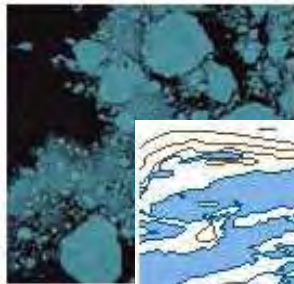


Potential use of Cosmo-SkyMed data for production and update of road condition maps



Géo212

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A. Ouellet - F. François



Operational Goals

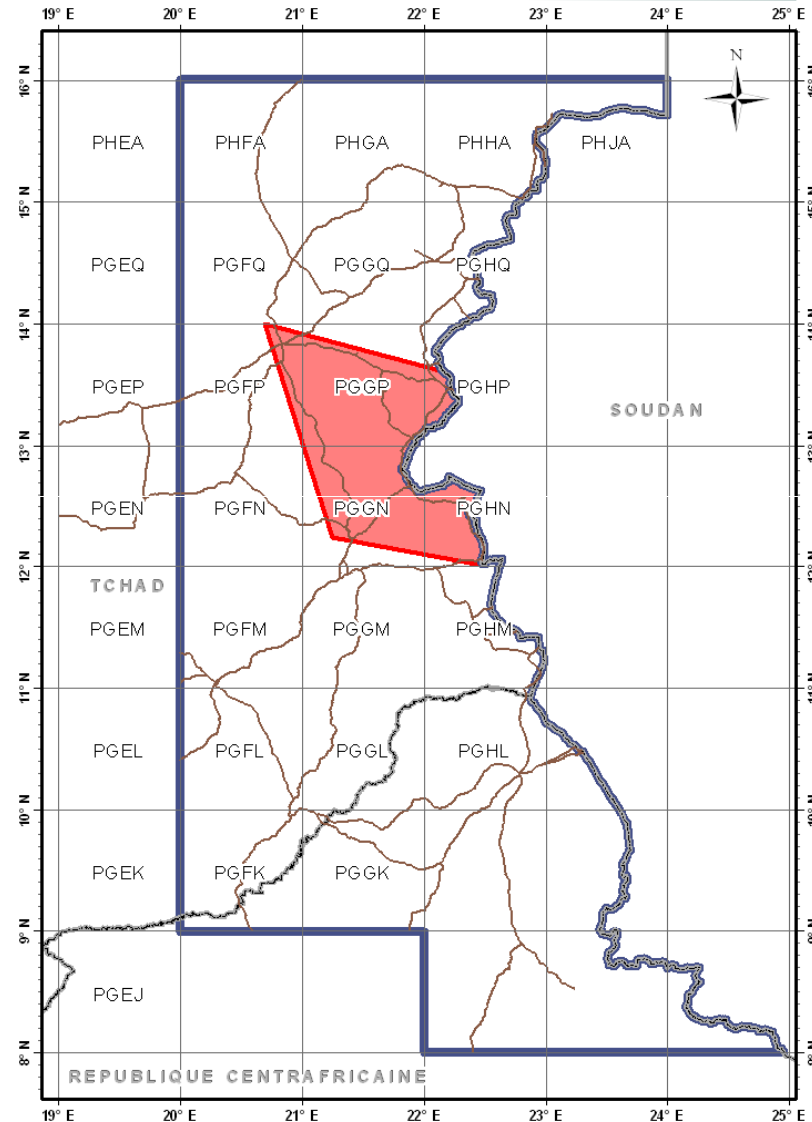
- Assist logistical efforts during the rainy season in a tropical area



