

# EMRAS

Environmental Modelling for Radiation Safety

Working Group 4

Model validation for radionuclide  
transport in the aquatic system  
“Watershed-River” and in estuaries  
(16 participants at the meeting)

# Priorities

- Important radionuclides other than Cs and Sr
- Coastal areas
- Extreme events
- Physical factors dealing with remobilisation
- Biological factors dealing with migration
- Modelling countermeasures
- Contribution to the revision of the IAEA-TRS report 364

# Scenarios

Scenario	Scenario developer	Models	Priority	Status
Floodplain (Chernobyl)	Typhoon (Russia)- IMMSP (Ukraine)	University of Sevilla (Spain), ENEA (Italy), MOIRA (Studsvik, Sweden)	Extreme events. Modelling countermeasures. Factors dealing with remobilisation	Exercise concluded; Report in progress
Tritium in river Loire	EDF (France)	<b>BLIND TEST</b>	Radionuclides other than Cs and Sr	Blind test. Results to be discussed
Contamination of Dnieper estuary	IMMSP (Ukraine)	University of Uppsala (Sweden) University of Sevilla (Spain)	Coastal areas	Scenario description Preliminary results
Contamination of river Techa	Typhoon (Russia)	To be decided	Radionuclide other than Cs and Sr (Pu)	Scenario description

# Scope - modelling for the management of consequences of emergencies

- Dominant
- Future time

Model exercise is important. Blind tests  
are even more important

# Main issues relevant to model application to real situations

- Data offer – Data demand
  - a particular case of “experimental knowledge”/”modelling strategies” relation and harmonisation
  - How different models can handle the problem
  - Models in view of customisation efforts
- Screening generic models can provide reliable results for radionuclides (at least for those that are prevalingly in dissolved form)
- Site-specific models based on more accurate hydraulic sub-models can supply accurate predictions