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Implementation of an awareness tool to post-accidental issues for local stakeholders

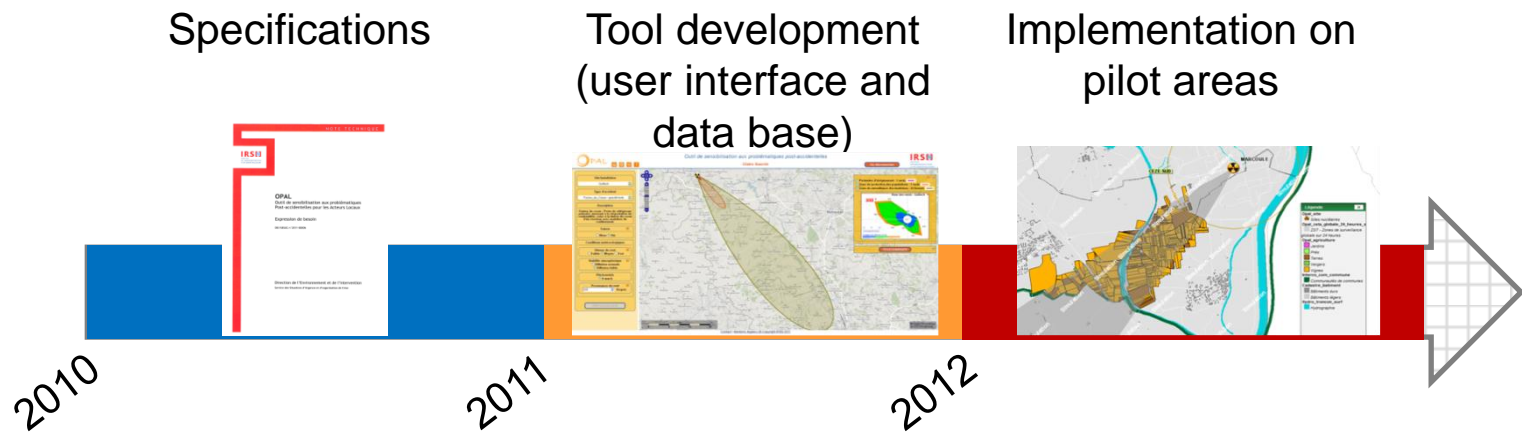


WHY ?

- The involvement of local stakeholders in accident management becomes more and more important during the post-accidental phase
 - Protection of population
 - Rural and urban management
 - Communication
 - ...
- Growing willingness expressed by local stakeholders to **improve, in preparedness, their knowledge about post-accidental consequences of a nuclear accident**

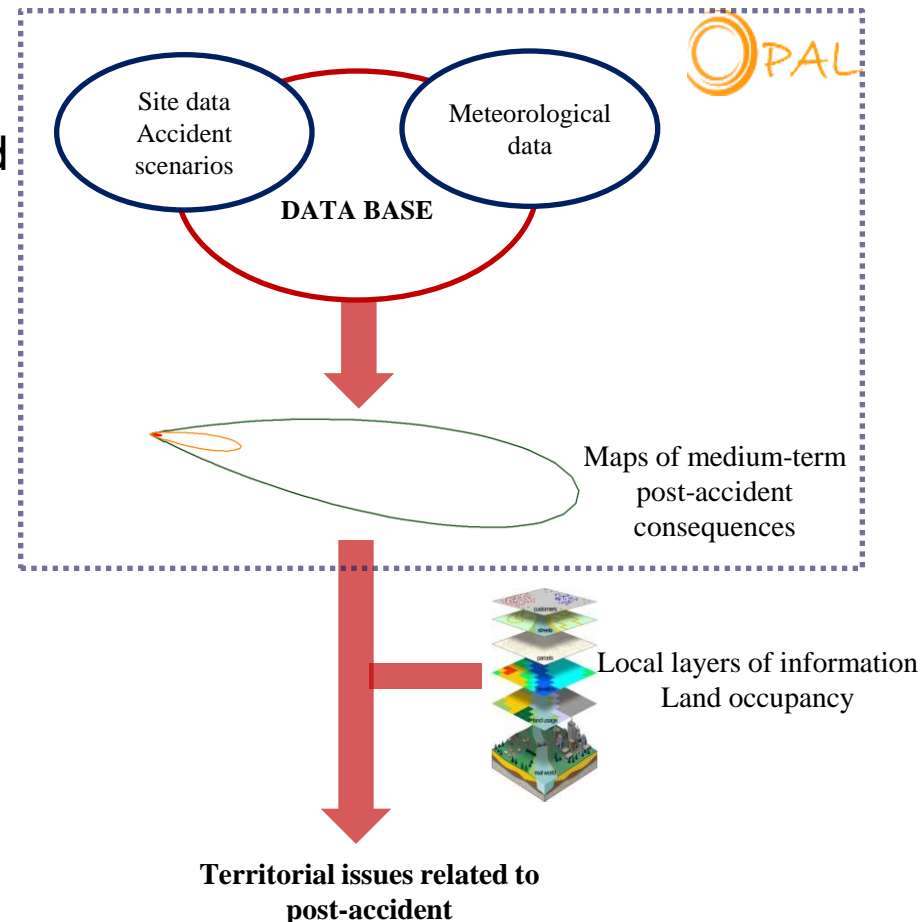
HOW ?

