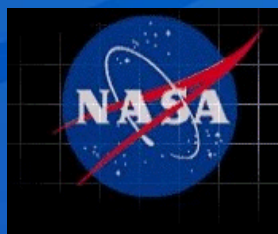


# Earth Observations and Mapping for Development



**Carrie Stokes**  
**Geospatial Information Technology Advisor**  
**USAID**



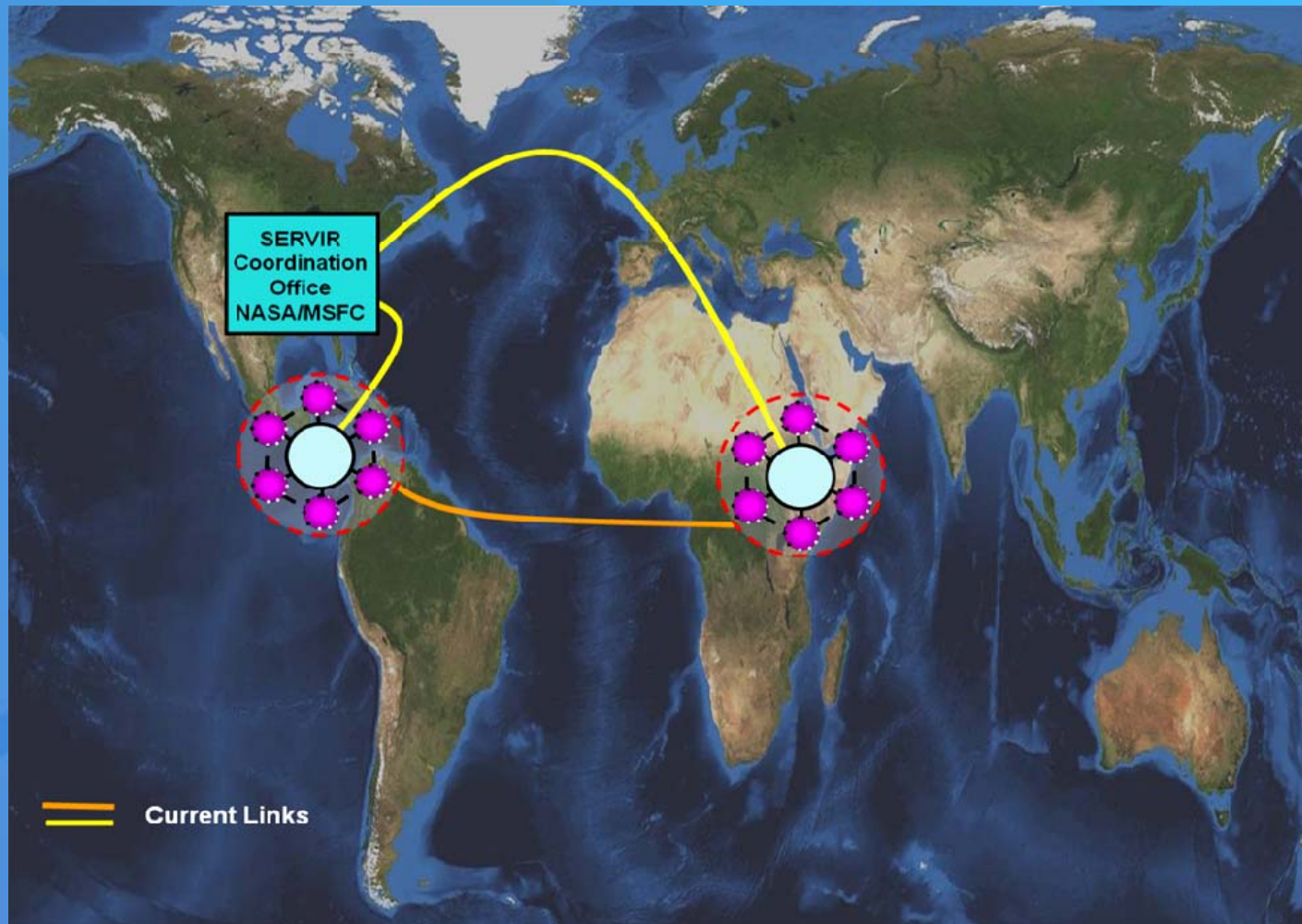


# Summary: SERVIR Services

- Satellite data and models
- Common platform for decision-support products, data sets
- Geospatial technical support
- Web map hosting
  
- National and regional training
- Mirror (backup) of national systems
- Facilitates partnerships, collaboration, coordination
- Visualization & information dissemination



# SERVIR Regional Nodes & Coordination Office







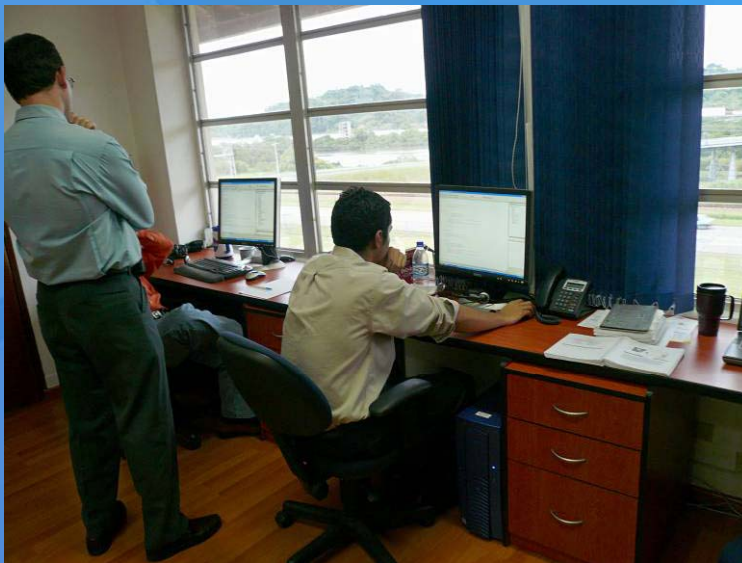
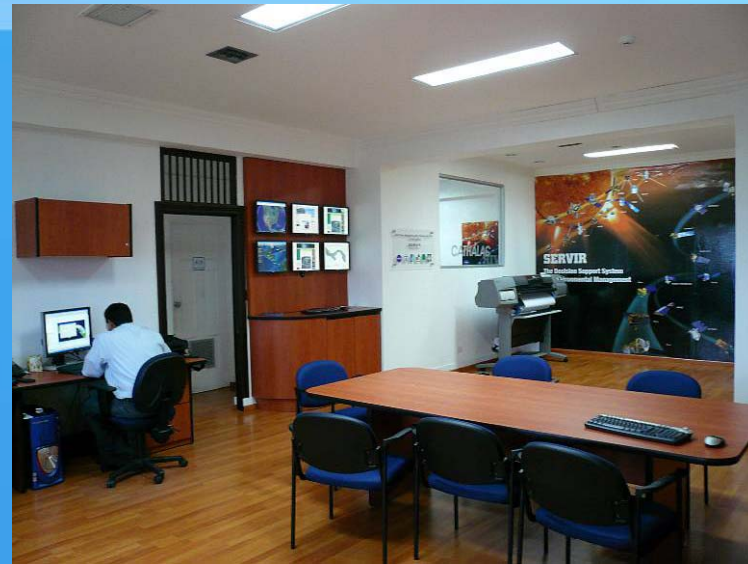
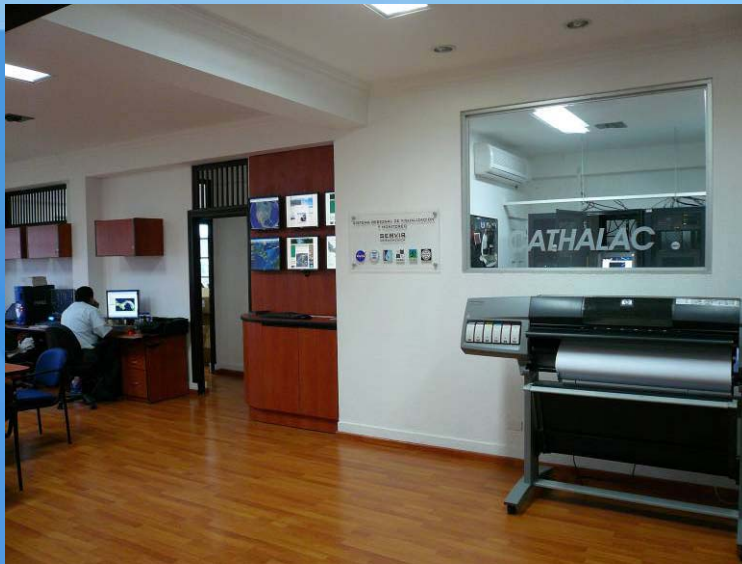
# SERVIR @ CATHALAC in the City of Knowledge, Panama