August 2008

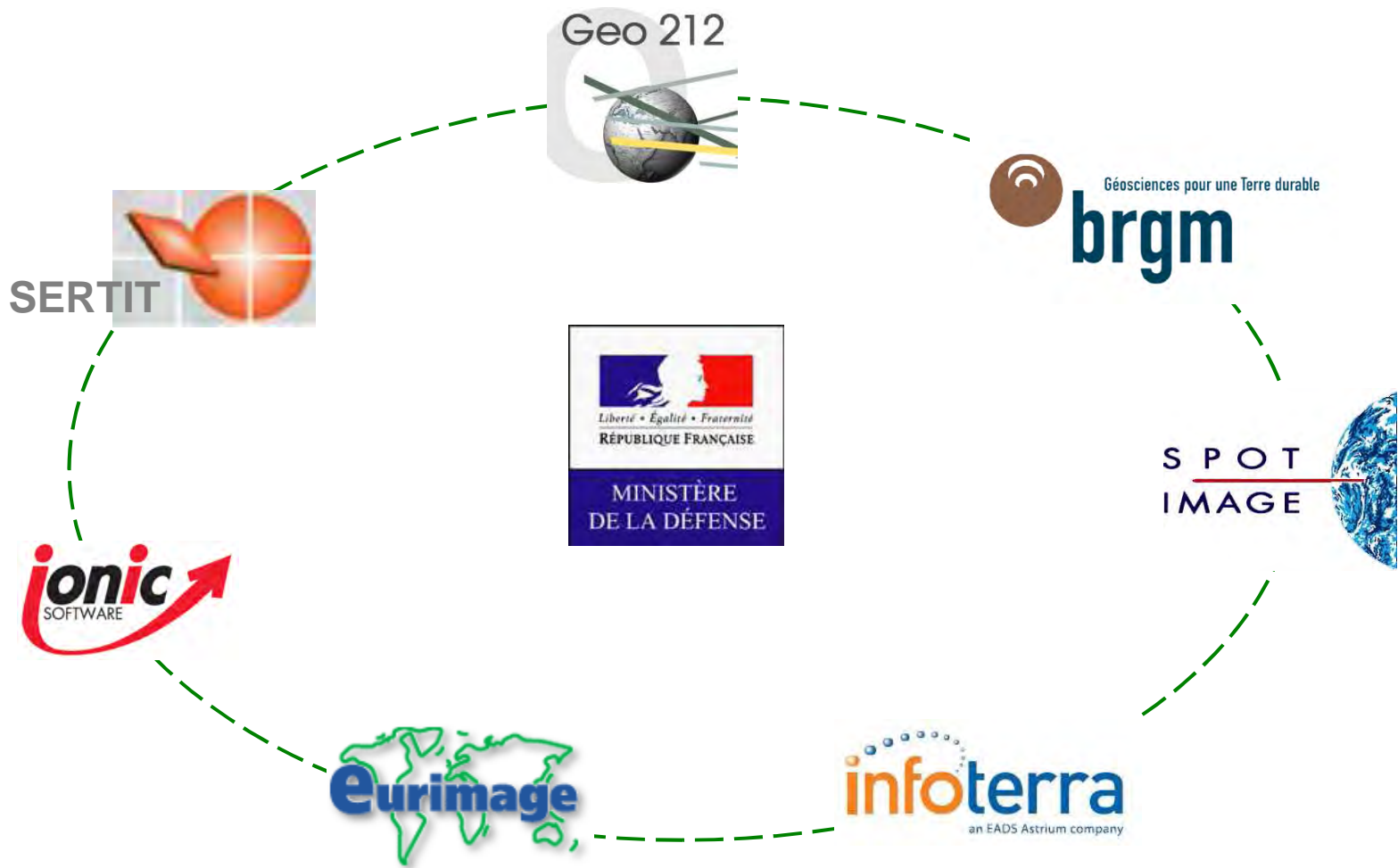
Area of Interest

- Eastern Chad
- North Eastern Central African Republic
- 265 000 km²



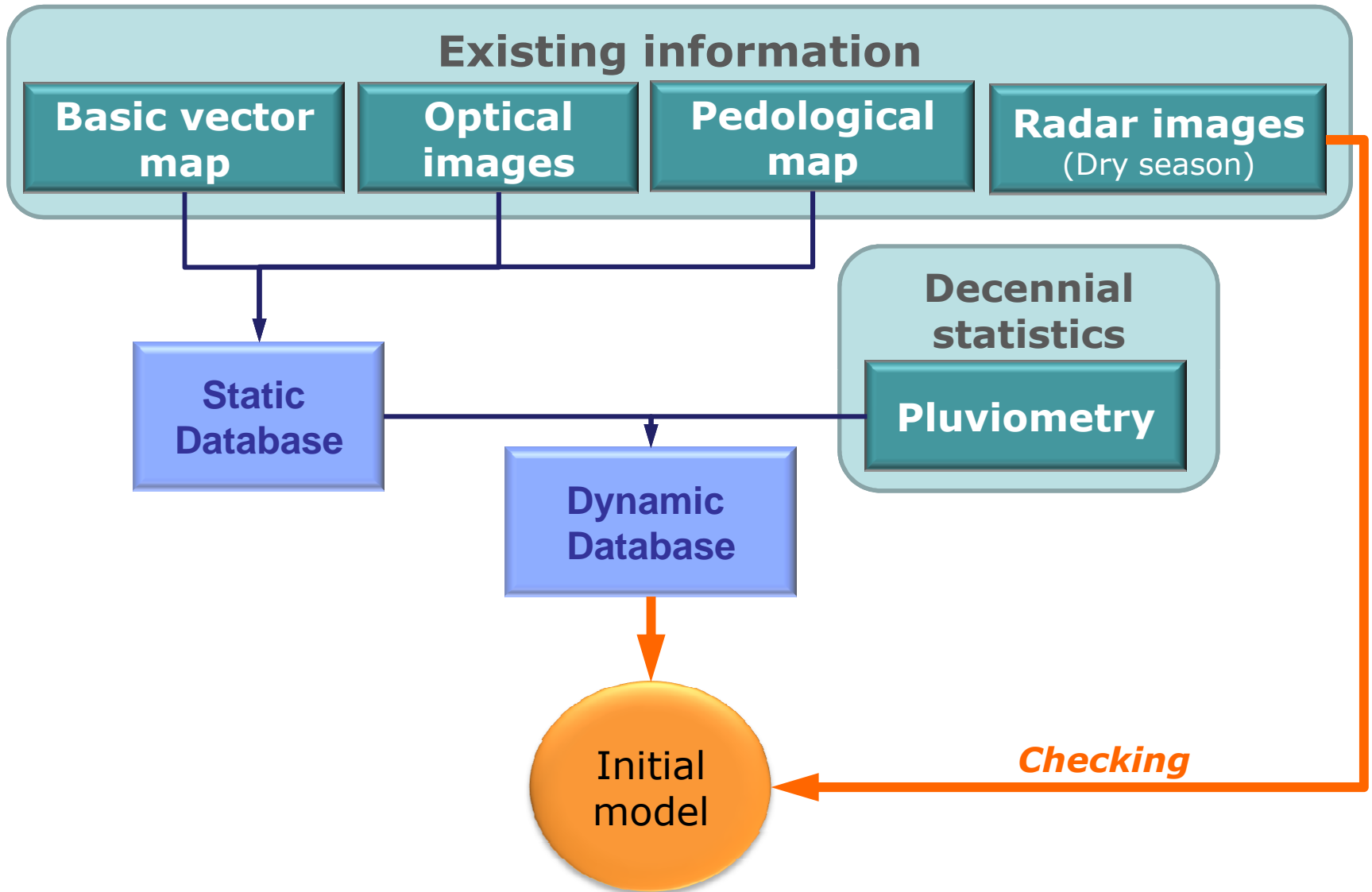
Players

Geo212

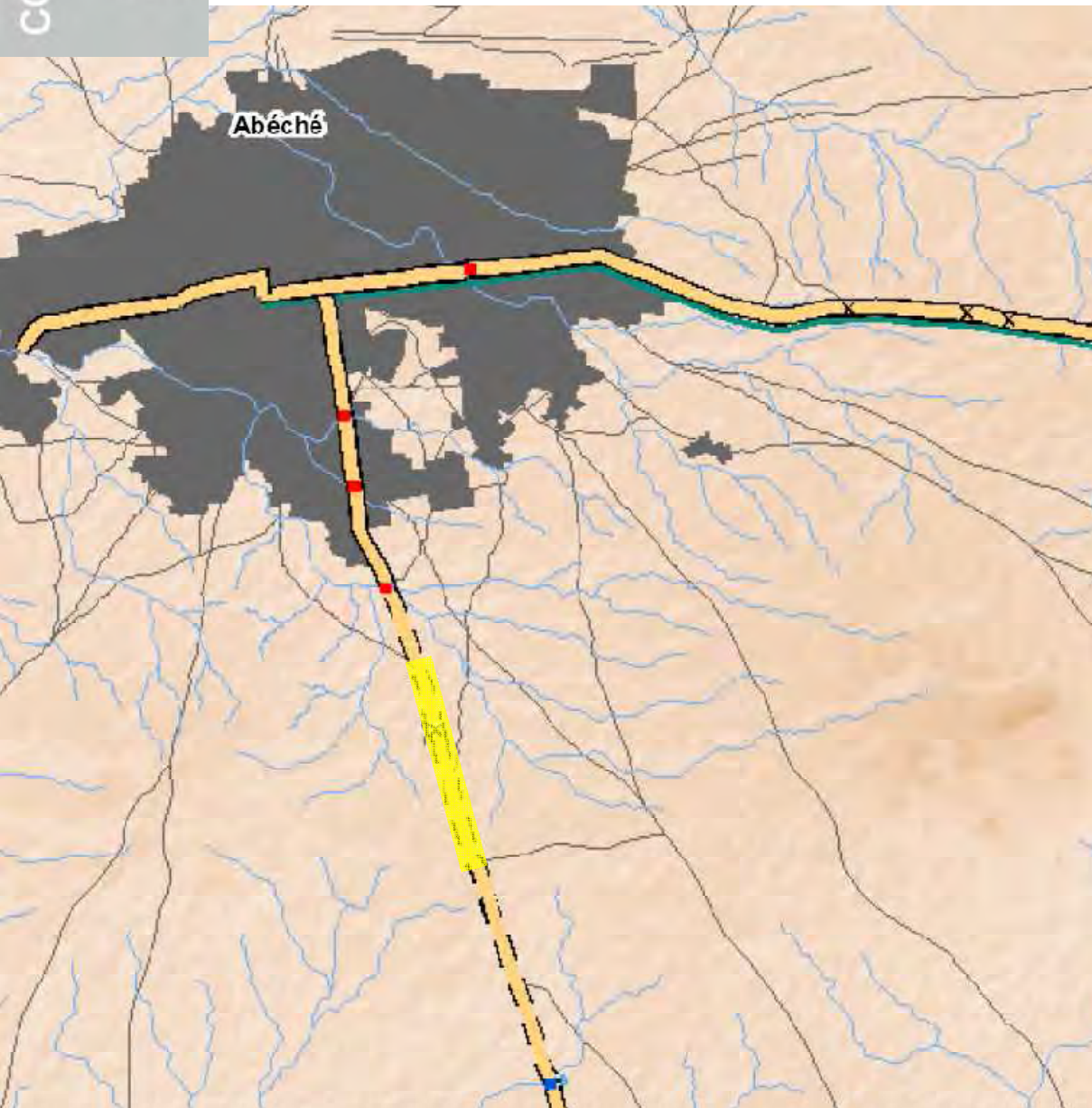





Thematic information production Spring 2008



Static database



Identify [?] [X]

Identify from:  AxisL_SCDB_axe_24

[-] AxisL_SCDB_...
 ...Abéché-[

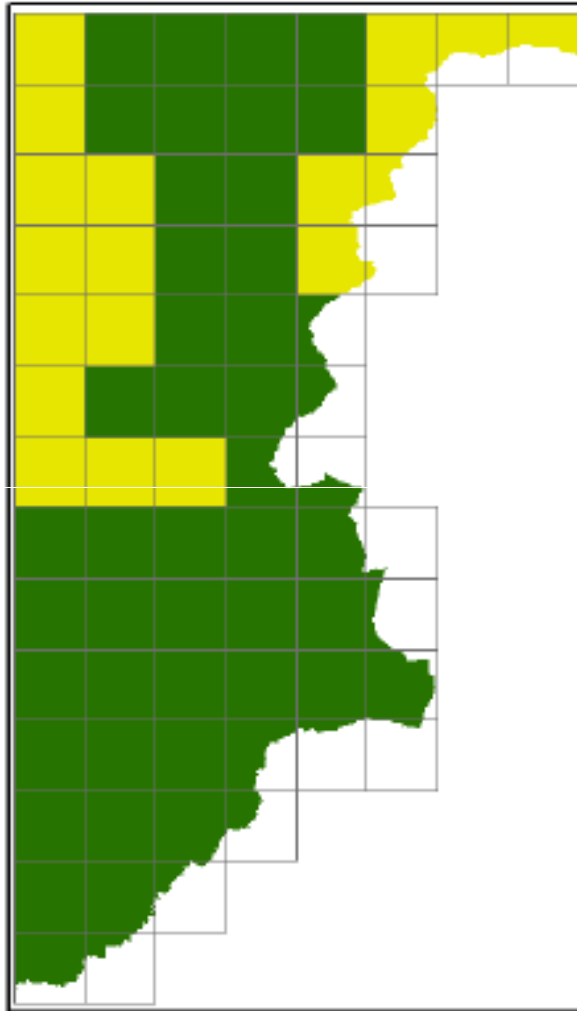
Location: 20.843799 13.781013

Field	Value
FID	0
Shape	Polyline
SectionID	0
AxisID	24
AxisName	Abéché-Goz Beida
Geom_S	300
Geom_D	15/12/2007
Rank	1
Rank_D	27/03/2008
Surface	1
Surface_S	211
Surface_D	15/12/2006
Width	1
Width_S	211
Width_D	15/12/2006
Side	99
Side_S	999
Side_D	<null>
Flood	0
Flood_S	211
Flood_D	15/12/2006
Soil	6
Soil_S	423
Soil_D	01/01/1964
Care	99
Care_S	999
Care_D	<null>
Equip	0
Equip_S	211
Equip_D	15/12/2006
MTracks	1
MTracks_S	211
MTracks_D	15/12/2006
FeedBack	
F_code	AP030

