PROGYSAT
Projet régional d'observation des Guyanes par satellite

2nd Seminar
27-29th of September, Paramaribo, Suriname

Round Table Minutes
Thursday 29th

"Earth Observation for science and development in the Guyana Shield territories. Challenges & perspectives for future actions."

Participants

Moderator - Carmen Gervet (CG)
Director of Espace-dev Research Unit

Lise Gambet (LG)
Director of Department of Territorial Planning, CTG, French Guiana

Max Huisden (MH)
Professor at Anton de Kom University, Suriname

Claudio Almeida (CA)
Coordenator of Programa Amazonia, INPE, Brazil

Frédérique Seyler (FS)
Representant of IRD in Brazil

Françoise Douchin (FD)
Responsible for Space Applications, CNES-CSG, French Giuana

What would you suggest, in 2 to 3 points, as key priorities for Earth Observation future focus/research to nourish local authorities and territorial agencies, with respect to land-use and environmental planning needs?

LG – Many points of interest.
Main objective: develop our territory, improve knowledge of ecosystems, of resources useful to the development of activities and economy.
Second point: land conception measurements, urban footprint, land evolution. Need for regularly updated. It is a legislative obligation in France
Better anticipation of natural risks to protect our population. The settlement of the population needs to be replanned with climate change and water rise.

FD – I agree with the priorities
Solid base: land use
Combine data from large spectrum of sensors
Mix data from all type of vector (airborne, spaceborne)
SEAS Guyane will be very useful
Concerning environmental needs: huge work has been done by scientists to understand climate change and the specific Guiana Shield ecosystems
Recommendation: turn scientific outputs into operational tools for institutional actors

CA – 2 important points
Short-term, long-term action: data accessible is the first basic conditions necessary to process data and monitor territories
Processing capacities: needed to make possible indicators and indexes. Cloud computation is very common. An open platform for Guiana Shield users would be very useful

MH – Situation in Suriname
Uses for planning purposes: a lot of resources exist but planning lacks or is not sufficient. Spatial planning based on type of soils and other parameters are needed.
Uses for monitoring: monitoring of goldmining is lacking. It is causing great threats to fauna, flora, humans. Illegal deforestation is a big problem that needs to be monitored.

Name 2 to 3 scientific breakthroughs of EO to your opinion, and to future activities that would contribute to Guiana region?

FS
A lot of evolutions and revolutions in EO
Technological ones (number of satellites, sensors capacities…)
Constellation of satellites need to be completed. SMASH constellation will be a revolution because it will better the temporal resolution. Mix constellations with spatial/temporal complementary resolutions is needed.
New platforms like THEIA are also a big breakthrough/ dissemination of products, models, algorithms

Their outputs must be adapted to local conditions of territories. In this sense SEAS Guyane is a big opportunity to do this adaptation to the Guiana Shield context
Data Cubes and time series analysis is another big improvement; with machine learning and AI techniques. A good perspective is to add to these data cubes data from social sciences

MH
Improvements in transboundary aspects: different countries can look at a bigger picture and consider new parameters. Example: mercury problem. Illegal activities can be better monitored with such an approach. Actions can be taken to minimize damage.
Correlations between new parameters is also very important, there is a unique opportunity to make EO more efficient

CA
We need to change EO with HPC platforms and time series processing.
In time series we understand changes in landcover in long periods, which is a very important

In an ideal world, how could we fill the gap between scientific advances and institutional needs?

MH
One word: evidence based
Unique opportunity to evidence-based data that could lead to more efficiency in public policy

LG
As institutions in Land Planning, we have a responsibility in creating links between the different actors: scientists, universities, public agents, decision makers
Scientists need to make their advances more understandable to non-specialists or non-experts of the fields of Earth Observation

FD
Many decisions makers are still not convinced of benefits of satellite data
CNES did its self-critic analysis and is totally engaged in the promotion of spatial applications, and in awareness of public decision makers
To assist decision makers, listen carefully and understand their needs to steer the developments of new tools for environmental and climatic changes
CNES has a program dedicated to climate change: SCO, which seeks the development of operational tools.
SEAS Guyane is also an asset to use

CA

Knowledge equalization is a key
There are different levels in different teams
Training is needed: professionals, students, post-graduated

Specific training in communication and press/media, to promote EO applications towards th society
Technical teams should be trained to press training
At INPE, all agents interact with Press. Press is invited at INPE so that the Press understand the importance of EO to afterwards better relay to the society

FS

Press does not measure the huge efforts scientists made in the last 10 years to make their results better understood.
At IRD there is no research if there is no co-construction or research involving actors in the territories and communication work packages
The society must do an effort also to go towards science and try to understand the challenges
If the use of EO data is not thought of useful be decision makers, it is alarming
Suggestion: all future projects should include actors of the society, ONGs, Public Institution to construct the project with the expected end-users
But it is very complicated to do, it takes a lot of time, and scientist have to make science

What would you like to develop further in a new collaborative project?

LG
The idea is to aggregate and capitalize all experiences to identify the common objectives and finalities
Field actors and scientist should interact more
Urban planning: contributions can be made by such project as Progysat and common grounds of tasks can be found
Training is very important to fill the gap
University is very important
SEAS Guyane is important to CTG

CA
Climate change is a game changer
Short term and long-term actions should be taken between all teams, all countries, all actors
Climate change could be a guideline for future programs

FD
Progysat has made big steps
With climate change we need to reenforce action to fight against impacts
Future programs should reenforce actions of different countries to combine forces
Each aspect of climate change could be treated by the different teams at level of French Guiana
Topics

- Health
- Coastal
- Risk
- Fresh water management

Amazonia forest is one the main thing to preserve on our Planet

MH
All topics are important
Suriname is at the cross read
Needs to preserve its resources that are very valuable
Needs to develop and ensure human wellbeing to the population
Scientific development is going fast
Bureaucracy of Government is a challenge
In this context Government should be included, but Fundations science base should be included also, to have independency and autonomy in monitoring parameters. It could counter balance big industries (Energy) that degrade environment
Fundation could help go faster
We need to bypass bureaucracy to be more effective

FS

I was pleased to begin cooperation with OTCA because it is an international Organization independent from Governments (even if they are at its board)
Coordination with Guiana shield?
How could it be made possible?

Interactions with the audience

CG
How conciliate: separate from politics, but be efficient?
Top down or bottom-up?
How to change mind and practices of all individuals of the society to make things change?

MH
Government is not to be excluded, but to be associated. Science cannot move at the pace of administrations. It needs to go faster, to do the job in education, research, data gathering and evidence-based policy making
Government agencies should be included but they should not determine the pace of advances
FS
Science needs funding