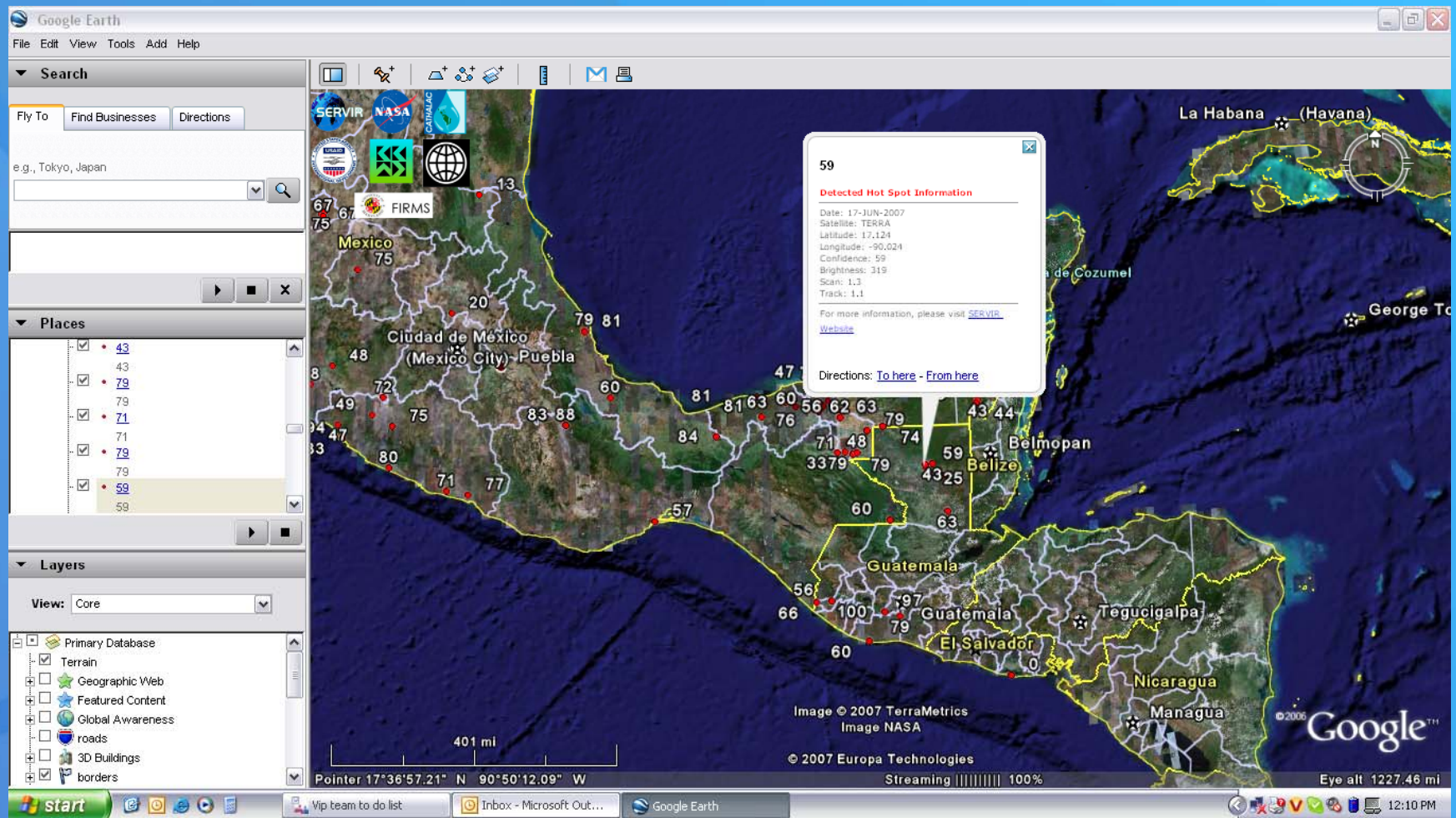


# Inside SERVIR Regional Node





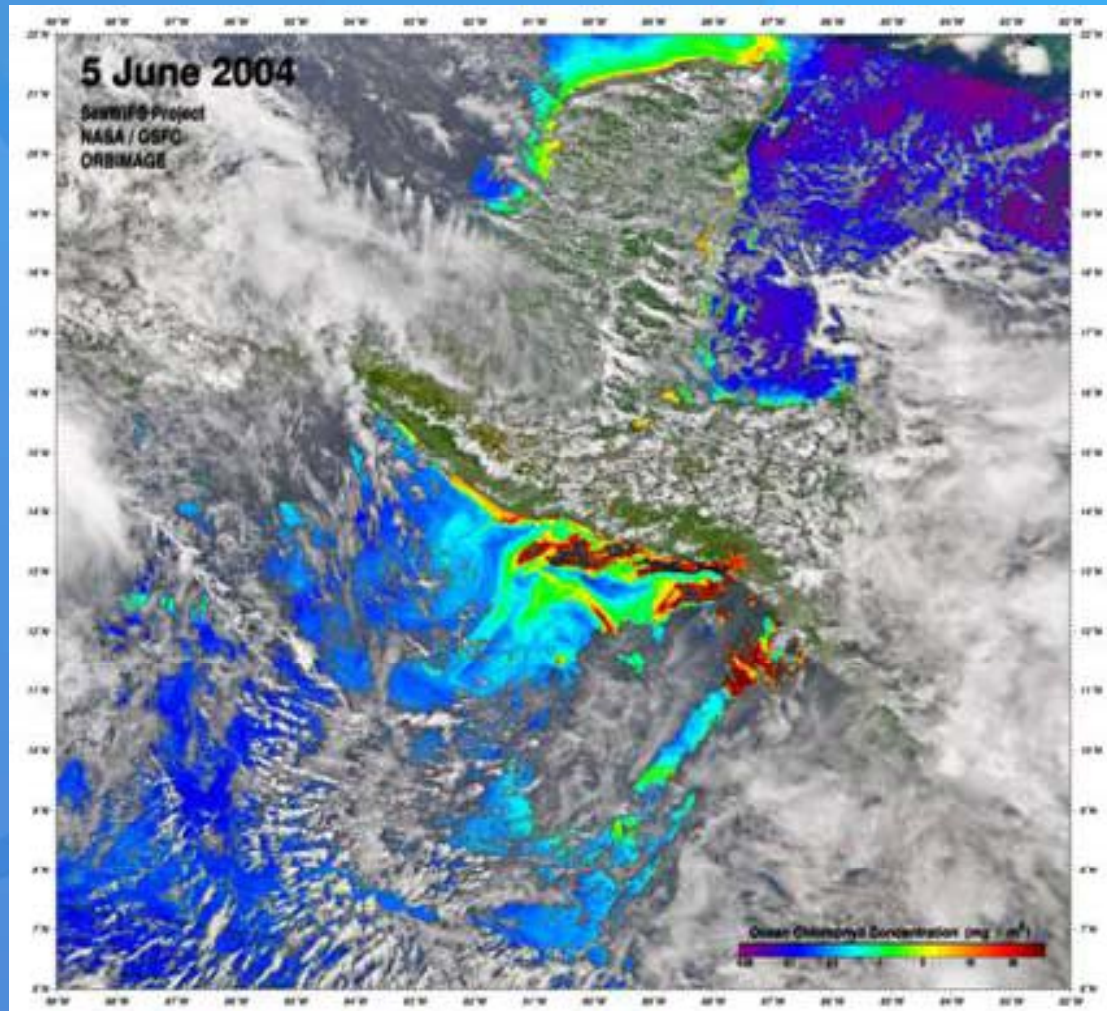
# Fire Monitoring







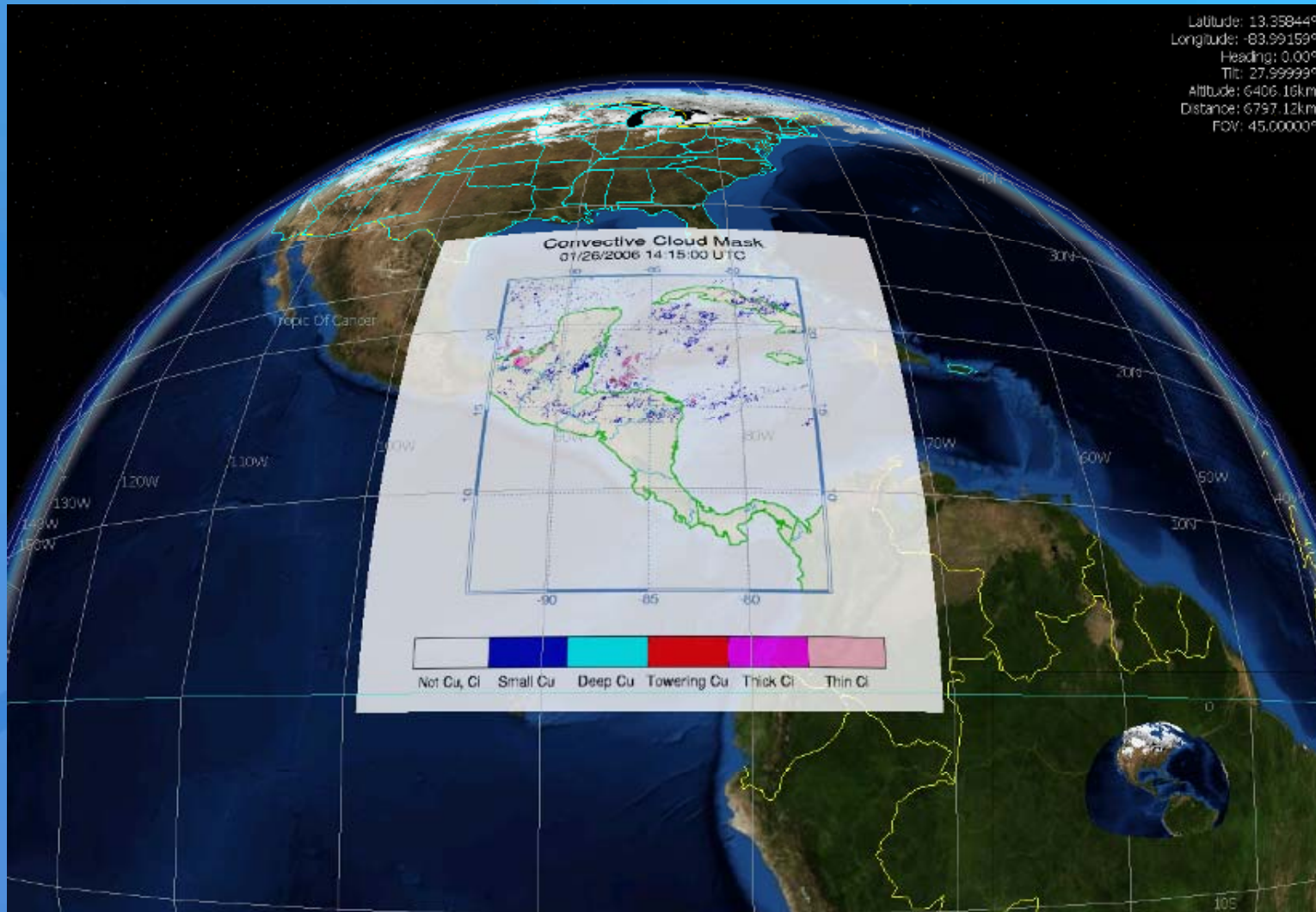
# Red Tide Monitoring - Algal Blooms







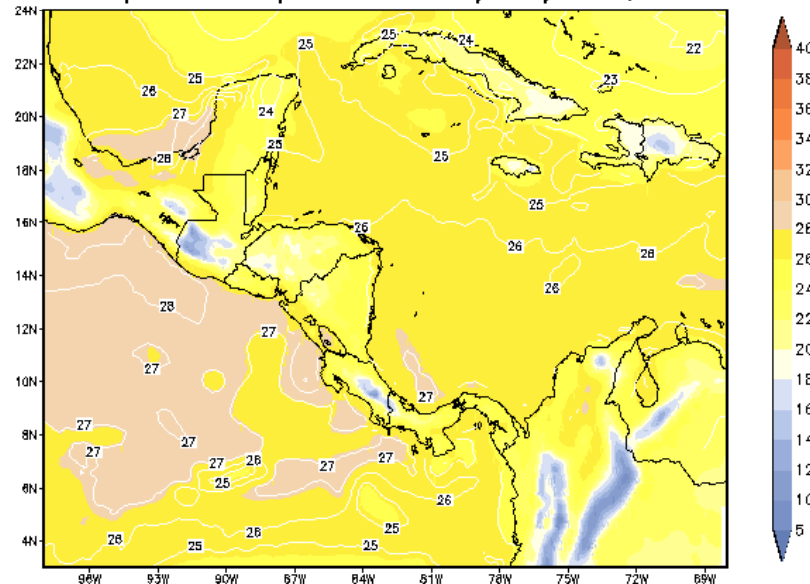
# Weather Monitoring - Nowcasting



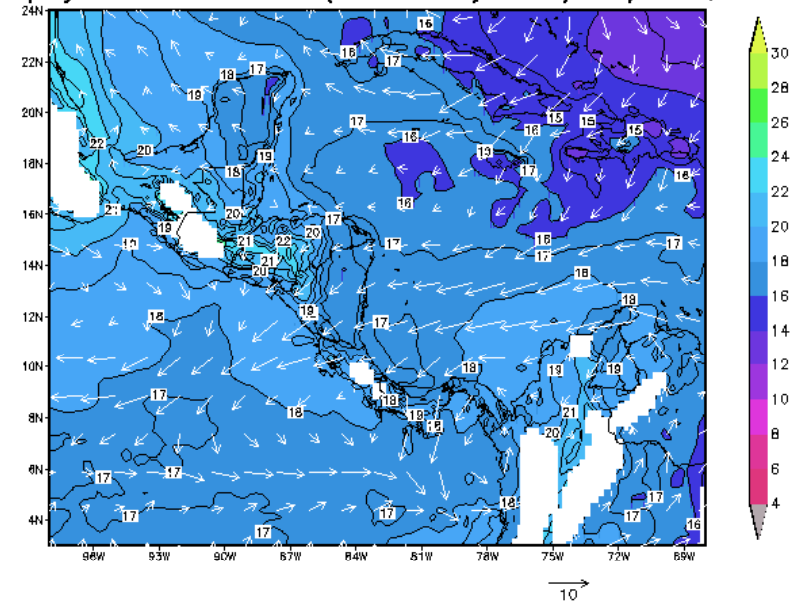


# Short Term Weather Prediction

Temperatura superficial el 05/MAY/2006, 03Z



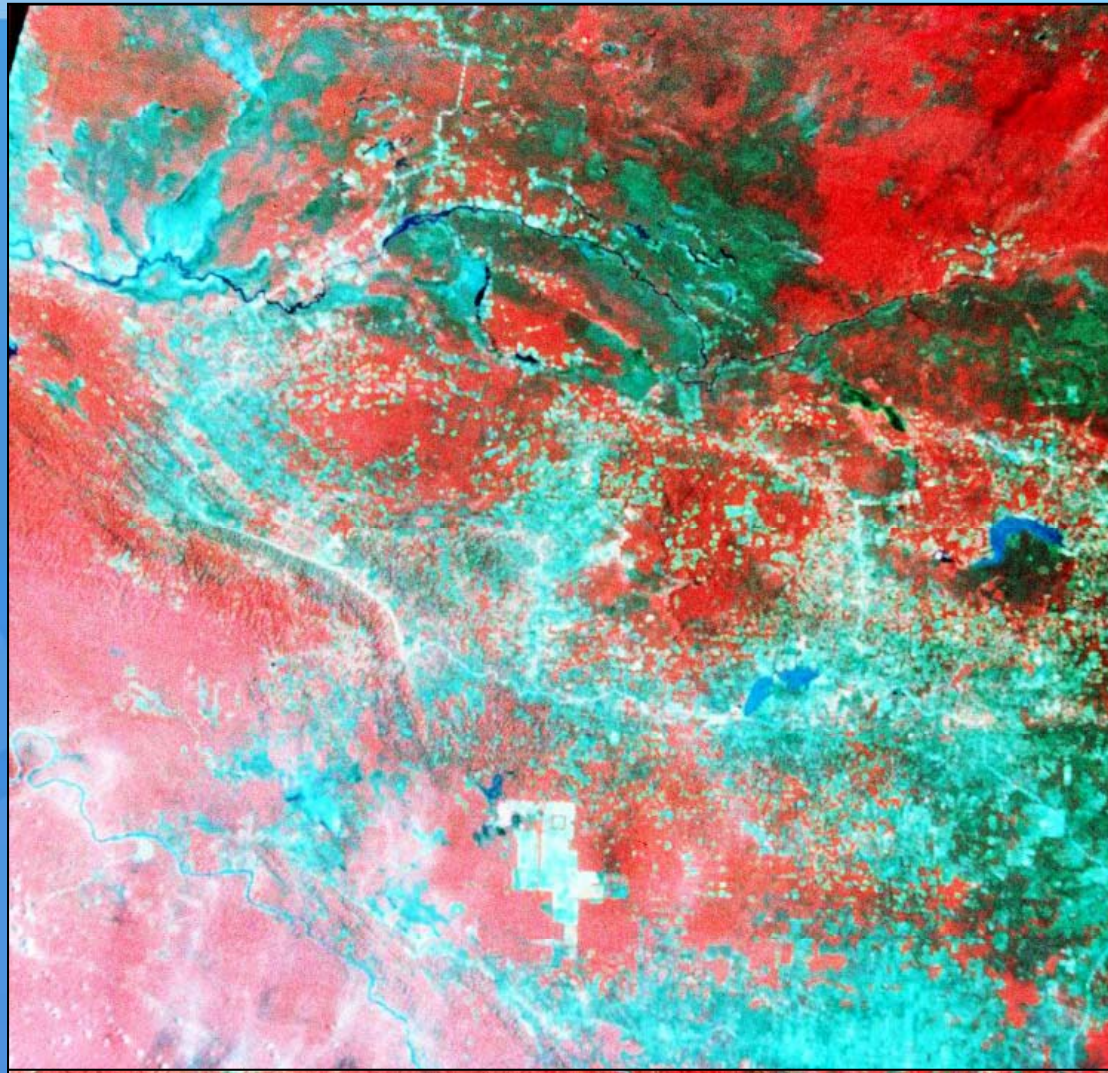
Temp. y Viento en 850mb (1500msnm) el 05/MAY/2006, 21Z







# Land Cover Change



Peten, Guatemala (1986-1995)





# International Boundary Disputes

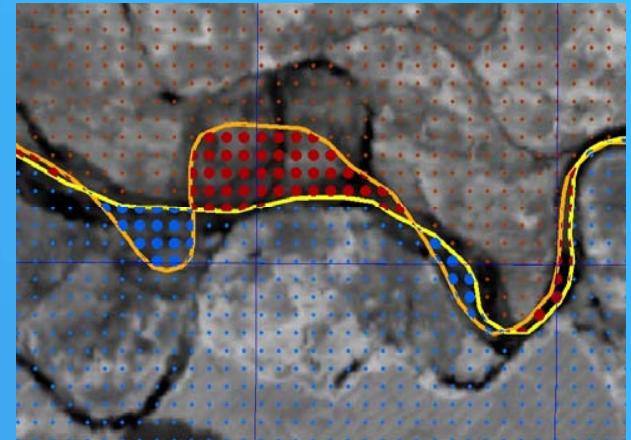


Pre-Flood

ASTER

Post-Flood

SPOT