- ANCCLI and IRSN launched a common action (2010-2013) with the underlying objectives :
 - To develop an awareness tool
 - To train local stakeholders about post-accidental consequences (via Local Liaison Committees – CLI)
 - To identify local issues
 - For IRSN, to collect local information that characterizes environment close to nuclear site



OPAL (awareness tool)

- Architecture: Web-mapping tool
 - Accident scenarios pre-calculated with existing tools used at IRSN Emergency Response Center and stored in a data base
 - Not a simulation tool
- Scope of OPAL:
 - Middle-severity accident scenarios
 - Post-accidental phase
 - **Education and training purpose**
 - **Not relevant for expertise and emergency response management**



Map: three contaminated territories management zones

➤ Visualization of 2 studies -> influence of the input parameters on the post-accidental consequences

Site Installation
Golfech

Type d'accident
Fusion du Coeur_Maitrisée_en_Cu

Description
Fusion du cœur maîtrisée en cuve :
Perte de réfrigérant primaire amenant
à la dégradation du combustible, voire
à la fusion du cœur d'un réacteur avec
maintien du confinement.

Saison
☐ Hiver ☒ Été

Conditions météorologiques

Vitesse du vent
☒ Faible ☐ Moyen ☐ Fort

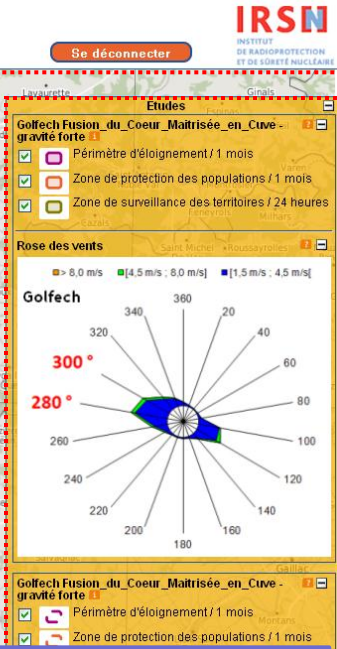
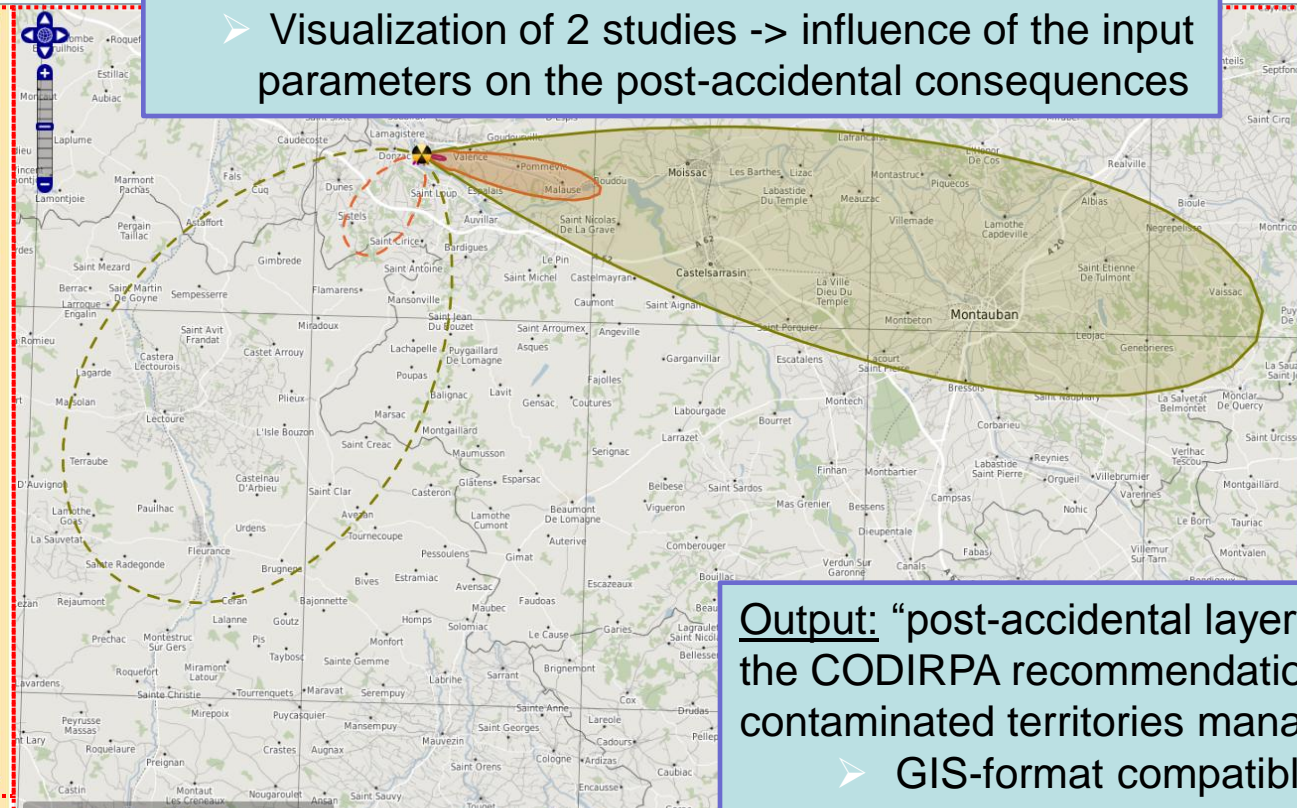
Stabilité atmosphérique
☒ Diffusion normale ☐ Diffusion faible

