



**CRASTE-LF**  
Affiliated to UN

United Nations / South Africa Symposium on Basic Space Technology « Small satellite missions for scientific and technological advancement » : Stellenbosch, South Africa 11-15 December 2017



# **CRASTE-LF**

**Inputs of African Regional Centre for  
Space Science and Technology Education  
in French Language  
Affiliated to United Nations**

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Rabat - Morocco**



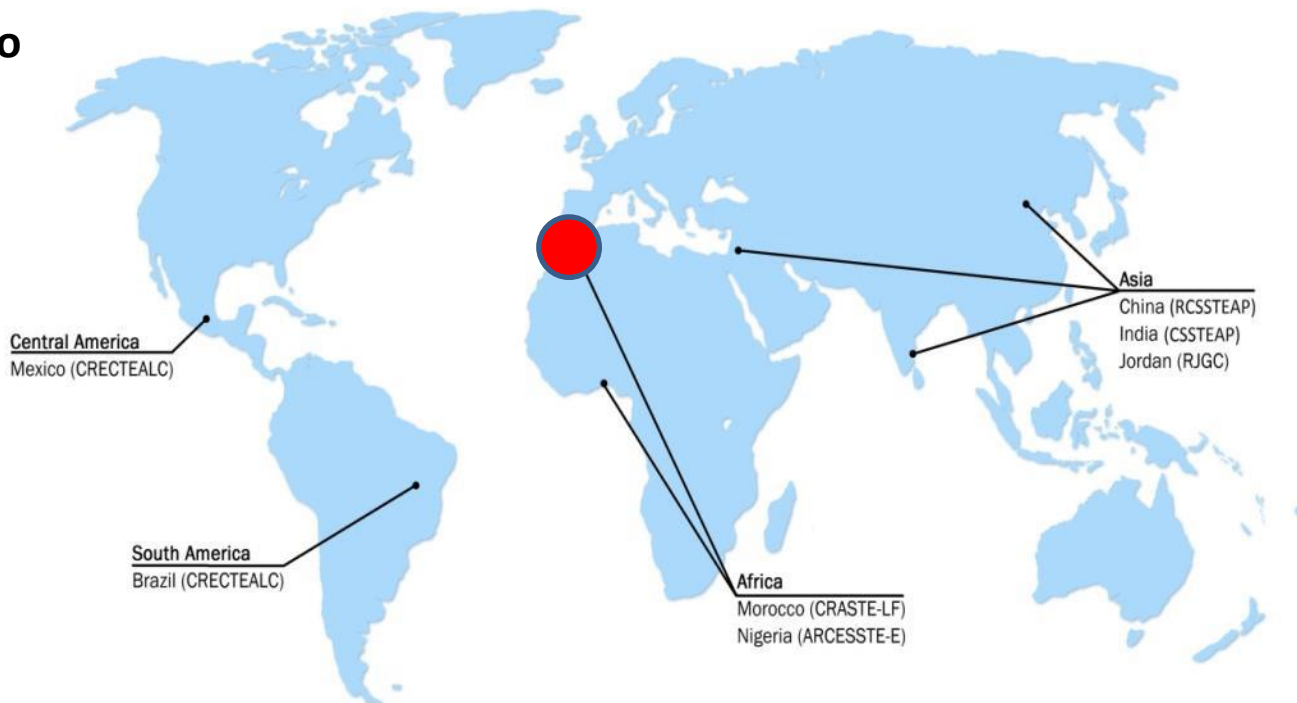
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Regional Centres for Space Science and Technology Education  
(affiliated to the United Nations)

**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 in Morocco at the Mohammadia School of Engineers of the Mohammed V University of Rabat.



### 13 Member States

Algeria, Cameroon, Cape Verde, Central African Republic, Democratic Republic of the Congo, 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 endogenous capacities in space tools.
- To **Strengthen** the Local and Regional Capacities.
- To promote **Cooperation** between the **Developed Countries** and **States Members** as well as among **these States**.
- To develop **expertise** in Space Sciences and Technologies.

Capacity Building



## Capacity Building

organized

✓ **24 Postgraduate training courses**

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

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### Thematic :

Climate change  
water resources  
Agriculture  
Health  
....

Biodiversity  
Drought  
Disasters  
GNSS  
....



