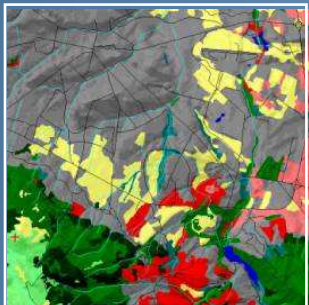
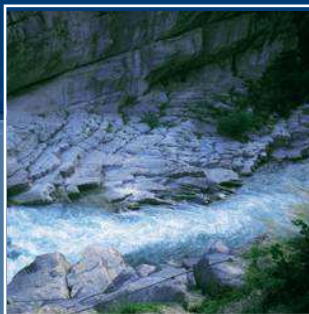




BulgariaRisk

→ Project presentation

Study for the integration of satellite imagery
in the operational procedures of risk
management in Bulgaria

Florence Baillarin

<http://www.spotimage.fr>

Sofia, November 27th, 2007



- Integration of Bulgaria in the EC in 2007
- Bulgaria faces many disasters (floods, fires, earthquakes)
- No integrated system for crisis management in Bulgaria
- Many initiatives in the field of risk management in Bulgaria (EU level and national level)
 - Phare Floods Assistance Programme for the Republic of Bulgaria (EC)
 - Cross Border Programme (EC)
- Implementation of Decision of the Bulgarian Council of Ministers No. 761 from 24.09.2004 for the establishment of common geodatabase for territory, population and resources of Bulgaria
- Antalya Declaration (2004) : develop regional systems for early warning and satellite monitoring of wildland fires in the region

→ The International Charter for “Space and Major Disasters”

- France, Europe and Canada Initiative, and now widely international
- Mobilization of the space and associated ground resources to provide information during a crisis

→ European context : GMES

- Operational services under preparation (EU-FP7, ESA-GSE)

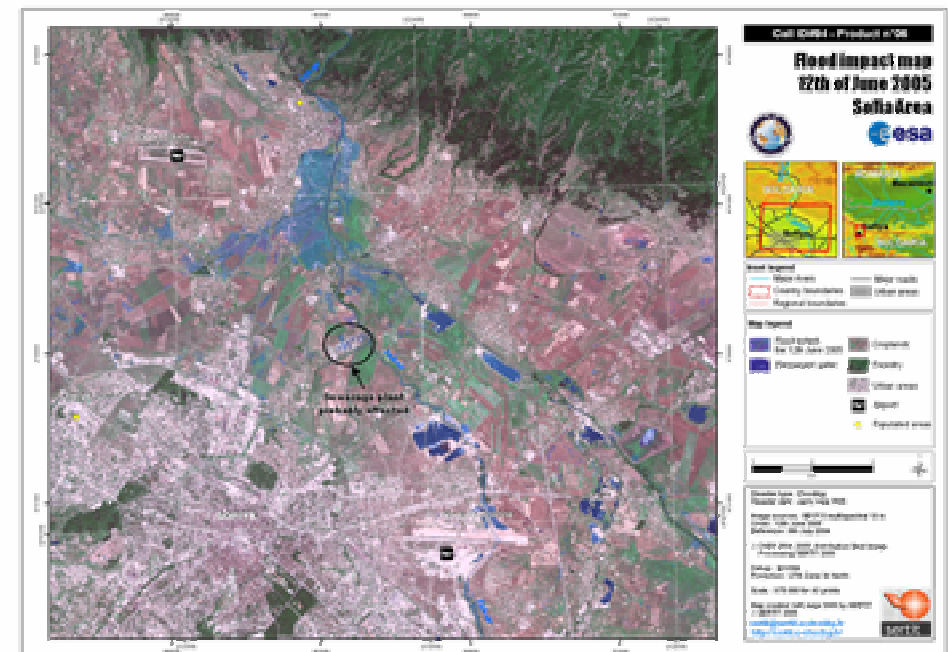
→ Use of earth observation derived geographical information for risk management : strong know-how in France

- Spot Image for data provision
- SERTIT for remote sensing and image processing services, particularly in risk management
- Boost Technologies for maritime environment monitoring
- French Civil Protection for the use of such information in crisis action plans
- Infoterra for service provider and system integration

→ Study : integration of satellite imagery in the operational procedures of risk management in Bulgaria

→ Objectives of this French-Bulgarian cooperation :

- To present how to transform satellite data into useful information for risk management => land management,
- To study if & how geographical information derived from satellite images could be integrated in the operational procedures of risk management in Bulgaria (production, processing, dissemination)
- To contribute to the terms of reference of a national centre for risk management (floods, forest fires, earthquakes, pollution,...)





