Activities of CRASTE-LF on Capacity Building in Space Sciences and Technologies Launch Postgraduate Training in GNSS

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United Nations General Assembly Resolutions

45/72 of 11th Nov. 1990
50/27 of 6th Dec. 1995

International effort to create Regional Centers for Space Science and Technology Education, affiliated to U.N.

5 Centres affiliated to UN in activities in different regions of the World:

- **India** (Asia & Pacific, 1995),
- **Morocco** (Africa – French Language, 1998),
- **Nigeria** (Africa – English Language, 1998),
- **Brazil – Mexico** (Latin America & Caribbean)
- **Jordan** (Western Asia, 2012, June)
CRASTE-LF has been established, on the initiative of the UN-OOSA program on applied of the UN/G.A. Resolutions, in Rabat on October 23, 1998.

Objectives of the Centre

• To increase knowledge in Space Sciences and Technologies by organizing 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 States Members as well as among these States.

• To develop expertise in Space Sciences and Technology.
Main Courses Programs

- Remote Sensing and Geographic Information Systems,
- Satellite Communications,
- Satellite Meteorology and Global Climate,
- Space and Atmospheric Sciences

Education Curricula established and Published by
UN-OOSA
1995, Update in 2001 and 2008

Target Public
Academics (Professors,...)
Researchers, Engineers,
Administrators and Managers

Recovering Sectors
Universities, Research
Institutes, Professional and
Private Institutes and
Administrations

Meeting 7-ICG
Each Training Session takes place in 2 phases:

**Phase I**: In Centre, theoretical & practical courses ~ 1200 h.

**Phase II**: 12 to 18 Months, achieve the Research Project in their institution.

**End of phase II**: Defense of memoire in Centre (Jury Members are Professors).

Détail of courses located in Web Site of:

- [www.crastelf.org.ma](http://www.crastelf.org.ma)
- [www.oosa.unvienna.org/centres](http://www.oosa.unvienna.org/centres)
Realized Training Courses


- 167 trainees from 19 member and non member Countries
- 25 different institutes

4 training courses in Satellite Meteorology and Global Climate

- 52 trainees from 10 member Countries
- 15 different institutes

3 training courses in Satellite Communications

- 33 trainees from 11 member and non member Countries
- 10 different institutes
International Short Courses on
"Navigation and Services
Based on Satellite Positioning"

28 September au 24 October 2009

The training program is divided into two Modules:

Program of short courses GNSS 2009

Participation of 35 trainees from 17 African countries
The Centre has conducted the short courses on GNSS outside of host country of CRASTE-LF, e.g. in Togo:
Regional Training Workshop
Lome, Togo, 03 - 07 October 2011

« Global Navigation and Based Service on Satellite Positioning»

Participation of 24 trainees from 10 African countries
Group Photo
International Conference on GEOSPATIAL Information, effects and impacts of the CC in Africa
Rabat from 30/11 to 02/12 2011

School of Space Weather
Rabat, from 05 to 16 /12/2011

Organisent une
CONFERENCE INTERNATIONALE
INFORMATIONS GEOSPATIALES : EFFETS & IMPACTS DES CHANGEMENTS CLIMATIQUES EN AFRIQUE

Les 30 Novembre, 01 et 02 Décembre 2011
A l’Ecole Mohammeda d’Ingénieurs, Rabat - Maroc

CRASTE-LF: Sis EMI, Avenue Ibn Sina, BP 965, Agdal - Rabat (Maroc)
Tél. : 212 37 68 18 26 – Fax : 212 37 68 18 24 Email : craste@emi.ac.ma
2) Development of a curricula on GNSS

As part of outreach activities UN-OOSA Program, the Centre is working a Education Curriculum for a course on Global Navigation Satellite Systems and Applications. UNOOSA with ICG secretariat has organized some experts meeting in to develop a curricula education on GNSS.

The CRASTE-LF will be launch the courses on GNSS and Communication by Satellite next September 2013.

This courses are basing on Education Curricula developed by UN-Experts and updated in CRASTE-LF with respect of regional context:

Program of courses Master GNSS-CRASTE-LF (2)
Actual and Futures Activities

Launch of post-graduate training courses:

- 9th session on: - RS&GIS,  
  September 2012

- 4th session de MSCM,  
  September 2012

- 4th session de SC,  
  September 2013

- 1st session de GNSS,  
  September 2013
Evaluation of the use of earth observation in French-speaking Africa

- launched a data collection campaign based on document developing by the Centre in framework GEONetCaB European FP7 Project to:
  - competences
  - Official Institutions
  - Others services in space technologies uses

- Choosing, after receiving the answers, 2 or 3 representatives countries in differences cases space sciences & technologies uses (high, medium and low level) describing the situation in Earth Observation in French speaking counties.
Success stories

• 232 trainees

• Professionals and become a part in the higher management in their institutions

• 100% go back to their home countries (original institution)

• Themes of research projects in connection with local problematic

• In many cases, the trainees generated new activities related to space technology in their country (courses in local universities: trainers, projects, …) : snow ball effect

• Creation of an Expert Network through the all Africa

• Substantial contribution in rising the awareness of the utility of space technologies for development, particularly in Earth Observation and GIS.
THANK YOU FOR YOUR ATTENTION

www.crastelf.org.ma