Pluviométrie
☒ 0 mm/h

Provenance du vent

34 Degrés

PREVISUALISER



Output: “post-accidental layers” defined on the CODIRPA recommendations – three contaminated territories management zones

➤ GIS-format compatible with local stakeholders cartographic tools

Input: nuclear site, accident scenario, season, wind speed and direction and atmospheric stability

CODIRPA recommendations

Relocation Perimeter

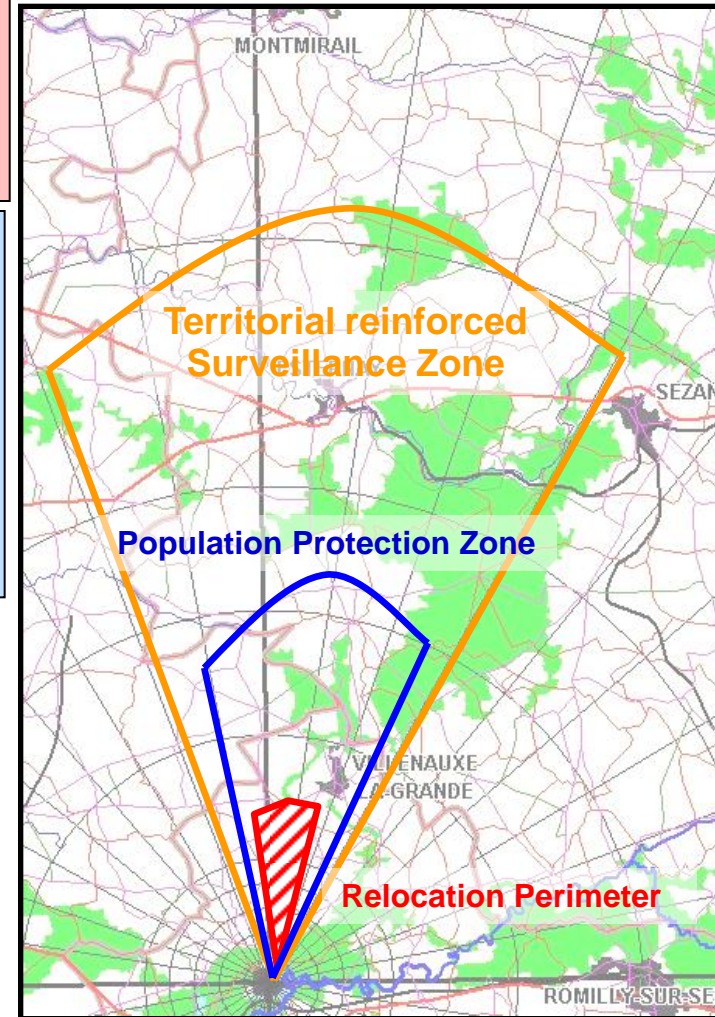
- Highest external exposure
- Population have to be relocated