- Project leader
- Satellite image provider
- Final report
- Promotion & communication



- Technical coordinator
- Training sessions
- Development of geo-information products dedicated to risk management (flood, fire, landslide, ...)



- Development of geo-information products dedicated to risk management (maritime applications)



- Development of integrated systems dedicated to risk management (Risk Frame)



- French Civil Protection



- Remote Sensing Application Center
- Local project coordinator
- Development of geo-information products using satellite imagery

Different steps of the project

- ① **Kick-off meeting in Sofia** (2 to 7 Jul. 2007)
- ② **Seminar “state of the art”** (26 Nov. 2007)
 - Presentation of French & Bulgarian know how concerning the use of satellite imagery for risk management
- ③ **Needs analysis**
 - Specific mission in Bulgaria : interviews and meetings with actors involved in risk management
 - Report of needs analysis
- ④ **Study tour in France (one week in France for 5 people)**
- ⑤ **Case studies and training sessions (floods, forest fires, marine pollution)**
 - 5 Training sessions, on the basis of the practical case studies
 - prototypes of database over 3 pilot areas in Bulgaria
 - Workshop “integration of satellite imagery into risk management process”
- ⑥ **Final report of recommendations**
 - Recommendations for the integration of satellite imagery in the operational procedures of risk management in Bulgaria (data, resources, information sharing, etc...)
 - Validation of the report by Bulgarian experts & users
 - Workshop “Final meeting”



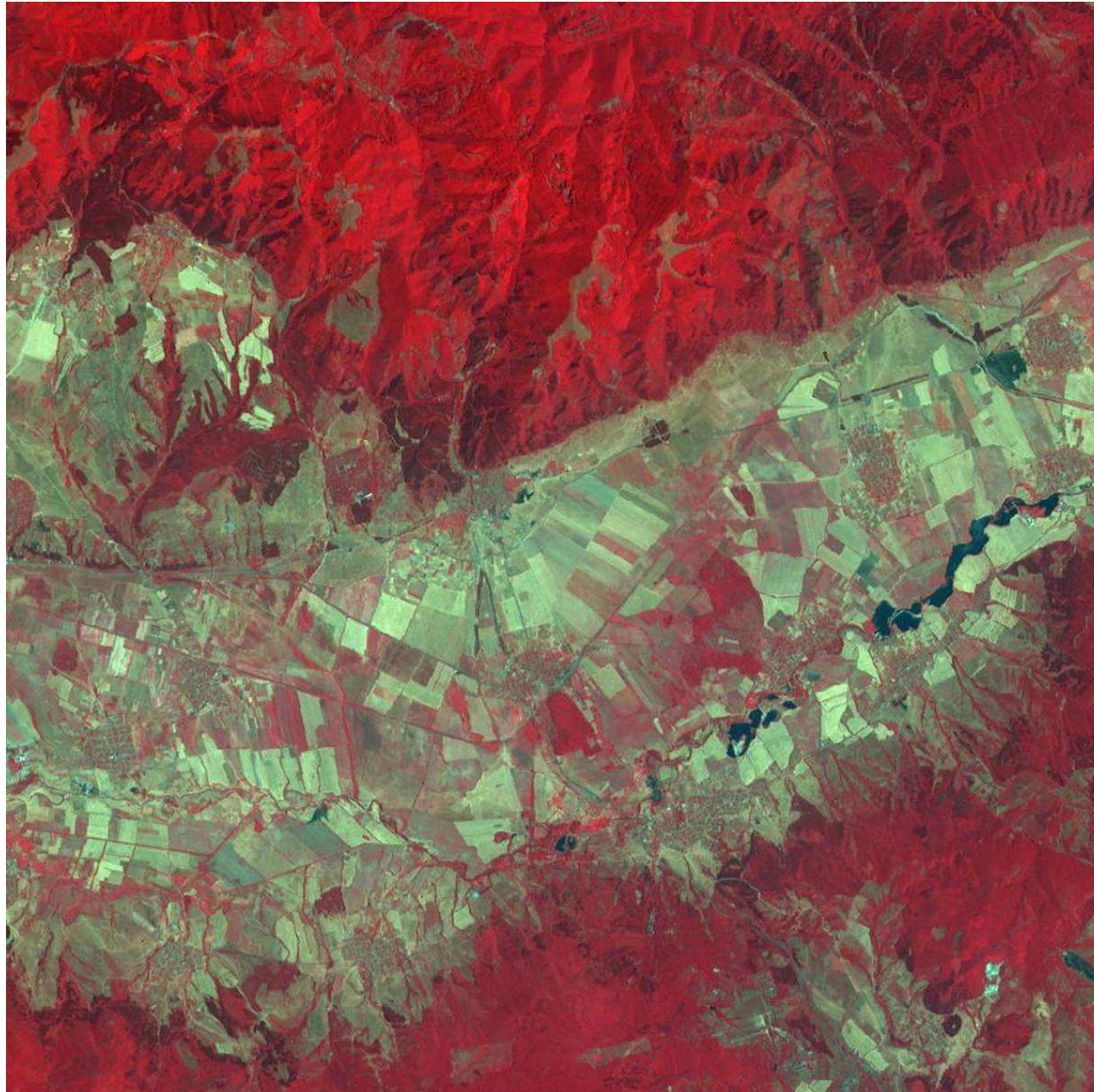
→ Prototypes of database over 3 pilot areas in Bulgaria