**Red - Panamanian Land  
Now on Costa Rican Side  
of the Channel**  
**Blue - Costa Rican Land  
Now on Panamanian Side  
of the Channel**



# Air Quality Monitoring

**SERVIR**

[INICIO](#) | [NOTICIAS](#) | [SERVIR BLOG](#) | [PORTAL DE DATOS](#) | [CALIDAD DEL AIRE](#) | [VISUALIZACIONES 3D](#) | [DOCUMENTOS](#) | [GALERÍA DE IMÁGENES](#) | [ACERCA DE SERVIR](#)



**Ultimas Evaluaciones**

- Depresión Tropical 16
- Interpretación de imágenes de inundaciones en Haití
- Huracán Ike
- Huracán Hanna
- Huracán Gustav

**Comunidad**

Usuario

clave

☐ Recordarme

[¿Recuperar clave?](#)

[¿Quiere registrarse? Regístrate aquí](#)

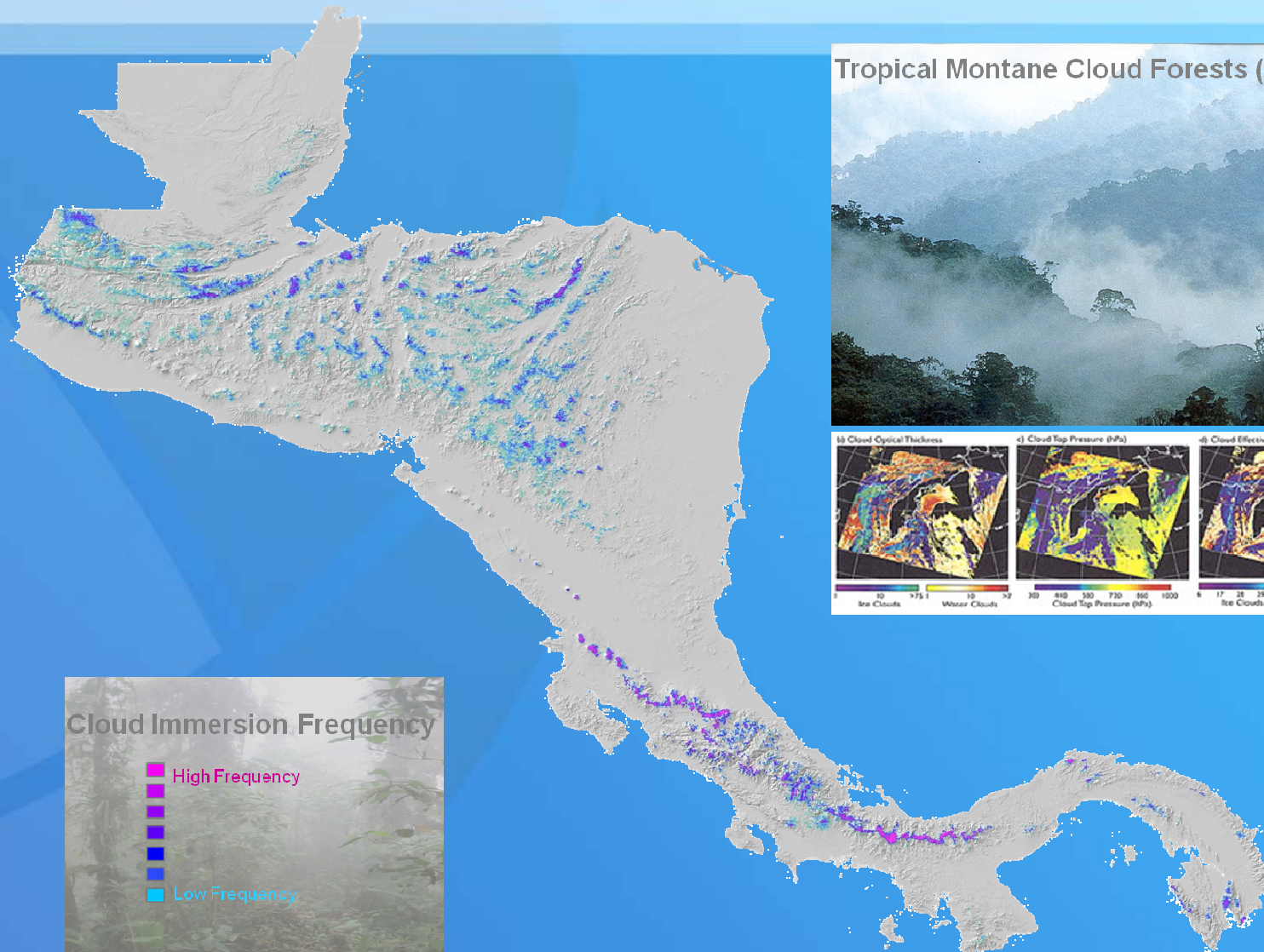
### Calidad del aire en Mesoamérica y el Caribe