Population Protection Zone

- No population relocation but require measures to reduce resident exposure
- consumption and sale of foodstuff produced in the ZPP would be prohibited, regardless of their level of contamination

Territorial reinforced Surveillance Zone

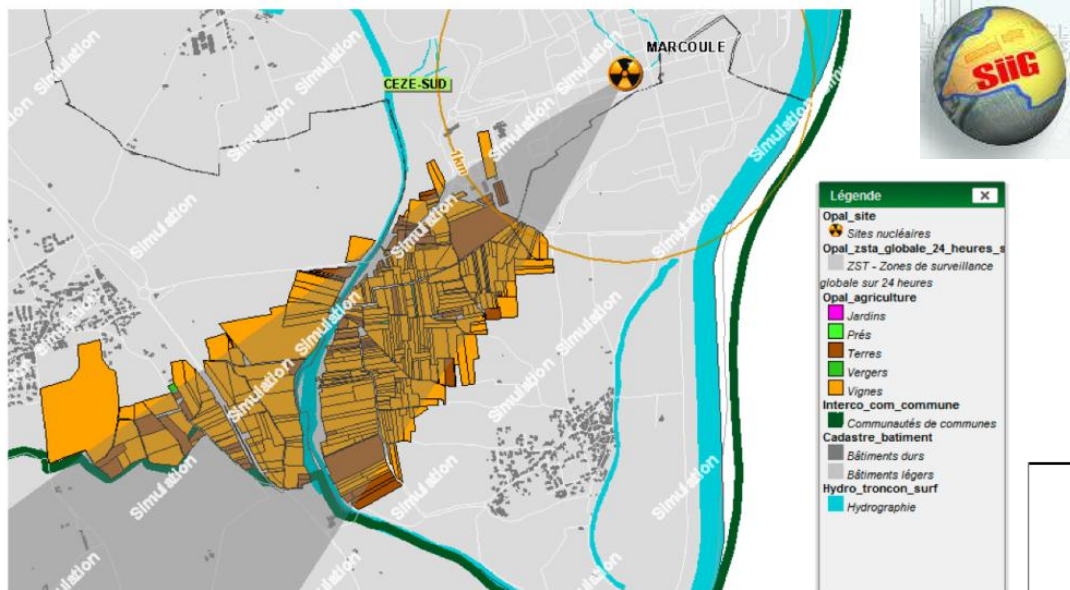
- European Community's Maximum Permissible Levels (MPL) may be exceeded
- Restrictions on all forms of sale (mandatory) and consumption (recommended) of farm products
- Implementation of testing systems and sampling strategy to check the respect of MPL before commercialization



Implementation on 4 pilot Local Liaison Committees

- CLI of Marcoule (South of France) and Saclay (Paris Region) started the experimentation :
 - Identification and mobilisation of the local stakeholders
 - Identification of the areas possibly affected by atmospheric deposition following various accident scenarios (severity of the accident, weather condition and wind direction) with OPAL
 - Determination of local issues by interviews with involved mayors (Marcoule)
 - Cartographic representation for data mining (*ongoing*):
 - drinking water, vineyards, sensitive establishment , ...
 - Integration of results in “Local Prevention Plan”
- Next experimentations will start at the end of 2012

