

1^{ère} École thématique sur les technologies géospatiales pour les ressources en eau

Sous le thème: Modeling and Geospatial Technologies for Water Resources

"MTGS for Water In Africa"

Le 19-21 Octobre 2017 , Université Moulay Ismaïl

2017 activities





Short courses, Seminars, Workshops and Conferences

6. International Conference: December 12 to 17, 2017 – Bangui Central African Republic

With the participation/ support of



Centre Régional Africain des Sciences
et Technologies de l'Espace en langue Francais
Affilié à L'ONU



UNIVERSITY OF
BANGUI



Organize an



**International
Conference**

on

**Water resources Quality and
Uses in Central and Eastern
Africa: The Impacts over
Ecosystems and Health**

Palais de la CEMAC, Avenue des Martyrs

12-17 December 2017, Bangui, Central African
Republic



Useful Address: hy@unicef.org / 17@gmail.com

2017 activities



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Participation in some European Research Program (FP7 and H2020) by promoting the Earth Observation for development in the African countries



participation in several funded projects



The dissemination of EO & CB



- By putting data and educational resources created in the scientific events on the CRASTE-LF website crastelf.org.ma :

the crust is trying to conduct a data dissemination policy adapted to the region

The screenshot shows the website interface for crastelf.org.ma. The header includes the organization's name, logo, and affiliation with the UN. A navigation bar contains buttons for 'Accueil', 'Formation', 'Conseil d'administration', and 'Produits OT'. The 'Formation' section is active, displaying text about the training program and a list of courses. A dropdown menu for 'Produits OT' is open, listing categories like 'Scientifique', 'Organisation', and 'Géographique', with a sub-menu for 'Géographique' showing options like 'Télécharger d'images satellitaires' and 'Logiciels libres pour SIG'.

Centre Régional Africain des Sciences et Technologie de l'Espace en Langue Française
Affilié à l'ONU

Formation

Le programme de formation du centre est orienté vers la diffusion des connaissances dans le domaine des sciences et tech l'espace. Initialement, le centre devra offrir un enseignement en profondeur, un programme global de formation et les bases des projets pilotes , une formation continue, une perception et évaluation des programmes. Ce programme bénéficiera des spécialistes et professionnelles touchant la technologie spatiale.

Le centre offre des cours de formation pour les universitaires, chercheurs, administrateurs suivantes:

1. **Télétection et système d'information géographique**
2. **Télécommunications par satellite**

Produits OT

- Scientifique
- Organisation
- Géographique
 - Télécharger d'images satellitaires
 - Logiciels libres pour SIG
 - Antenne ICG
 - Antenne LANDSAT



- By establishing the link with other geoportals such as the **GEOCAB, GEOSS etc**

The screenshot shows a website interface with a dark blue header. The header contains two main sections: "Conseil d'administration" and "Produits OT". Below "Produits OT", there is a sub-menu with the following items: "Scientifique", "Organisation", "Géographique", and "Rapports didactique". A yellow dropdown menu is open over the "Produits OT" section, listing the following items: "Afromaison", "IASON", "EOPOWER", "GEO / GEOSS", "GeoNetcab", "MEDINA", "SIGMED", and "SAWIS".



 - By developing Open **Geoportal Data**

The screenshot shows the SIGMED GEPORTAL website. At the top, there is a banner with the text "Approche Spatialisée de l'Impact des activités agricoles au Maghreb sur les transports solides et les ressources en Eau De grands bassins versants". Below the banner is a navigation menu with "HOME" and "P". The main heading is "SIGMED GEPORTAL (Bouregreg Success Story - Morocco)". Below this, there is a breadcrumb trail: "You are here: Accueil > Data and GIS > The maps". The section is titled "The maps" and "MAPS OF THE BOUREGREG BASSIN". There are eight map thumbnails arranged in two columns, each with a label and a "click on:" instruction:

- The contour of the basin, click on: (Yellow map)
- Administrative divisions click on: (Grey map)
- Pedology, click on: (Brown map)
- vegetation click on: (Light green map)
- The hydrographic network click on: (Blue map)
- Geology click on: (Pink map)
- Bouregreg Sub-basins click on: (Orange map)



Challenges

Problem solved

- The problem of **recognition of the degree** by members states, the Centre opted for the association with the University through the jointly organization of training courses, while respecting the curriculum established by UNOOSA,
- **Foster capacity building**, the CRASTE-LF encourages the members' countries to propose professional trainees and students to follow training courses organized by the Centre.

bottleneck

- **To look for sponsoring** for the realization of the program established by Members State;
- To raise the **awareness** of the members state **to contribute in budget of the Centre**;



-The support of UNOOSA is very important for developing space activities of the Centre.

We are looking for support

- The support may be also by **incenting the space agencies** to assist the centre in training by providing teacher experts in specific techniques, equipments or update these and made available the Earth Observation Data.
- To support the **integration of the Centre in research programs** for the supervision of trainees and take advantage of new space technologies.
- **To develop the training workshops** by organizing the short courses (duration between 1 week to 1 month), as the current tendency in capacity building in the region is to promote such activities.



If we say no one should be left behind !!

□ In the Board of Directors of CRASTE-LF sits 13 ministers from member countries. The French-speaking countries are more than 21

In the area of capacity building, CRASTE-LF is trying to push the region forward.

If anyone wants to push more to not forget someone behind ... is welcome.





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