## Postgraduate Training courses



Remote Sensing & GIS – **13 sessions / 237 trainees**



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



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



Space Science and Atmospheric

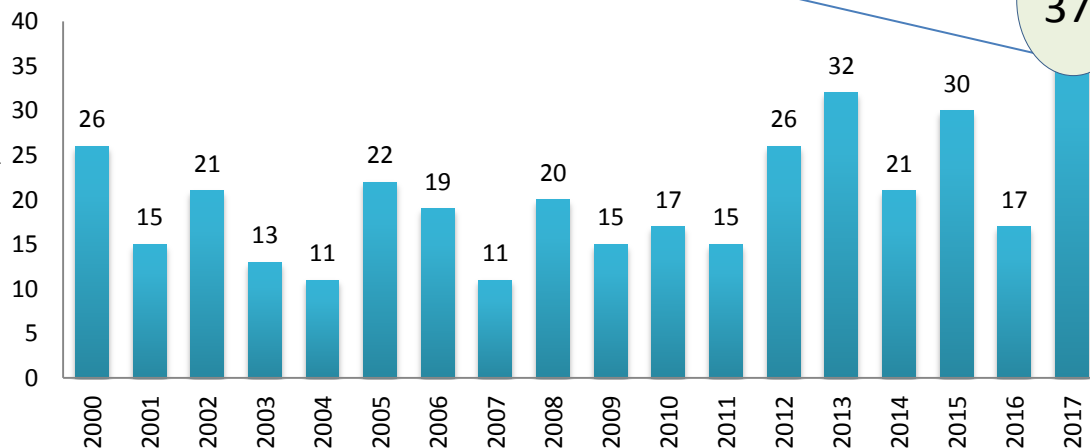


GNSS (Since 2012) – **3 sessions / 41 Trainees**



Space Law

**Since 2000**  
**24 sessions - 368 trainees**  
**22 Countries**

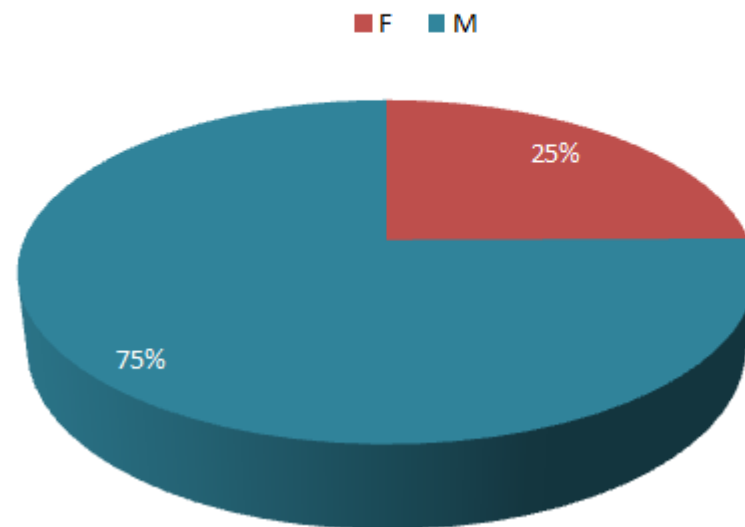




Étiquettes de lignes      Nombre de stagiaires par Pays

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
<b>Total général</b>	<b>368</b>

% 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 institutions.



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





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in the centre (CRASTE-LF)

12 7 2006



in the field



the defenses of memories



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## Short courses, Seminars, Workshops and Conferences