■ Case studies (floods, forest fires, marine pollution)

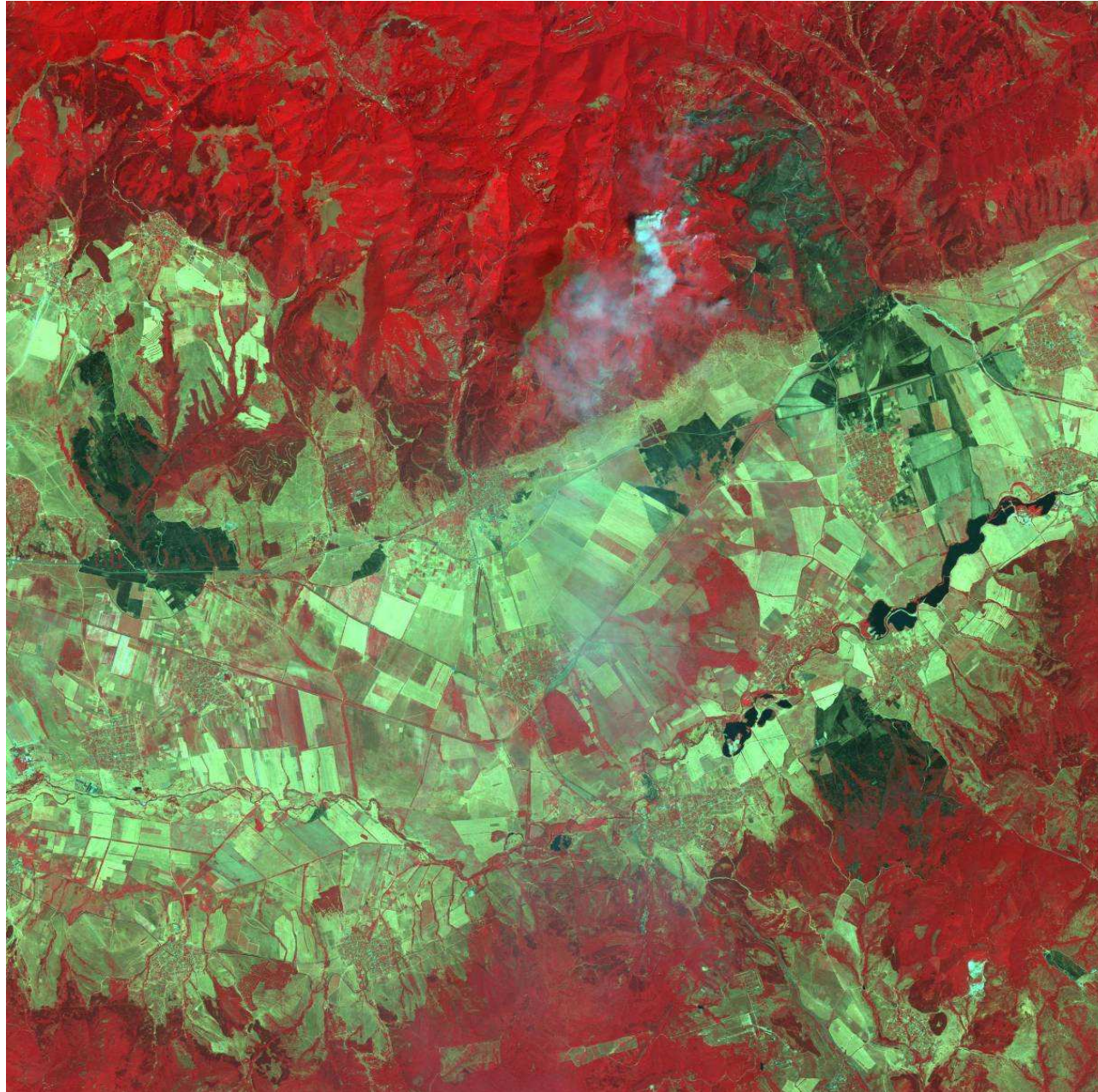
- Definition of 3 test zones and 3 risks types
- Application exercise on past real case (floods 2005) and lessons of experience
- Application exercise in 2006-2007 (real event, or floods 2006 since images are available)