Implementation on 4 pilot Local Liaison Committees - Marcoule



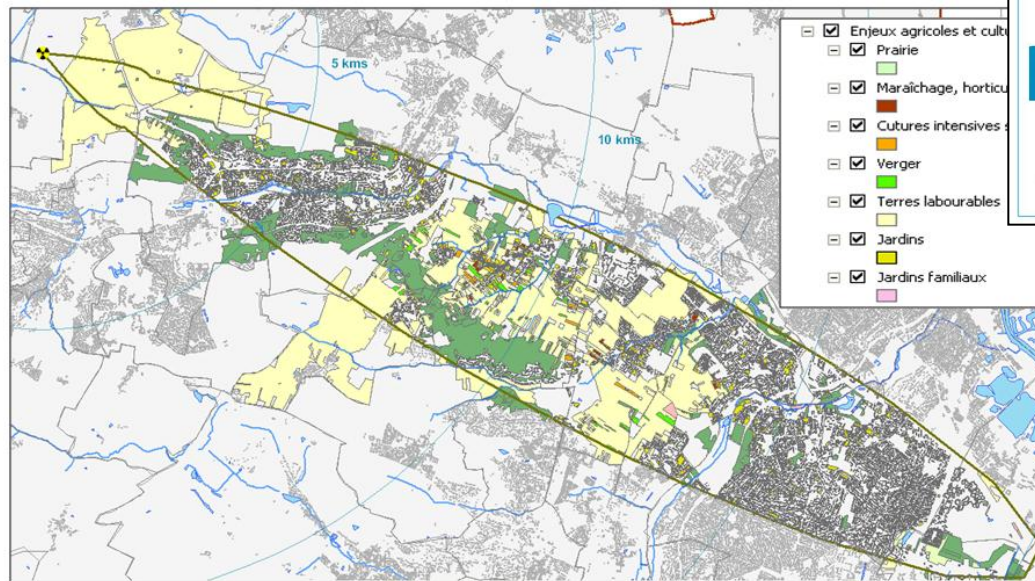
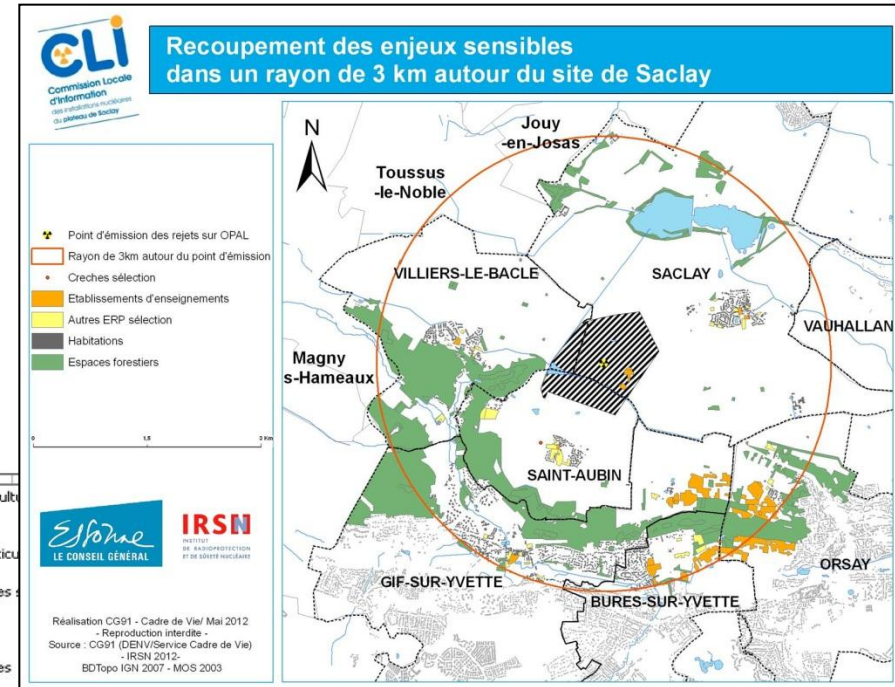
Overlaying between the layer of
« Territorial reinforced Surveillance
Zone » and land occupancy

Classification of local issues

Occupation du sol	Zones urbanisées	Zones urbaines de forte densité
		Zones urbaines de moyenne densité
		Zones urbaines de faible densité
Zones agricoles		Jardins
		Terres
		Prés
		Vergers
		Vignes
		Bois
		Landes
		Carrières
		Eaux
		Terrains à bâtir
		Chemin de fer
Zones d'intérêt particulier	Zones AOC	
	Zones naturelles	Natura 2000
		ZNIEFF

Implementation on 4 pilot Local Liaison Committees - Saclay

Identification of « public-access building » around the nuclear installations of Saclay



Overlaying between the layer of
« Territorial reinforced Surveillance
Zone” and land occupancy

Conclusion

- OPAL is the result of a collaboration between ANCCLI (local stakeholders) and IRSN
- Scope of OPAL:
 - Middle-severity accident scenarios
 - Post-accidental phase
 - **Education and training purpose**
 - **Not relevant for expertise and emergency response management**
 - **Not a simulation tool**
- The aim of this project is, in preparedness, to help local stakeholders with the management of post-accidental situations by:
 - Local stakeholders mobilisation
 - Identifying local issues for which protection/recovery actions would be necessary (agricultural production located in ZPP and ZST)
 - Increasing the awareness of local stakeholders and the public
 - Allowing a better involvement in accident management

Thank you for your attention