Between  
2010 -2016

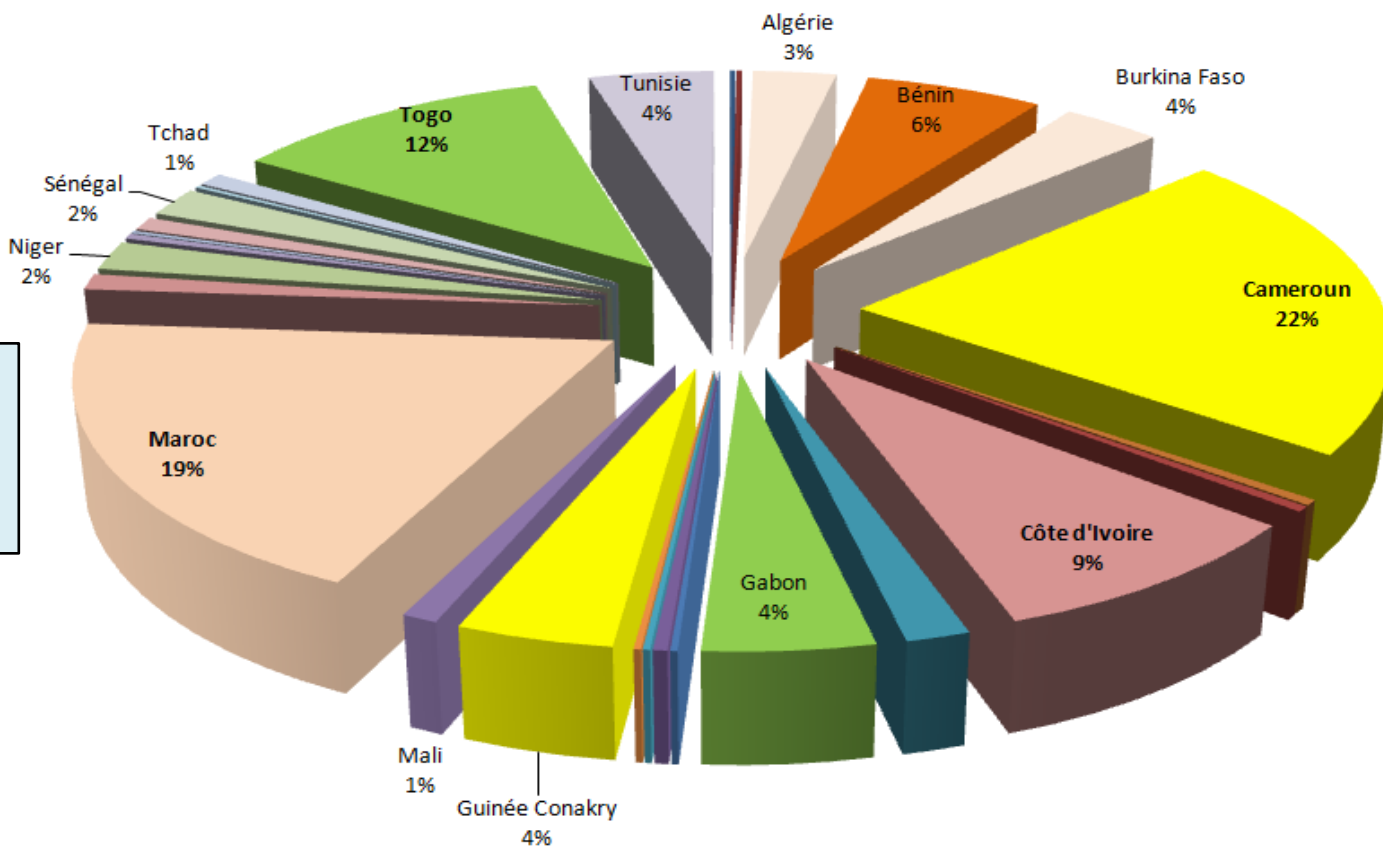
- 34 activities
- 1756 participants
- 47 countries