© CNES, 2007 – Distribution Spot Image



© CNES, 2007 – Distribution Spot Image



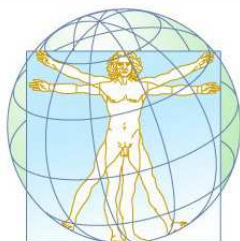
→ Training sessions, on the basis of the practical case studies

- Basics on remote sensing and GIS : introduction to these technologies
- Basics on risk mapping using satellite imagery : what kind of information can be obtained from satellite images for risk management
- Event mapping - rapid mapping : how to obtain this information, how to distribute or to send it, prototype maps on the test zones
- Satellite imagery exploitation for the full risk management cycle : how useful is the event information for the global risk management cycle (before and after the crisis for anticipation, prevention, lessons of experience), and more generally how it can be used for a sustainable and more secure land planning.
- Risk management applications and tools : present a GIS tool dedicated to risk management actors. A few scenarii will be defined and tested with the users.



- **French companies invest and are partially funded by France (FASEP)**
- **Bulgarian authorities participate to the study and get the result :**
 - **prototypes of database over 3 pilot areas in Bulgaria**
 - **a recommendations report**
- **Benefits**
 - **Get a common bilateral view of the possible ways and means of integration of satellite imagery in Bulgaria**
 - **Establish the base for cooperation and future partnership with the International Charter “Space and Major Disasters”**
 - **Define joint actions under the EC programs as GMES, GEO – Work-plan 2007-2009, FP 7 and others**

Main beneficiaries



Agency for Sustainable Development and Eurointegration

- Local coordination of the beneficiaries
- support to the seminars, workshops and training sessions