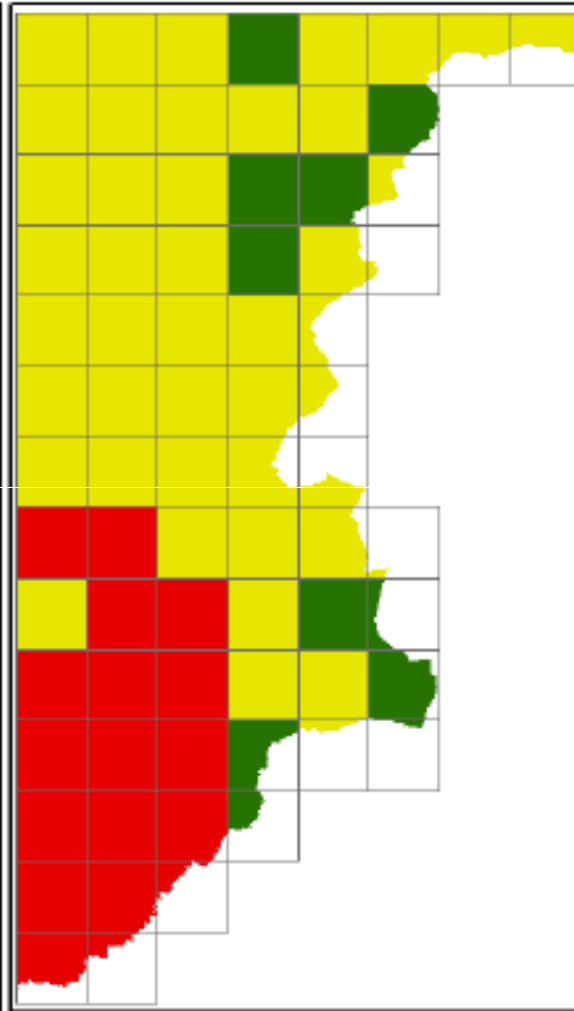
Identified 1 feature



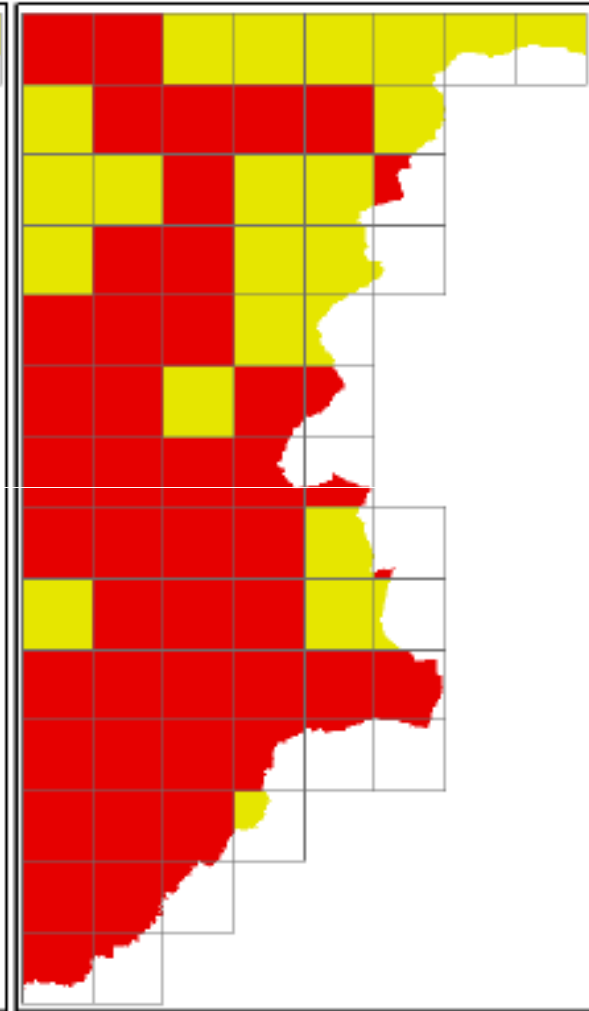
Risk index



End of dry season




Middle of rainy season



End of rainy season

 Good road conditions

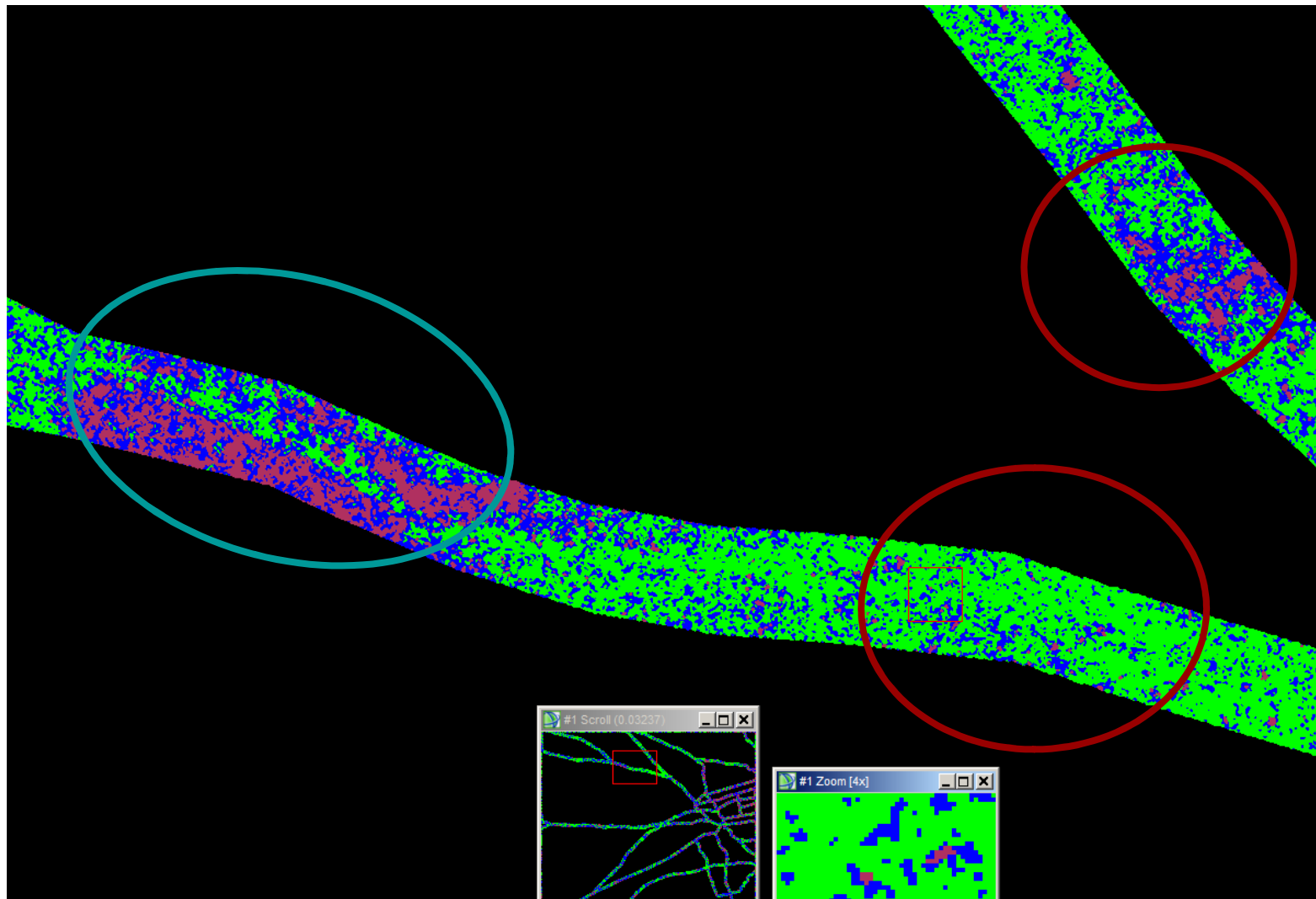
 Hazardous road conditions

 Harsh road conditions

Main Focus for radar imagery analysis : Dry Season

- Dry season images
 - ☺ Update alerts
 - ☺ Detection of flood prone surfaces
 - ☺ Evaluation of humidity tracks
 - ☹ Rugosity evaluation
- Rainy season images
 - Update alerts
 - Distinction between humid, waterlogged and flooded areas
 - Evaluation of humidity tracks
 - Rugosity evaluation