**16 short Courses**

**537 participants**

**28 countries**

### Short Courses





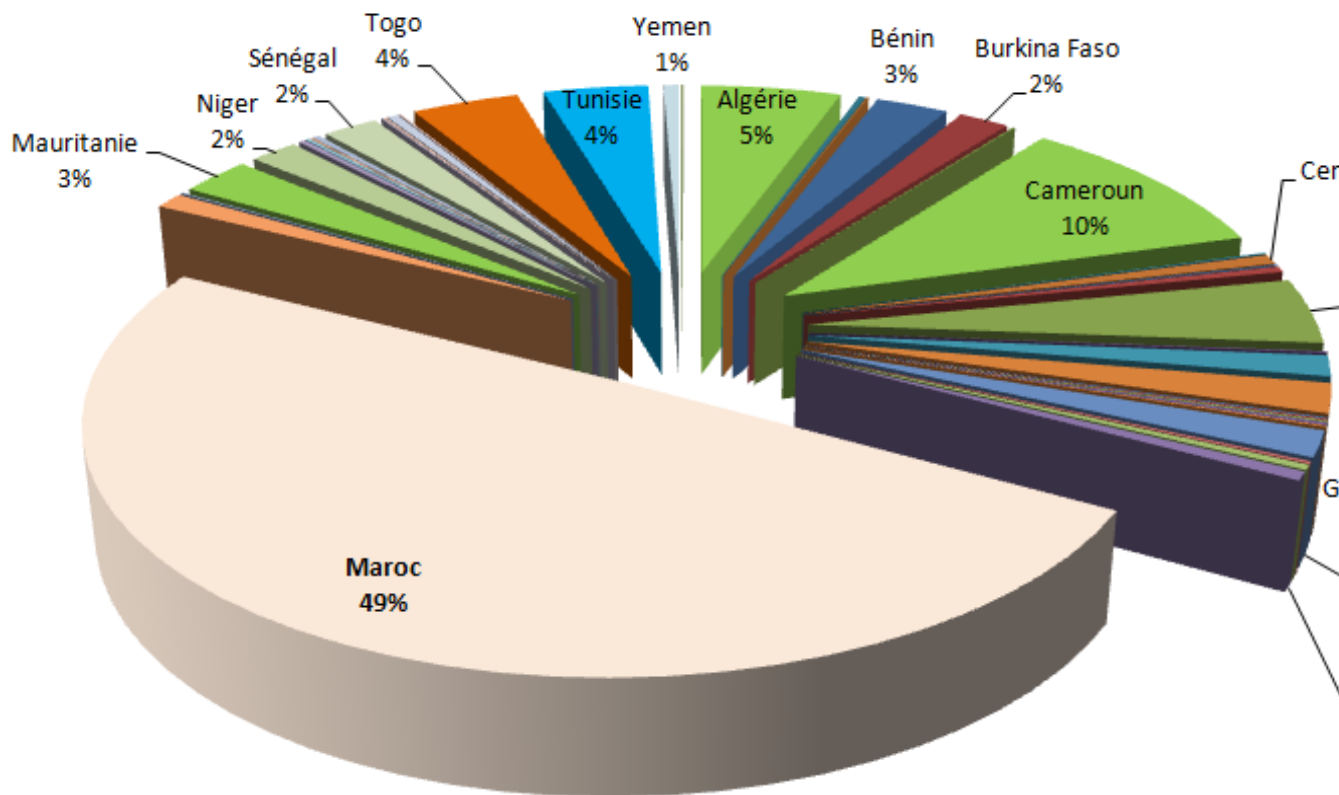
**Short courses, Seminars, Workshops and Conferences**

**Between  
2010 -2016**

- **34** activities
- **1756** participants
- **47** countries

**18 Conferences**  
**1219 participants**  
**42 countries**

**Conference**





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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 – 5 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







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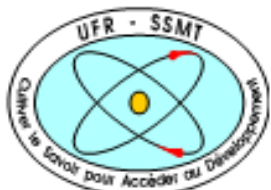
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Short courses, Seminars, Workshops and Conferences

### 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



2017 activities



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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





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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<sup>ère</sup> 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**





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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](http://crastelf.org.ma) :

the CRASTE-LF is trying to conduct a data dissemination policy adapted to the region

crastelf.org.ma

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

Acueil **Formation** Conseil d'administration Produits OT

**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**

Scientifique  
Organisation  
**Géographique**  
rapports didactique

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 yellow header bar. On the left, there is a tab labeled "Conseil d'administration". On the right, there is a dark blue button labeled "Produits OT". Below the header, a dropdown menu is open, listing several items: "Afromaison", "IASON", "EOPOWER", "GEO / GEOSS", "GeoNetcab", "MEDINA", "SIGMED", and "SAWIS". To the right of the dropdown, there is a dark blue button labeled "Scientifique" with a white arrow pointing right. Below this button, there are several text elements: "rganisation", "éographique", and "upports didactique".



 - By developing Open **Geoportal Data**


Approche Spatialisée de l'Impact des activités agricoles au Maghreb sur les transports solides et les ressources en Eau De grands bassins versants


HOME P **SIGMED GEOPORTAL (Bouregreg Success Story - Morocco)**


You are here: [Accueil](#) > [Data and GIS](#) > The maps


### The maps


#### MAPS OF THE BOUREGREG BASSIN


The contour of the basin, click on: 


Administrative divisions click on: 

Pedology, click on: 

vegetation click on: 

The hydrographic network click on: 

Geology click on: 

Bouregreg Sub-basins click on: 



## 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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