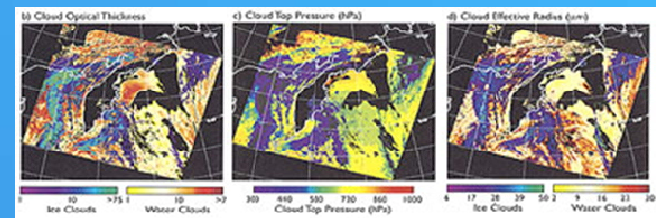




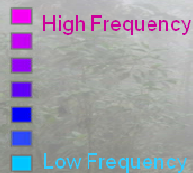
# Cloud Forest Monitoring



Tropical Montane Cloud Forests (TMCFs)



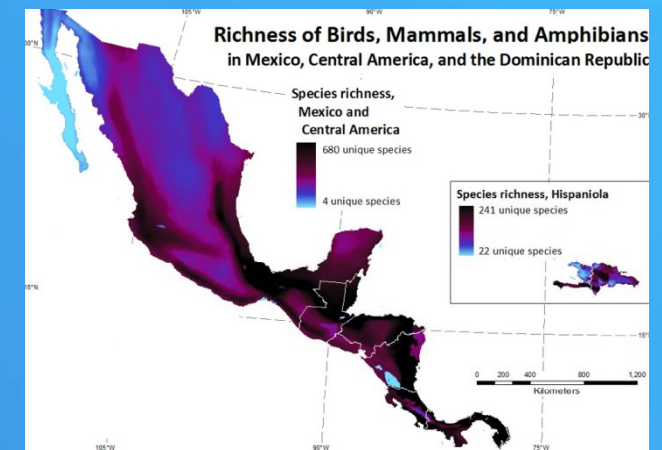
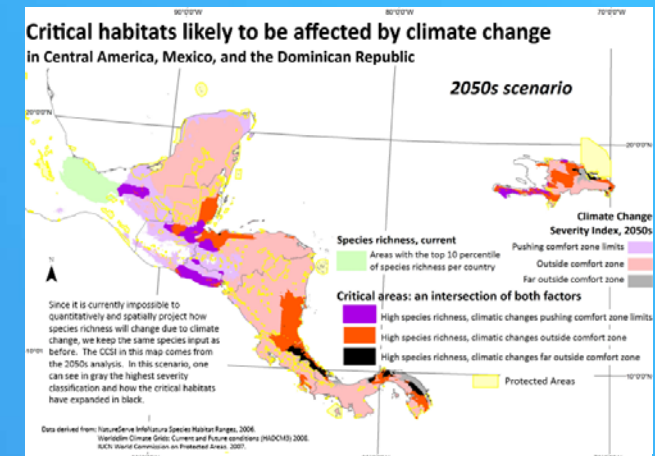
Cloud Immersion Frequency







# Climate Change & Biodiversity Analysis





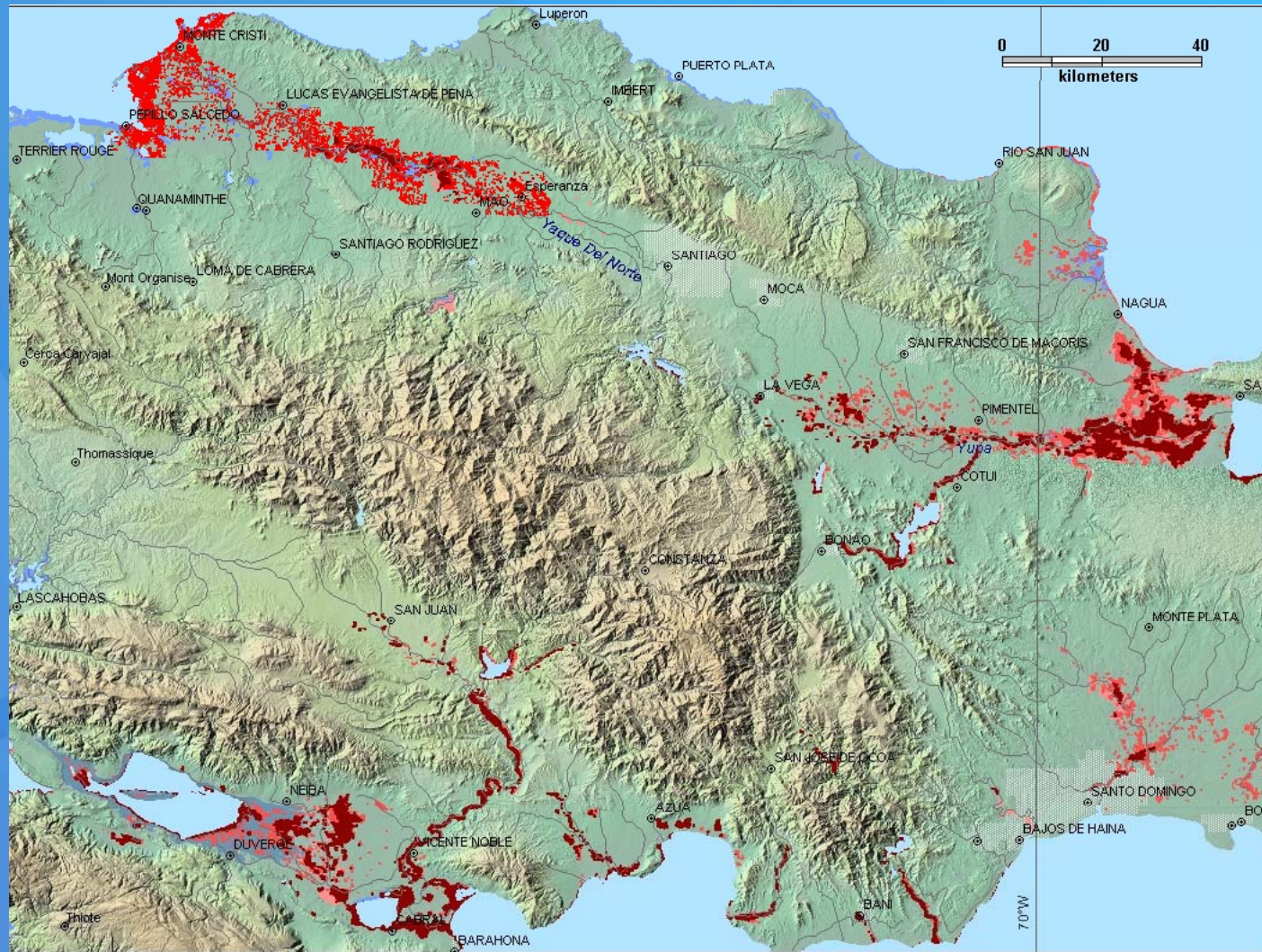
# SERVIR Disaster Response (2004-2008)

1. Red tide event – El Salvador (June 2004)
2. Panama City flooding – Panama (Sept 2004)
3. Rio Sixaola flooding – Costa Rica / Panama (Jan 2005)
4. Hurricane Stan – Guatemala, Mexico, El Salvador (Oct 2005)
5. Colon Province flooding – Panama (Nov 2006)
6. Mountain Pine Ridge fire – Belize (May 2007)
7. Hurricane Dean – Mexico (Aug 2007)
8. Hurricane Felix – Nicaragua (Sept 2007)
9. Tropical Storm Noel – Dominican Republic (Oct 2007)
10. Tropical Storm Olga – Dominican Republic (Dec 2007)
11. Turrialba Volcano – Costa Rica (April 2008)
12. Tropical Storm Arthur – Belize (June 2008)
13. Hurricane Gustav – Haiti / Dominican Republic (August 2008)
14. Hurricane Hanna – Haiti (Sept. 2008)
15. Hurricane Gustav – Haiti (Sept. 2008)
16. Landslide in Huahua – Mexico (Oct 2008)
17. Tropical Depression 16 (Oct/Nov 2008)
18. Floods in Panama (Nov. 2008)





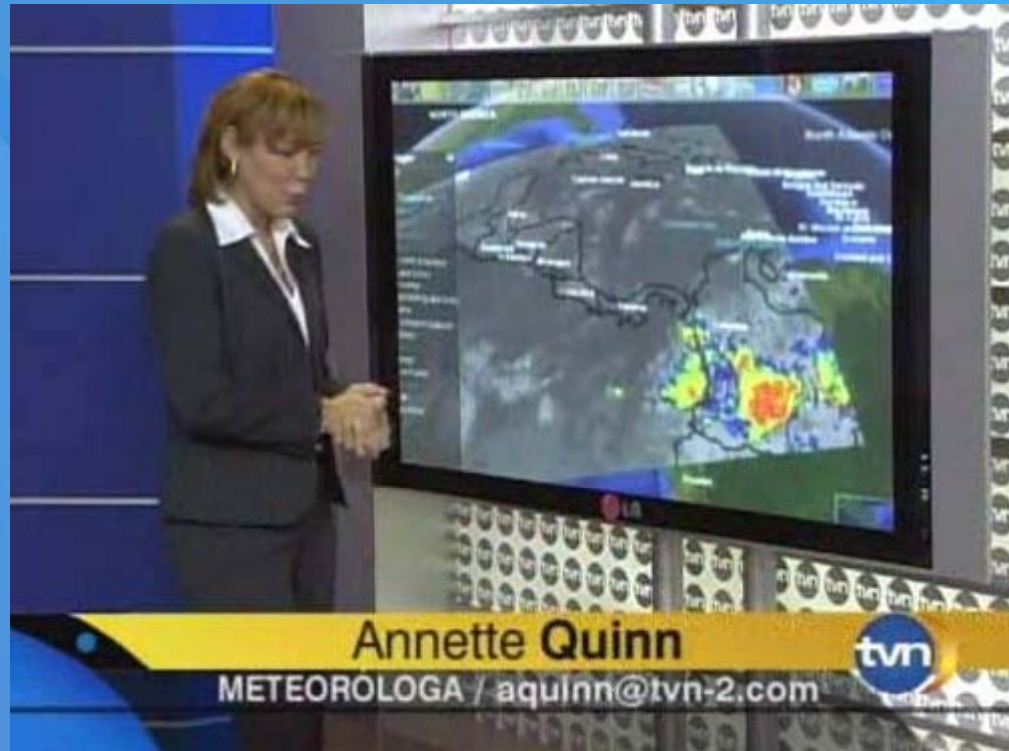
# Flood Mapping: Tropical Storm Noel







# SERVIR Product Dissemination





## Where did NASA and NOAA satellite data go last weekend? Thanks to USAID and CATHALAC... To the desk of the President of Panama!