State Agency for Information Technologies & Communication

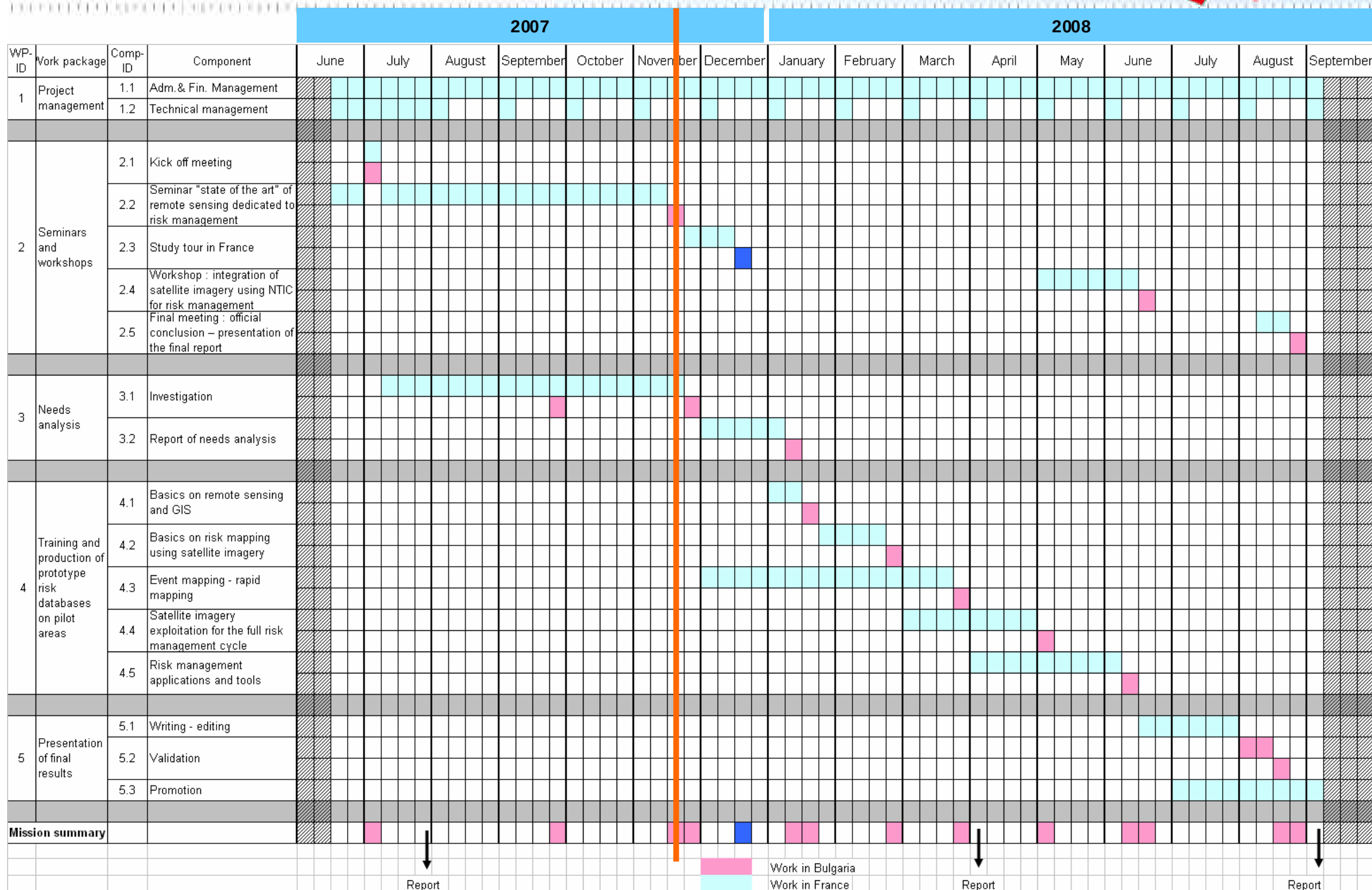
- Participation & support to the seminars, workshops and training sessions

Additional beneficiaries

- Alliance for Environment
- National Civil Protection Service (Ministry of State Policy for Disasters and Accidents)
- National Fire Safety and Civil Protection Service (Ministry of Interior)
- National forestry board, National Institute of Hydrology and Meteorology
- Association of municipalities in Bulgaria
- Water agencies & Executive Environmental Agency (Min. of Environment and Water)
- Etc...



Provisional schedule





Bernard ALLENBACH

bernard@sertit.u-strasbg.fr

Jean-Louis BELLAN

jean-louis.bellan@infoterra.fr

Contacts:

Florence BAILLARIN

florence.baillarin@spotimage.fr

Vincent KERBAOL

vincent.kerbaol@boost-technologies.com

Claire KOWALESKI

claire.kowaleski@interieur.gouv.fr

Ljudmila MILENOVA

resac@techno-link.com

Any unauthorized edition, extraction,
edition, modification, dissemination
or use is strictly prohibited.



MINISTÈRE DE L'INTÉRIEUR
ET DE L'AMÉNAGEMENT DU TERRITOIRE