Detection of flood prone surface & humidity tracks over Abeche



Stripmap - HH - 04/03/2008 - unsupervised Isodata classification

Main Focus for radar imagery analysis : Rainy season

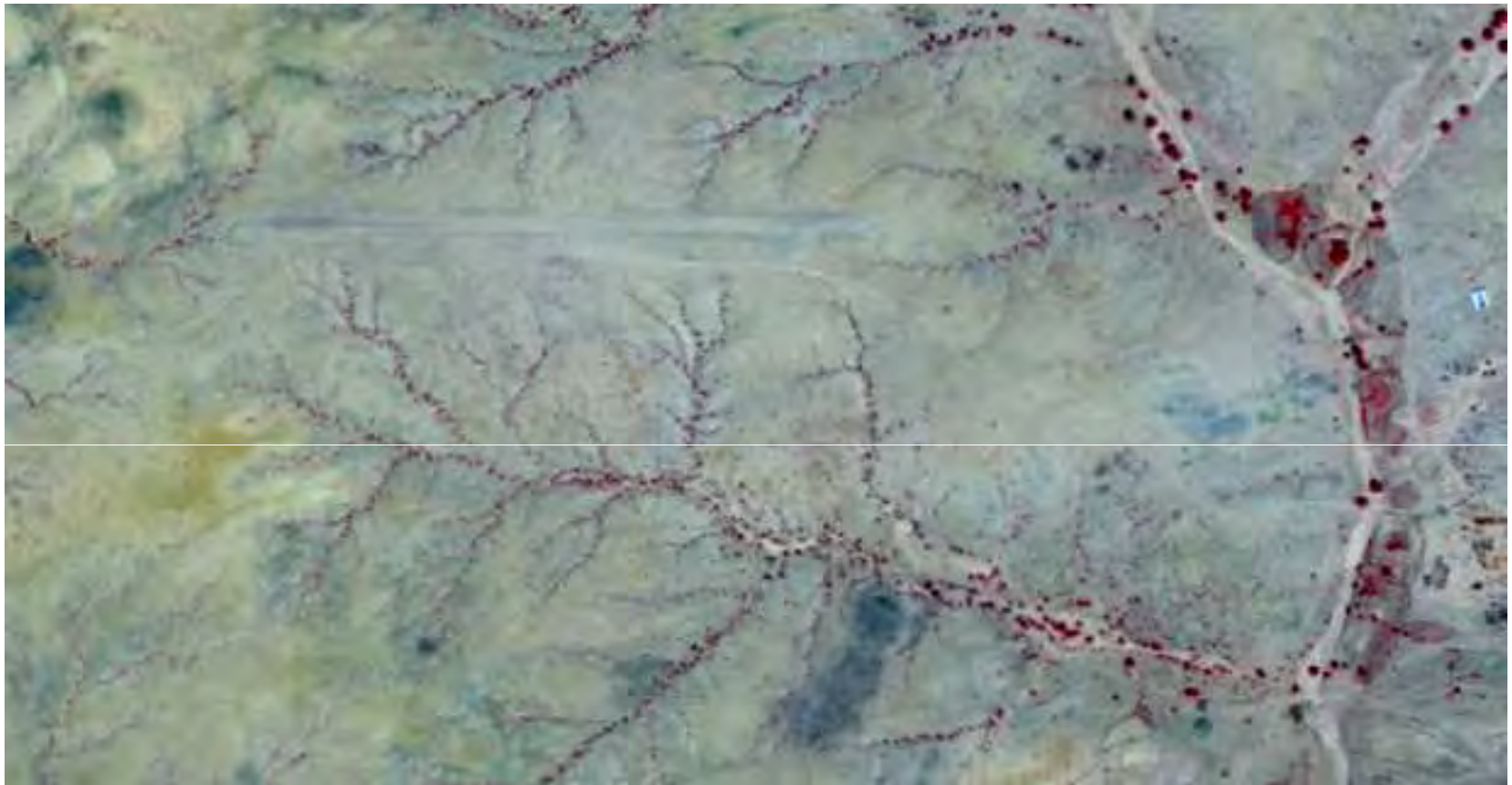
- Dry season images

- ☹ Update alerts
- ☹ Detection of flood prone surfaces
- ☹ Evaluation of humidity tracks
- ☹ Rugosity evaluation

- Rainy season images

- ☹ Update alerts
- ☺ Distinction between humid, waterlogged and flooded areas
- ☹ Evaluation of humidity tracks
- ☹ Rugosity evaluation