PANAMA CITY, Panama – For those in the field of satellite data management, an often unanswered question is what really happens to the data that's generated. Well, last weekend that question was answered when the head of state of one of Latin America's leading nations – Panama – tapped **NASA** and **NOAA** data for disaster response. On Saturday, November 29, 2008, His Excellency Martin Torrijos, the President of the Republic of Panama paid a visit to the Panama City-based **Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC)** to help plan a course of action regarding catastrophic floods which had been affecting the nation for the previous week.



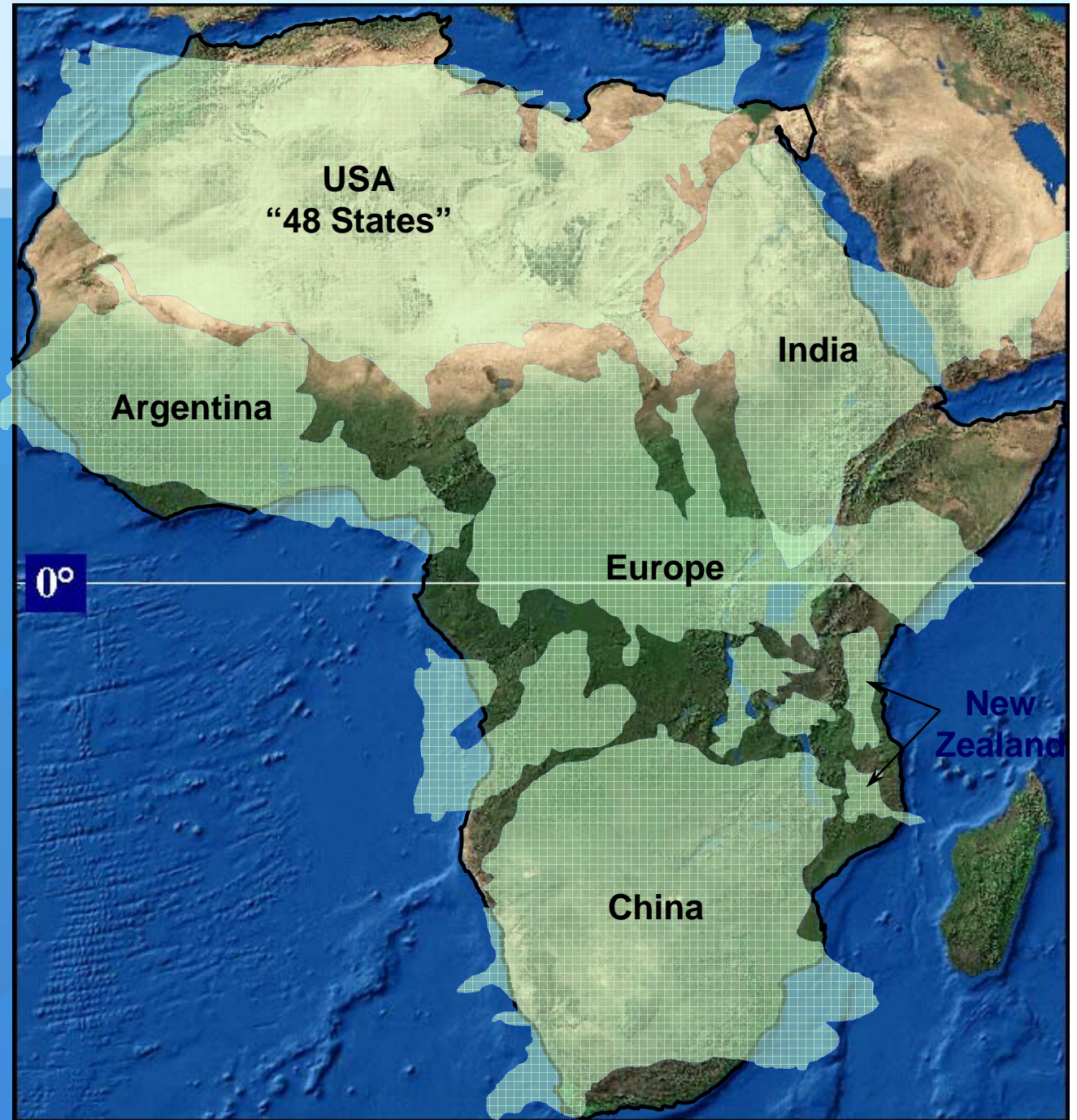




## **SERVIR in Africa:**

Large geographic scope

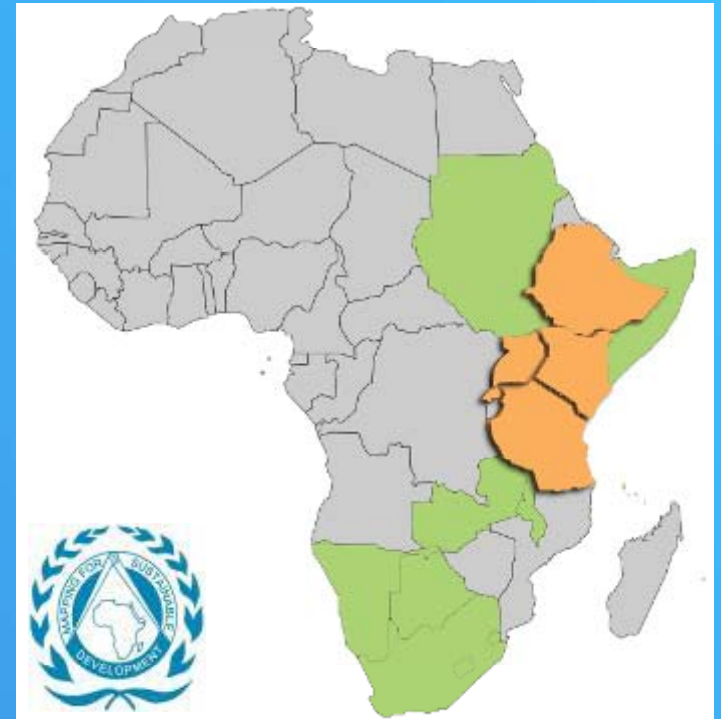
Limited bandwidth







# SERVIR-Africa



Phase 1 countries (orange)  
RCMRD member states (green)

Dedication: November 21, 2008 at RCMRD in Nairobi, Kenya





# 'South-South' Collaboration



- RCMRD travels to CATHALAC to observe Panama operations
- CATHALAC travels to RCMRD to configure hardware
- Both centers exchange ideas, share experience

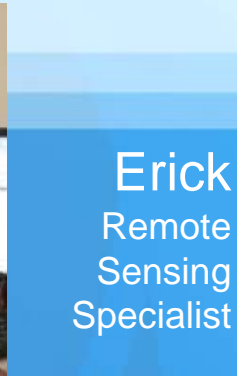




# RCMRD SERVIR-Africa Team



Daniel  
Database Mgt  
Specialist



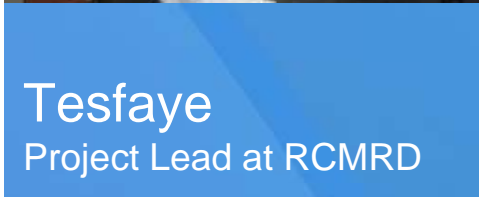
Erick  
Remote  
Sensing  
Specialist



Lawrence  
RCMRD  
Database  
Manager



Catherine  
Remote  
Sensing  
Analyst



Tesfaye  
Project Lead at RCMRD



Wafula  
IT System  
Administrator



John  
Web services  
Specialist



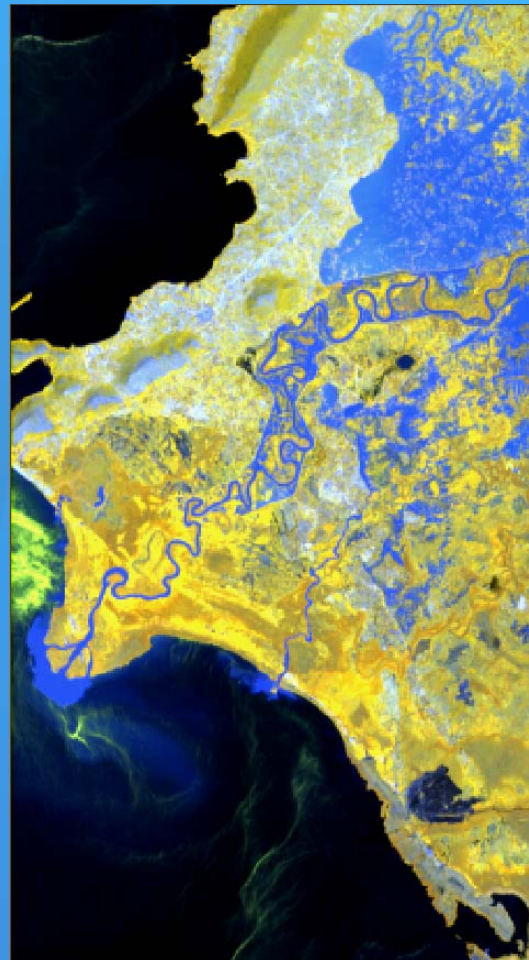




# New Access to Satellite Data



August 23, 2008



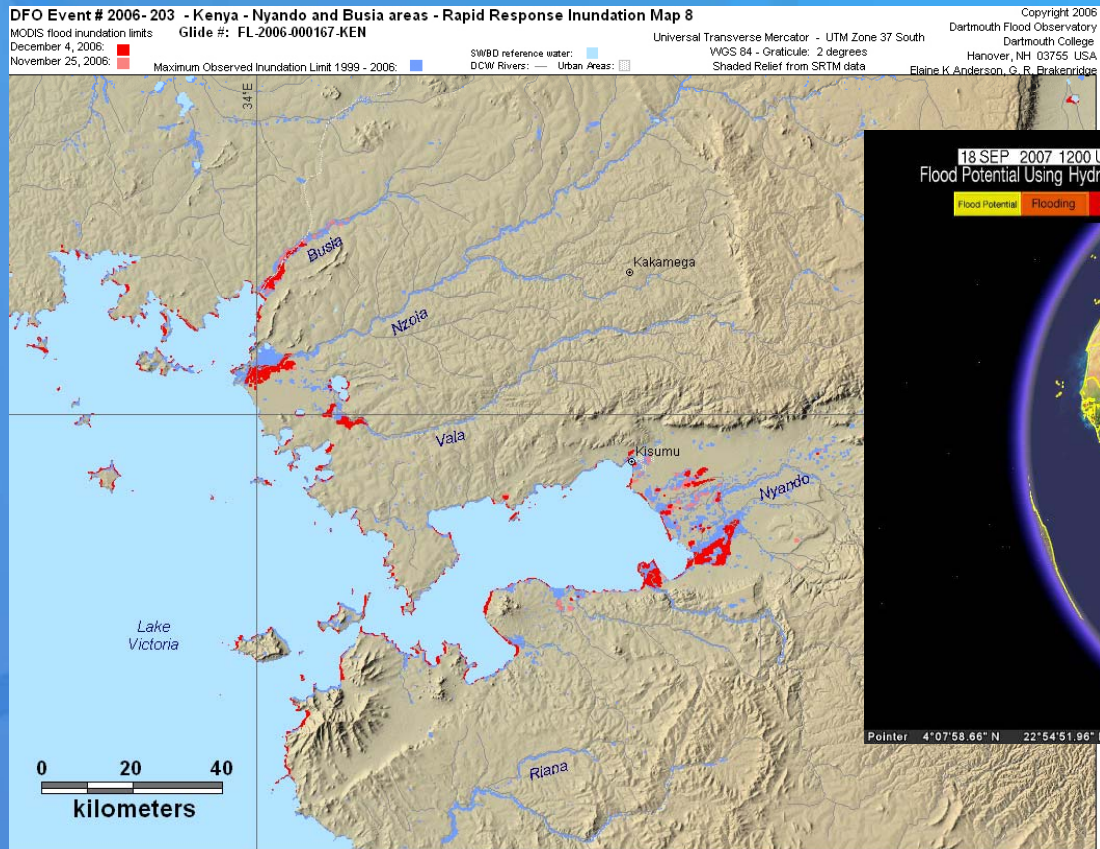
November 13, 2008





# Flood Risk-Mapping

- Identification of flood potential/flooded areas using satellite data
- Distribution of near real time products



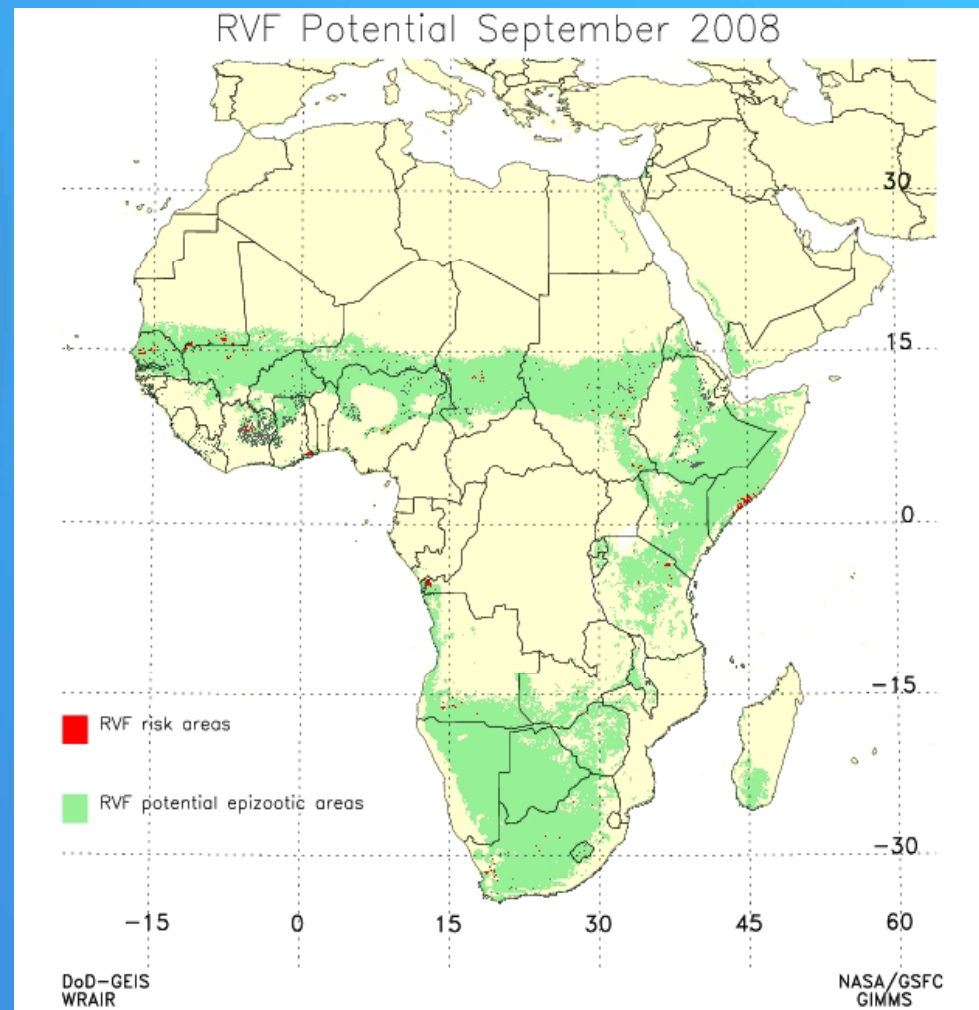




# Rift Valley Fever Prediction Modelling

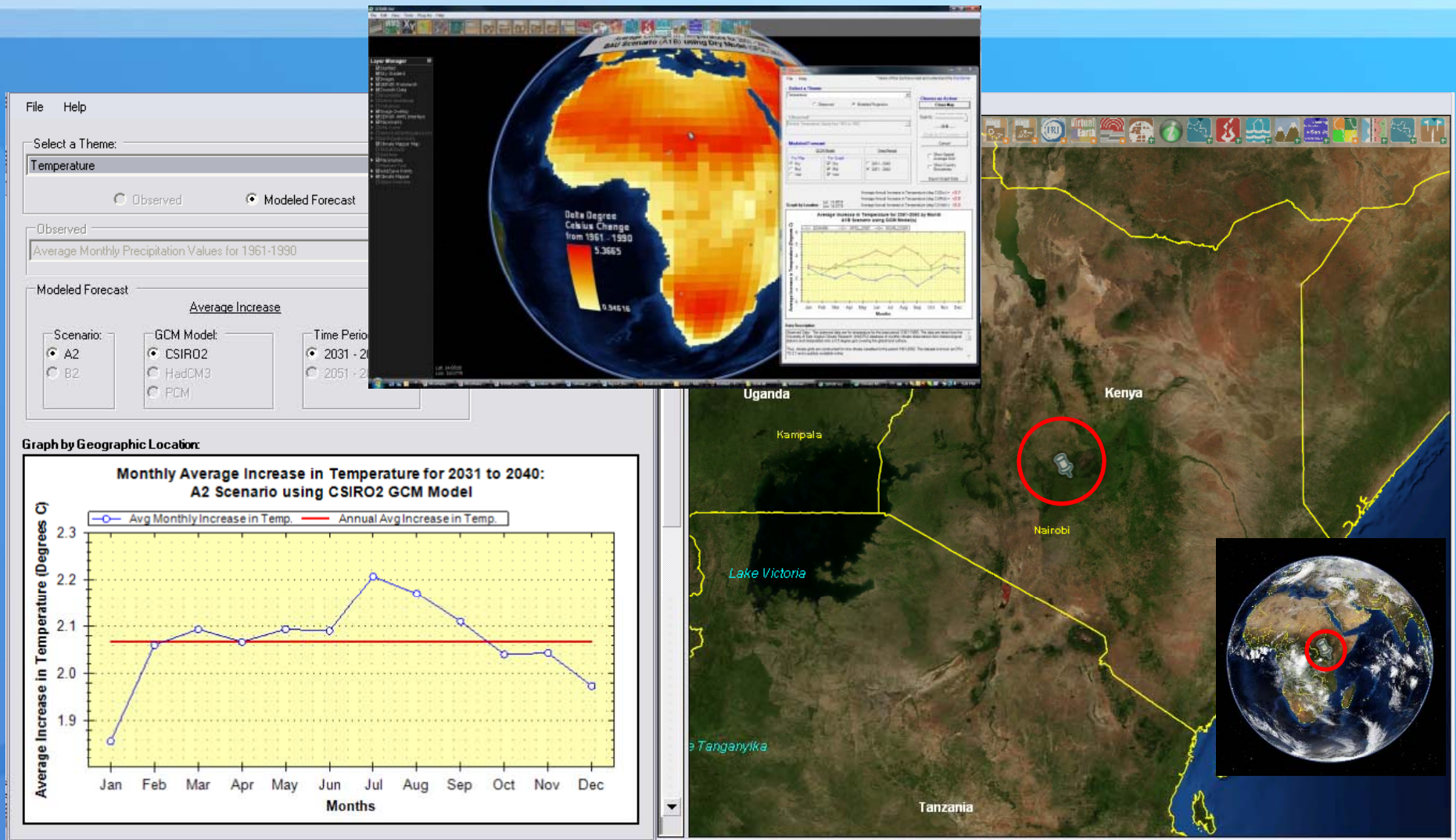
## Rift Valley Fever Risk Map

(livestock and human disease transmitted by mosquito)