Update alert over Iriba



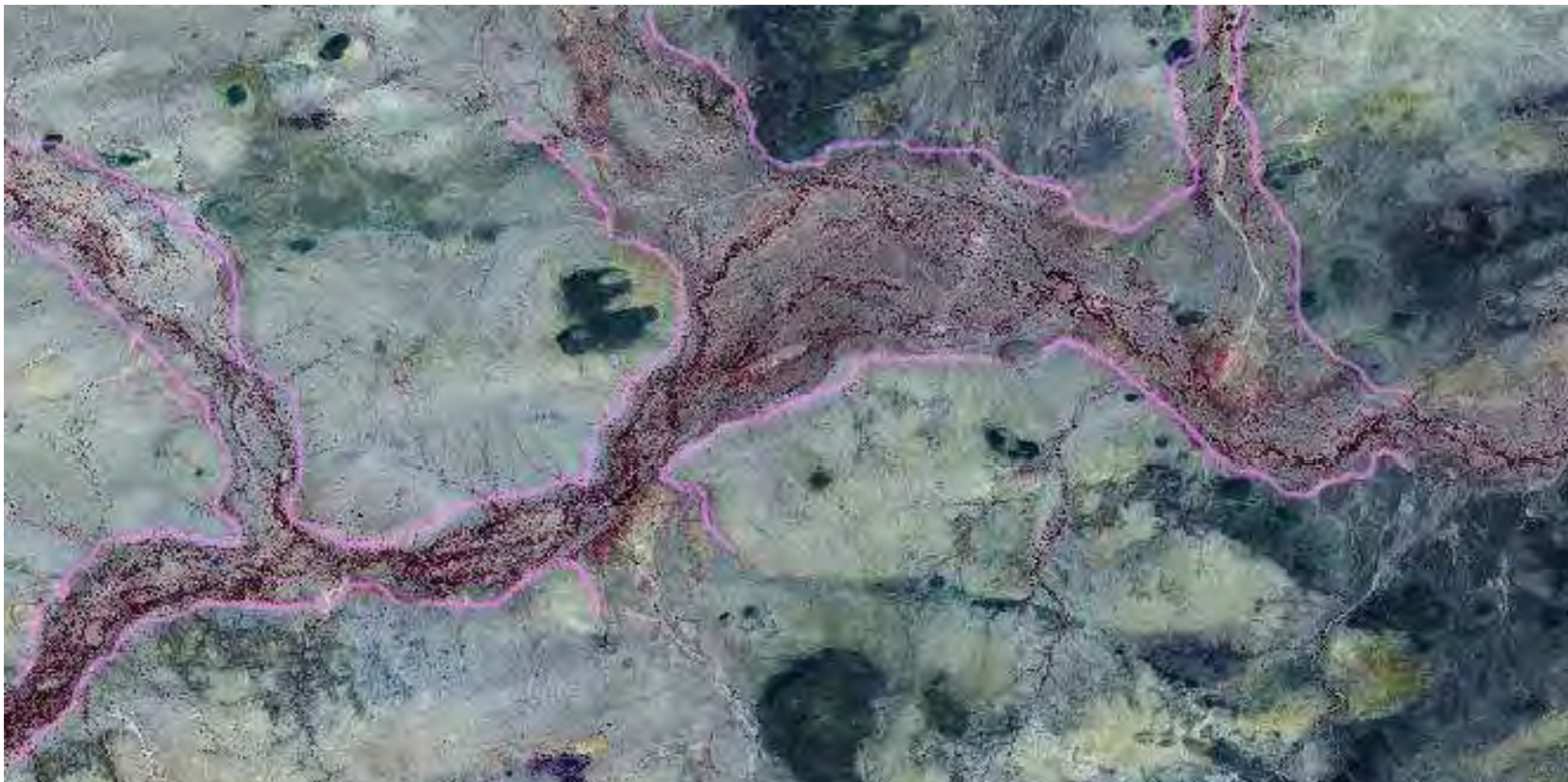
Spot 5 HRG - 5m - 02/01/2006

Update alert over Iriba



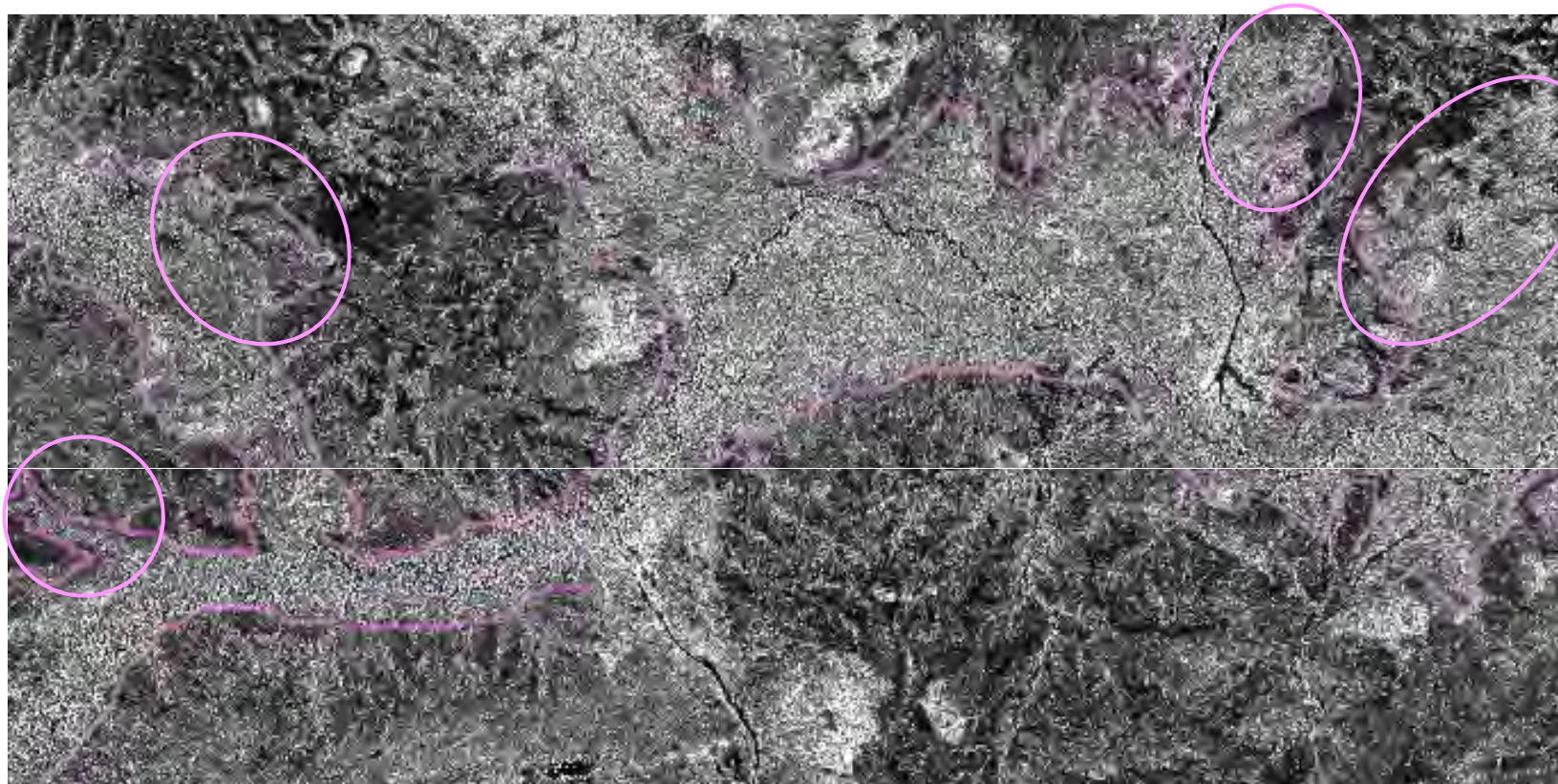
Stripmap - HH - 11/09/2008

Identification of waterlogged surfaces



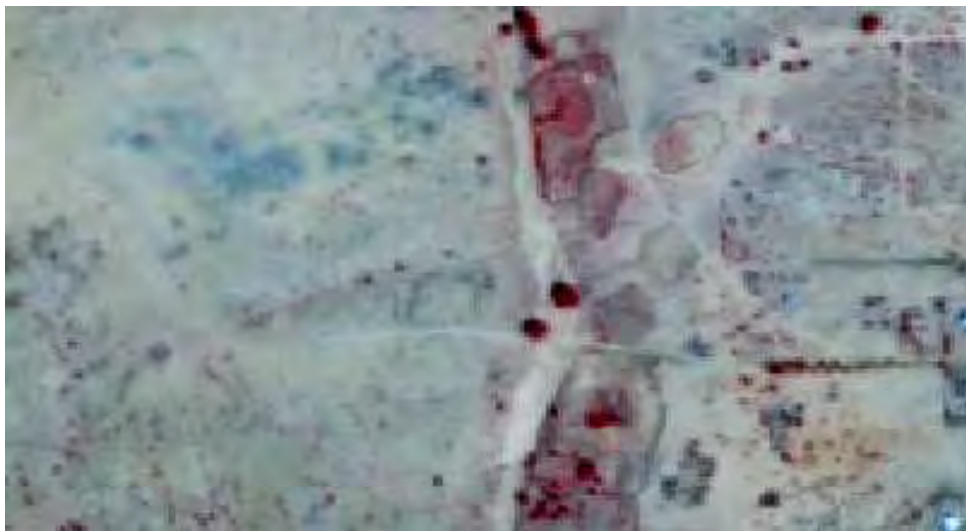
Spot 5 HRG - 5m - 02/01/2006

Identification of waterlogged surfaces



Stripmap - HH - 11/09/2008

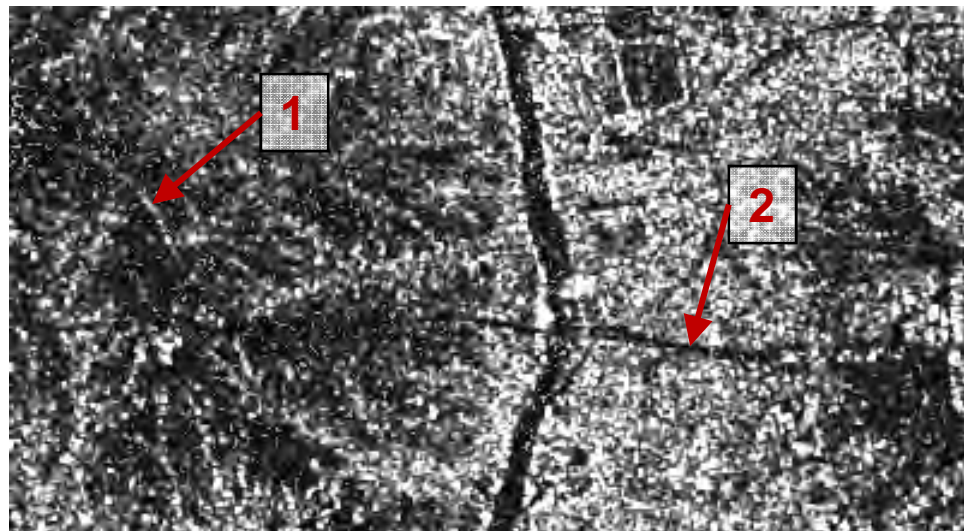
Distinction between dry and flooded tracks



Spot 5 HRG - 5m - 01/01/2006

Dry season :

Dry track and dry ford



Rainy season :