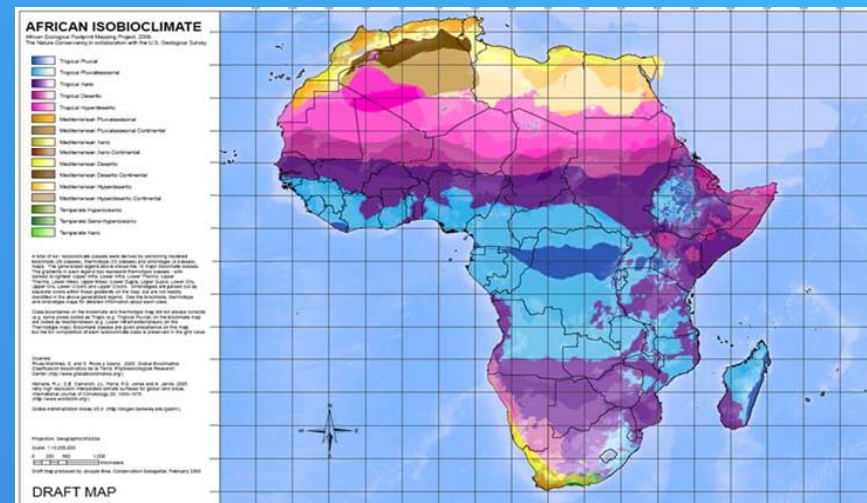
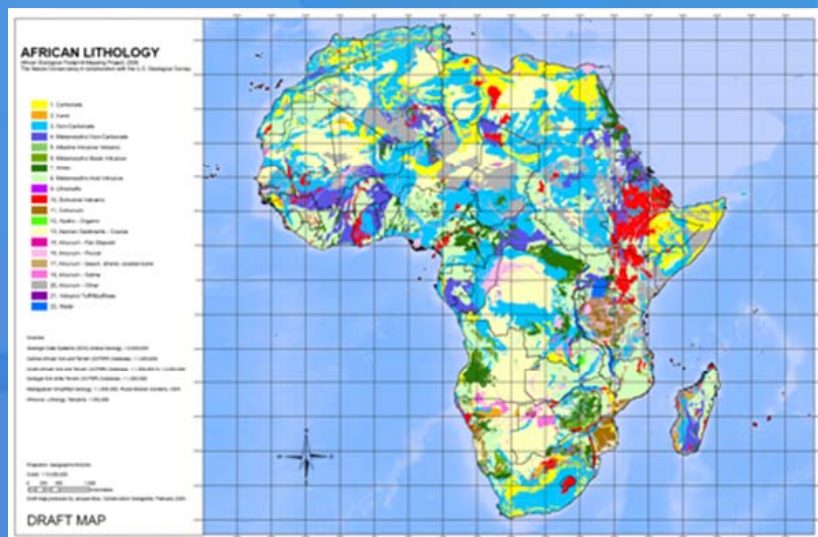
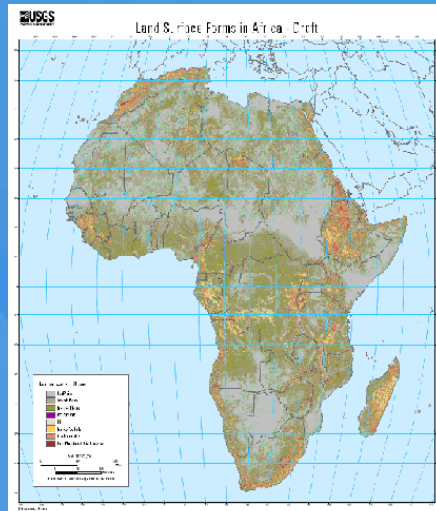
# Mapping Climate Projections







# Ecosystem Mapping





# Biodiversity Monitoring

Coral reef monitoring & biodiversity decision-support tool







# Training

**Metadata & web services  
development training**

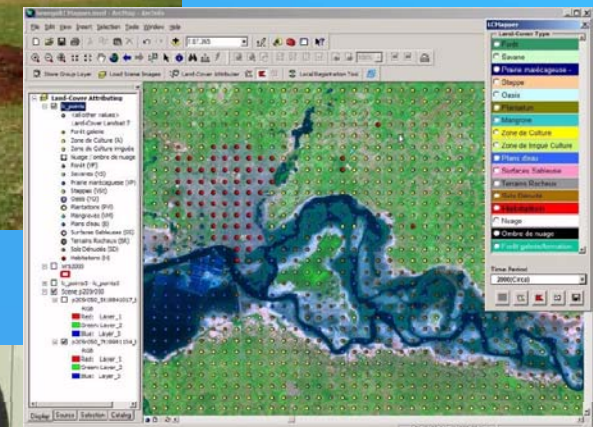
**Regional workshops**

**Flood mapping course**

**Rapid land cover mapping  
course**

**GEONETCast installation  
and training**

**University-based SERVIR-  
Africa module**





# SERVIR-Africa Portal

SERVIR AFRICA - Home - Windows Internet Explorer

http://www.servir.net/africa/

SERVIR AFRICA - Home

search ..

HOME DATA & SERVICES TOOLS & MODELS LIBRARY COMMUNITY ABOUT US

 The SERVIR-Africa website is under development.

Over the next few weeks, we will continue to add new content and functionality. Please check back soon, or [sign up](#) to receive notification of changes.

Coming Soon - Online Map Tools

Featured Map Viewer 2D Viewer 3D

Title: Latest 1 Day Rain Accumulation from TRMM  
Source: NASA GSFC TRMM Project  
Date: Ongoing - daily production [More info...](#)



SERVIR Mission

*Enabling the use of Earth observations and predictive models for timely decision making to benefit society*

Latest SERVIR News

- Use of NASA satellite rainfall data for flood modeling
- SERVIR-Africa team members to attend AARSI 2008
- NASA EO-1 data acquisition for flood monitoring East Africa
- SERVIR-Africa team member to participate in 8th EUMETSAT African User Forum
- MODIS Flood Maps & MODIS data subsets available in near real time

Latest Community News

- 1st phase of African Agricultural Data Rescue Initiative (AARI) underway
- November 08 SCI-Africa newsletter (Vol. 7, No. 11)
- Call for participation - International Workshop of Experts on Global Environmental Change
- October 08 issue of S&B project newsletter (Vol. 8, No. 4)
- African Geospatial Reference Frame (AFREF) newsletter (No. 7, September 2008)





# Geospatial 'one-stop' discovery

**Egyptian Geography Network**

Home

**CenaCarta** - Centre National de Cartographie et Télédétection

**Ceaser-web.com** - Online source for Geo-Information & Maps to Nigeria

ADDRESS SEARCH | ROUTE PLANNING | FIND BY ADDRESS | Points of Interest | POSTCODE SEARCH | GET A MAP | Contact Us | Make us your home page | Bookmark Us | Feedback | Tell a friend

Explore Lagos via our Satellite Imagery | Lagos driving directions

See More | More Pages: | Please leave a feedback

FIND A PLACE  
Simply enter name of place

MAP TOOLS - hover mouse over tool for help  
Zoom In Zoom Out Zoom Out

Use four cardinal arrows to move map  
(Zoom in to see street level maps & POI)

Choose town of choice

Select layers to see on main map

**UPDATE MAP LAYERS**

- ☒ Nigeria\_All\_POI
- ☒ Nigeria\_All\_Railway
- ☒ Nigeria\_All\_Airports
- ☒ Nigeria\_Street\_Level
- ☒ Nigeria\_All\_Towns
- ☒ Nigeria\_All\_Roads
- ☒ Nigeria\_Buildup\_Area
- ☒ Nigeria\_All\_Rivers
- ☒ Nigeria\_All\_Waters
- ☒ Nigeria\_All\_States
- ☒ Nigeria\_Boundary

Click for Map Legend

CEASER MOBILE IN CAR NAVIGATION

Click here for a review of our Garmin In-

**(e) Third Dimension Technologies**

OVERVIEW MAP - move mouse over map to see position on overview

FEATURED PLACE

WHERE IS THIS

CEASERWEB HOTLINKS

- www.3dtechnologies
- Lagos spatial que
- Nigerian GPS Ma
- Spatial Technologies
- National Bureau of St

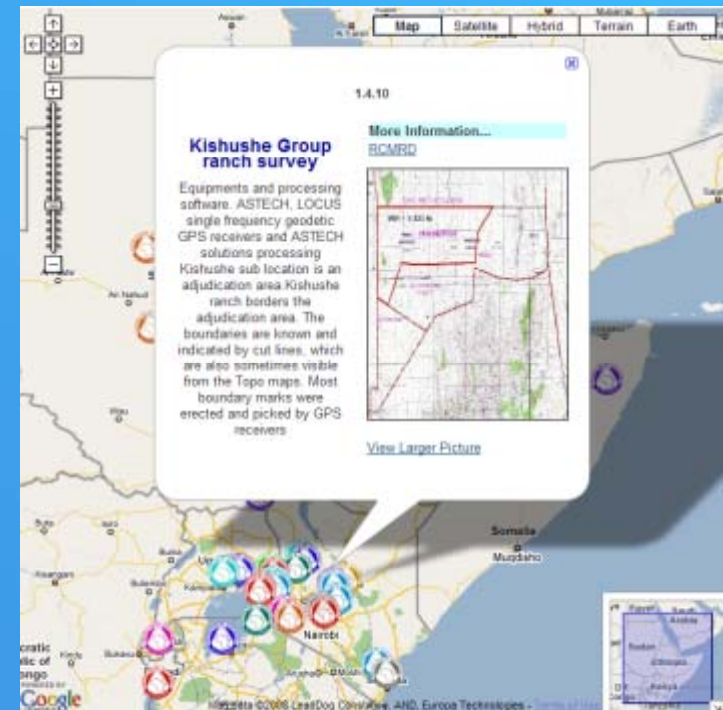
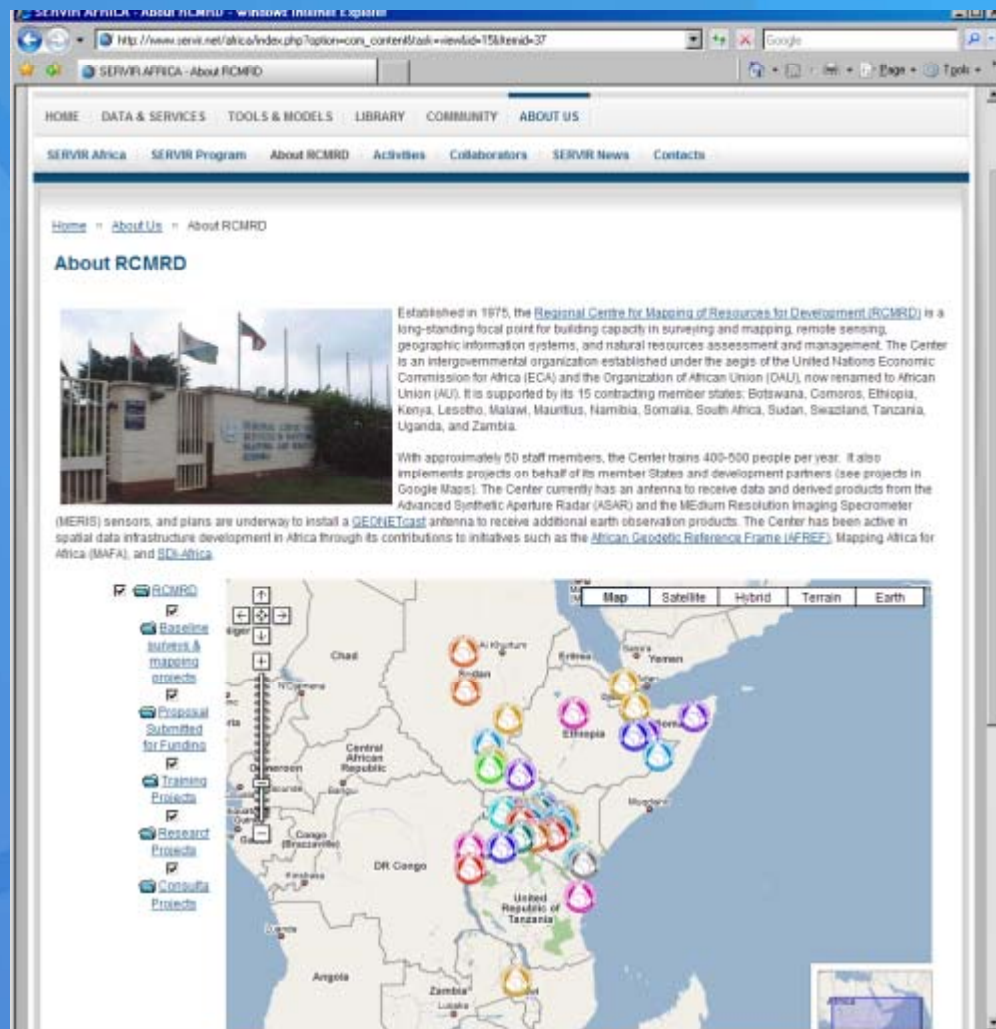
View Details View Map

GLC2000 Home map



# Data Sharing

Mapping projects previously conducted by RCMRD







# Integrated Search

## Search Results

Search Keyword:

☒ Any words ☐ All words ☐ Exact phrase

Ordering:

Search Keyword **nairobi**

Total 12 results found. Search for [ **nairobi** ] with Google

Results 1 - 12 of 12

1. [Malaria Atlas Website - pinpointing likely malaria outbreaks](#)

(COMMUNITY RESOURCE REGISTRY:ROOT DIRECTORY / DATA & SERVICES / DATA - DOWNLOADABLE)

2. [Nairobi Convention Clearinghouse and Information System](#)

(COMMUNITY RESOURCE REGISTRY:ROOT DIRECTORY / DATA & SERVICES / CATALOG SERVICES)

3. [TOPOGRAPHIC MAP \(1:50,000 SCALE\) OF KENYA \(SHEET NUMBER: 148-4 SHEET NAME: NAIROBI\)](#)

(SERVIR DATA PORTAL)

4. [TOPOGRAPHIC MAP \(1:250,000 SCALE\) OF KENYA](#)

(SERVIR DATA PORTAL)

5. [Google launches Kenya online map](#)

(COMMUNITY RESOURCE REGISTRY:ROOT DIRECTORY / DATA & SERVICES / DATA - DOWNLOADABLE)

6. [Roads database development from ASTER data](#)

(SERVIR AFRICA ACTIVITIES/TECHNICAL SUPPORT)

...n Systems Group in Addis Ababa and the Regional development, with supplementary fundin...

7. [Planning meeting at RCMRD](#)

(SERVIR PROGRAM/SERVIR NEWS)

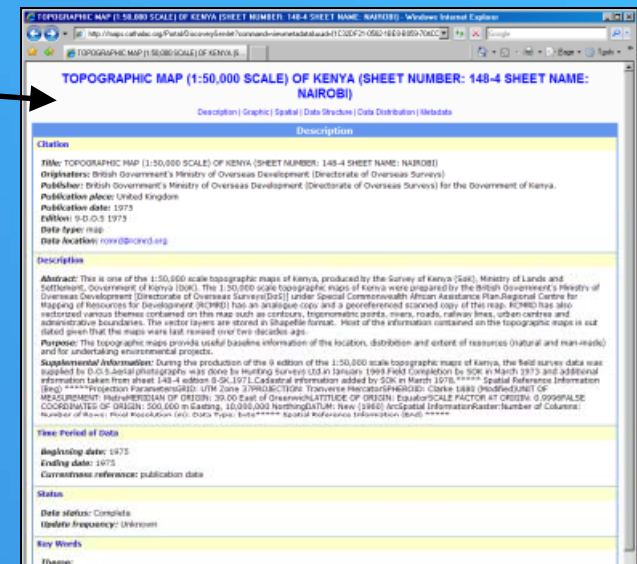
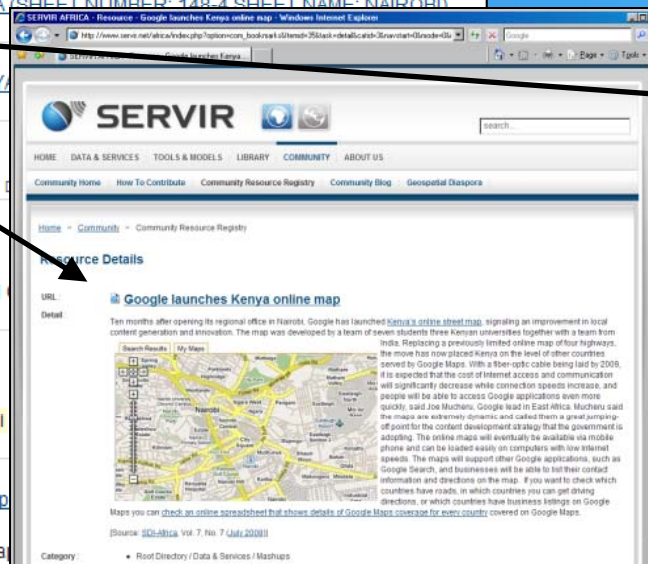
SERVIR-Africa implementing partners met in Nairobi as far as possible. Various approaches to staffin

8. [RCMRD RS/GIS Specialists visit NASA Goddard Sp](#)

(SERVIR PROGRAM/SERVIR NEWS)

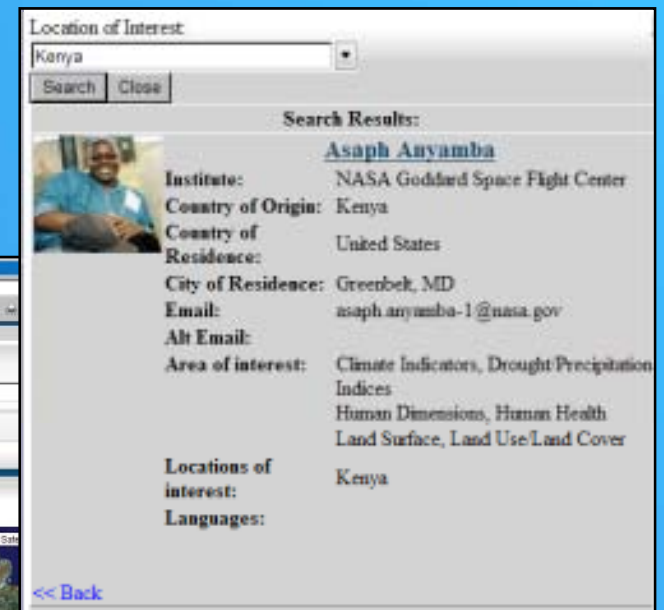
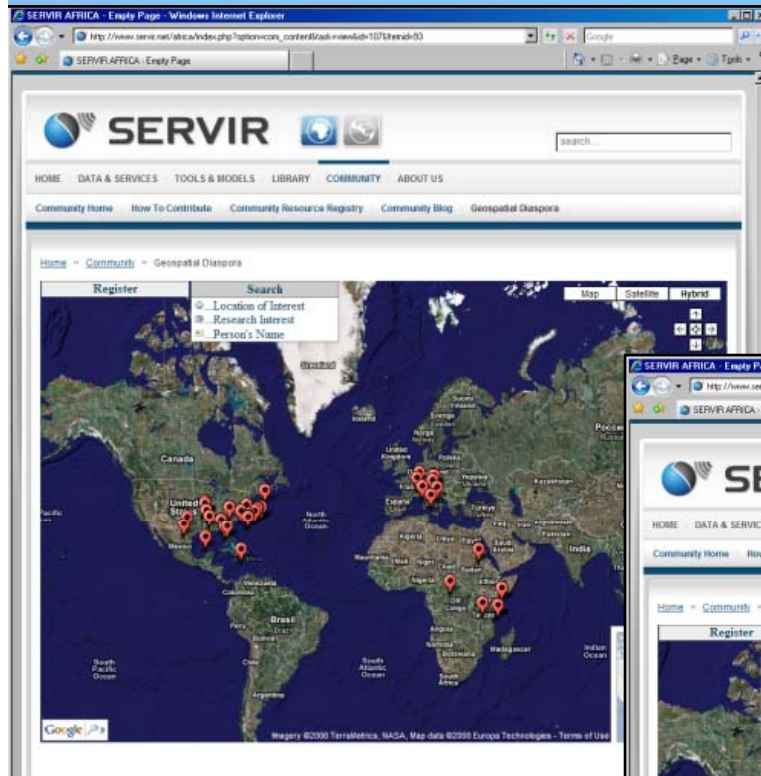
...ello, technical experts at the Regional Center for Ma Center in Greenbelt, MD on April 23-25, 2008...

Powerful search capability to find previously inaccessible information (search by location, date, data type)





# Geospatial Diaspora







# SERVIR Collaborators

## Implementing Organizations



## Gov't Ministries



## US Government



## Other Space Agencies



## NGOs/Non-Profits



## Universities

## Institutes Associations

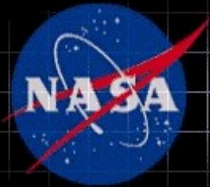


## Business/Industry



## International Organizations:





[www.servir.net](http://www.servir.net)



**USAID**  
FROM THE AMERICAN PEOPLE

# SERVIR-AFRICA

Regional Visualization and Monitoring System