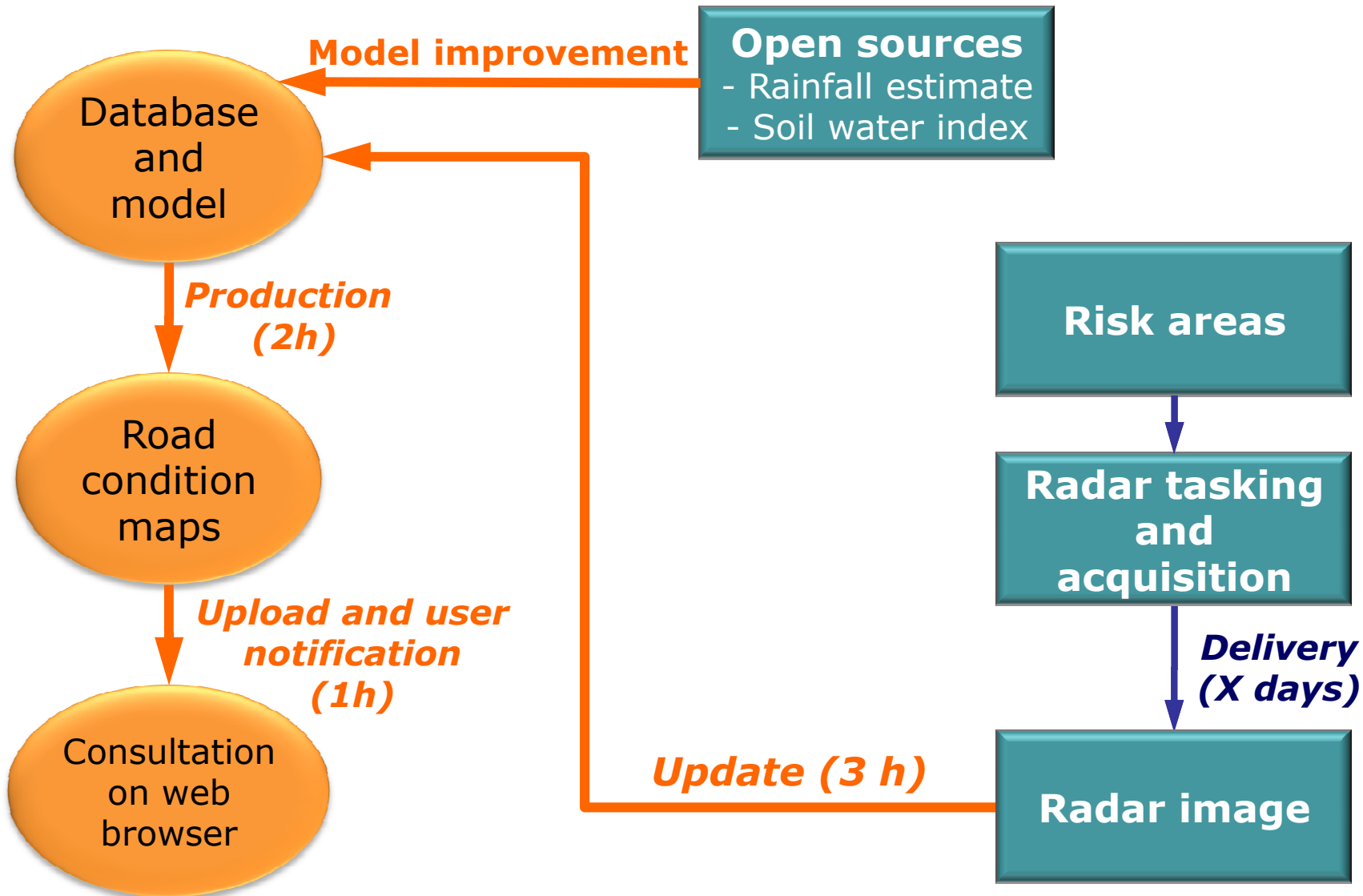
1 : Dry track

2 : Flooded track

Stripmap - HH - 11/09/2008

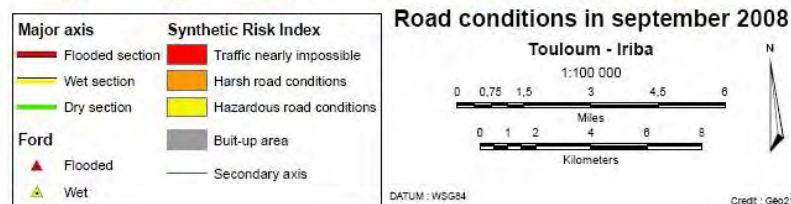
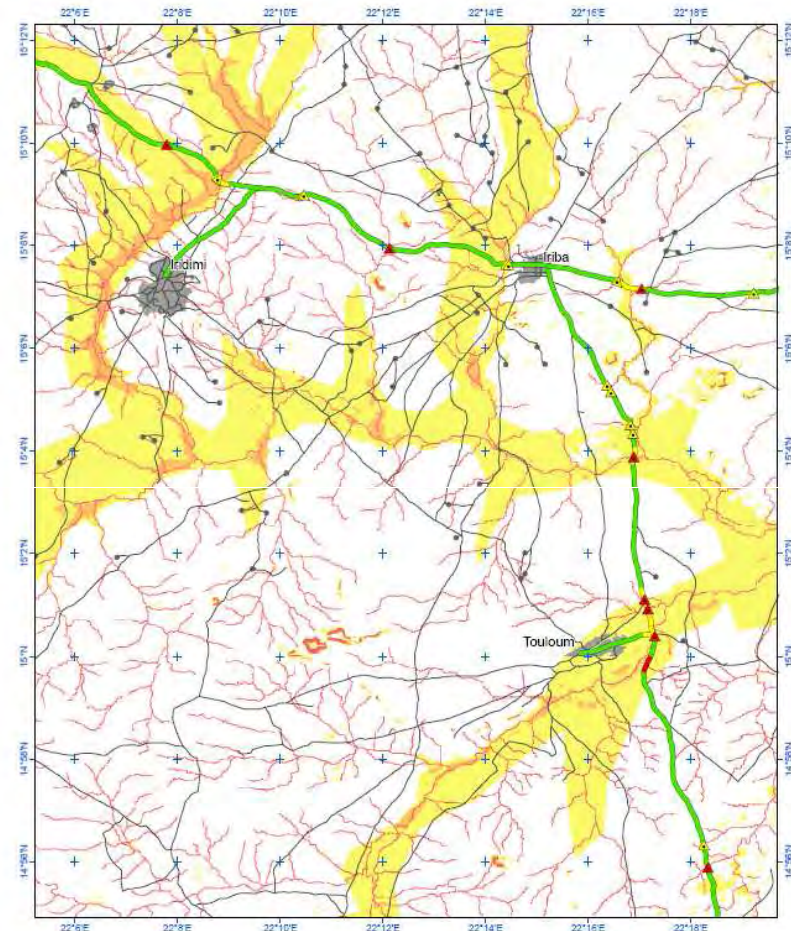


Update workflow during the rainy season

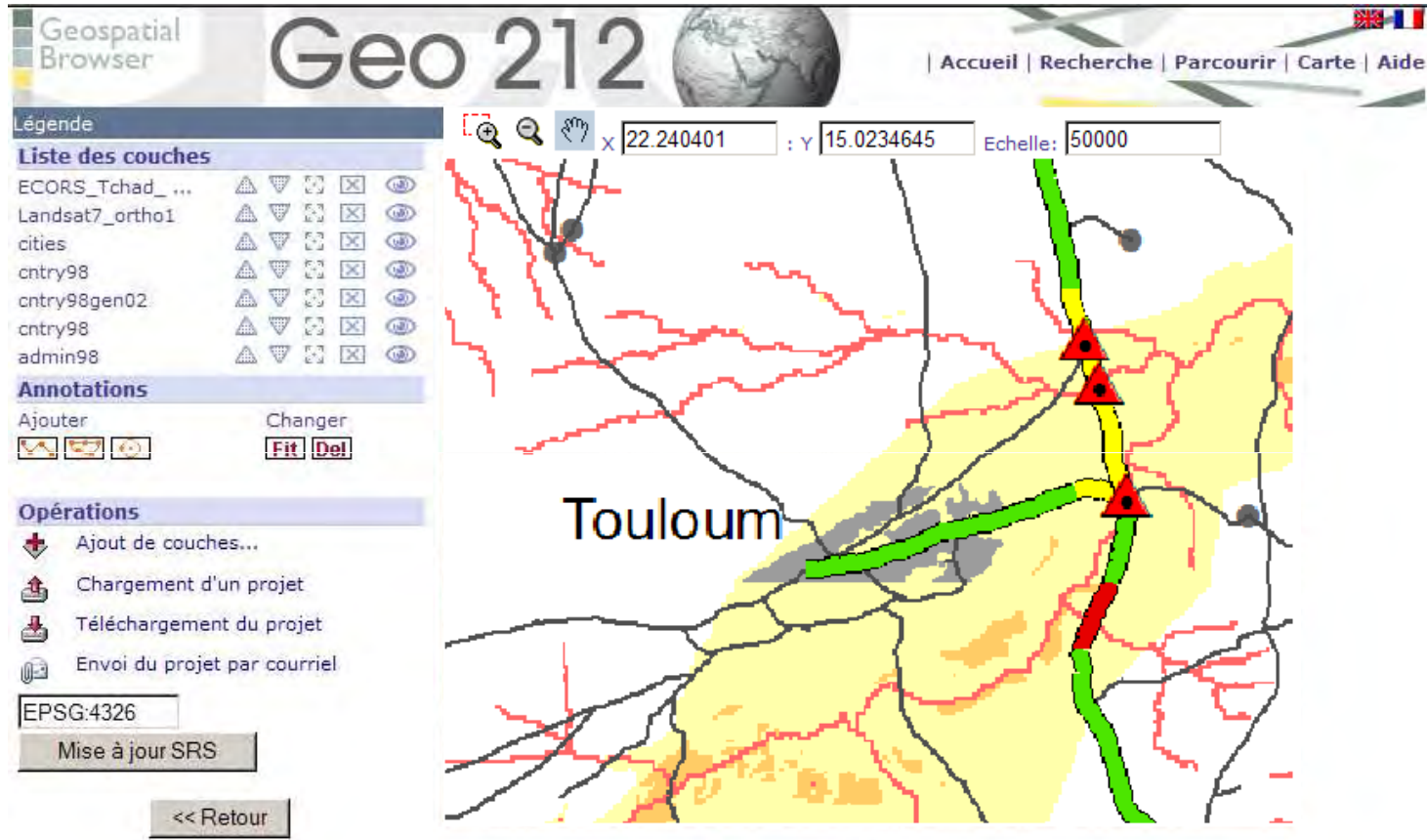




Production example

- Improved risk composite index
- Update on main roads (axis and fords) based on rainy season radar imagery
- Fast delivery through the Internet



Geospatial browser



Geospatial Browser **Geo 212**   | Accueil | Recherche | Parcourir | Carte | Aide

Légende

Liste des couches

ECORS_Tchad_ ...					
Landsat7_ortho1					
cities					
cntry98					
cntry98gen02					
cntry98					
admin98					

Annotations

Ajouter Changer **Fit Del**

Opérations

- Ajout de couches...
- Chargement d'un projet
- Téléchargement du projet
- Envoi du projet par courriel

EPSG:4326
Mise à jour SRS

<< Retour

Coordinates: X: 22.240401 : Y: 15.0234645 Echelle: 50000

Touloum

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