



UNIVERSITÉ DE
VERSAILLES
ST-QUENTIN-EN-YVELINES



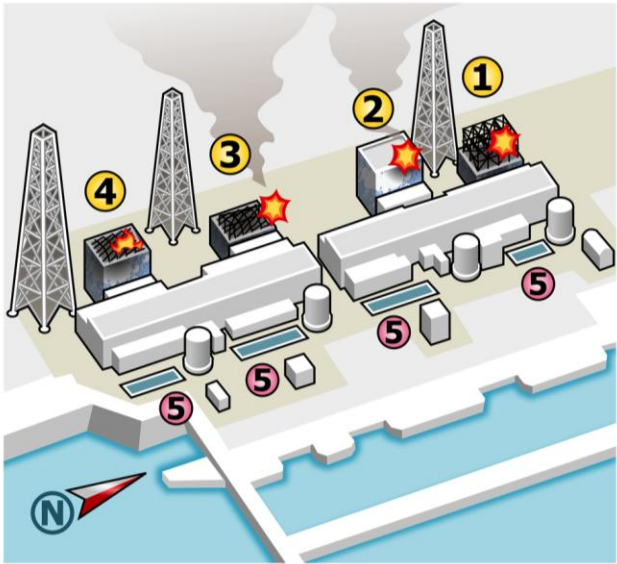
FUKUSHIMA ACCIDENT IN JAPAN BY MEANS OF LMDZORINCA MODEL. IMPACT ASSESSMENT TO THE POPULATION AND THE ENVIRONMENT

NIKOLAOS EVANGELIOU



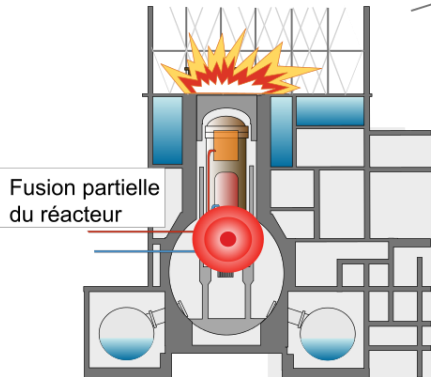
The accident...

(source: wikipedia website)



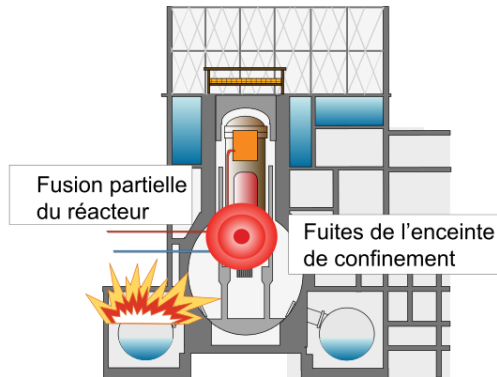
Réacteur 1

12 mars 15h36 : explosion soufflant le toit du bâtiment



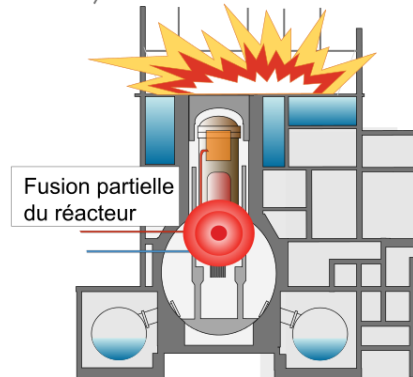
Réacteur 2

15 mars 6h10 : explosion dans le tore de condensation



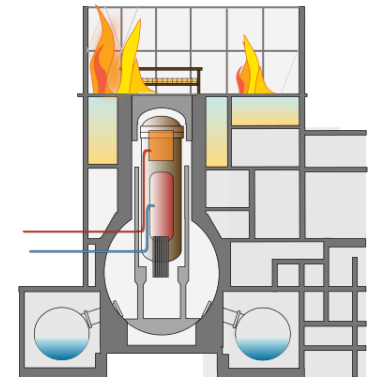
Réacteur 3

14 mars 11h01 : explosion de la structure du bâtiment



Réacteur 4

15 mars 9h38 : Incendie au niveau de la piscine d'entreposage

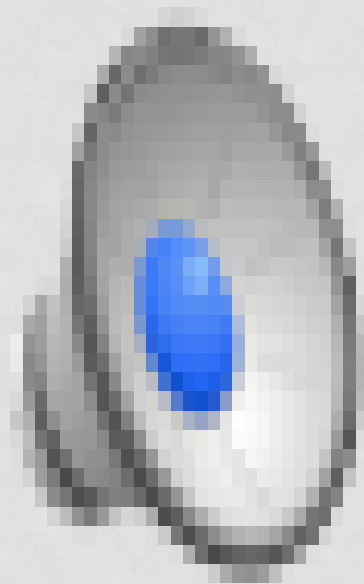


19 – 39
Levels

The case of Fukushima Daiichi accident (March 11th, 2011)

19 vertical levels

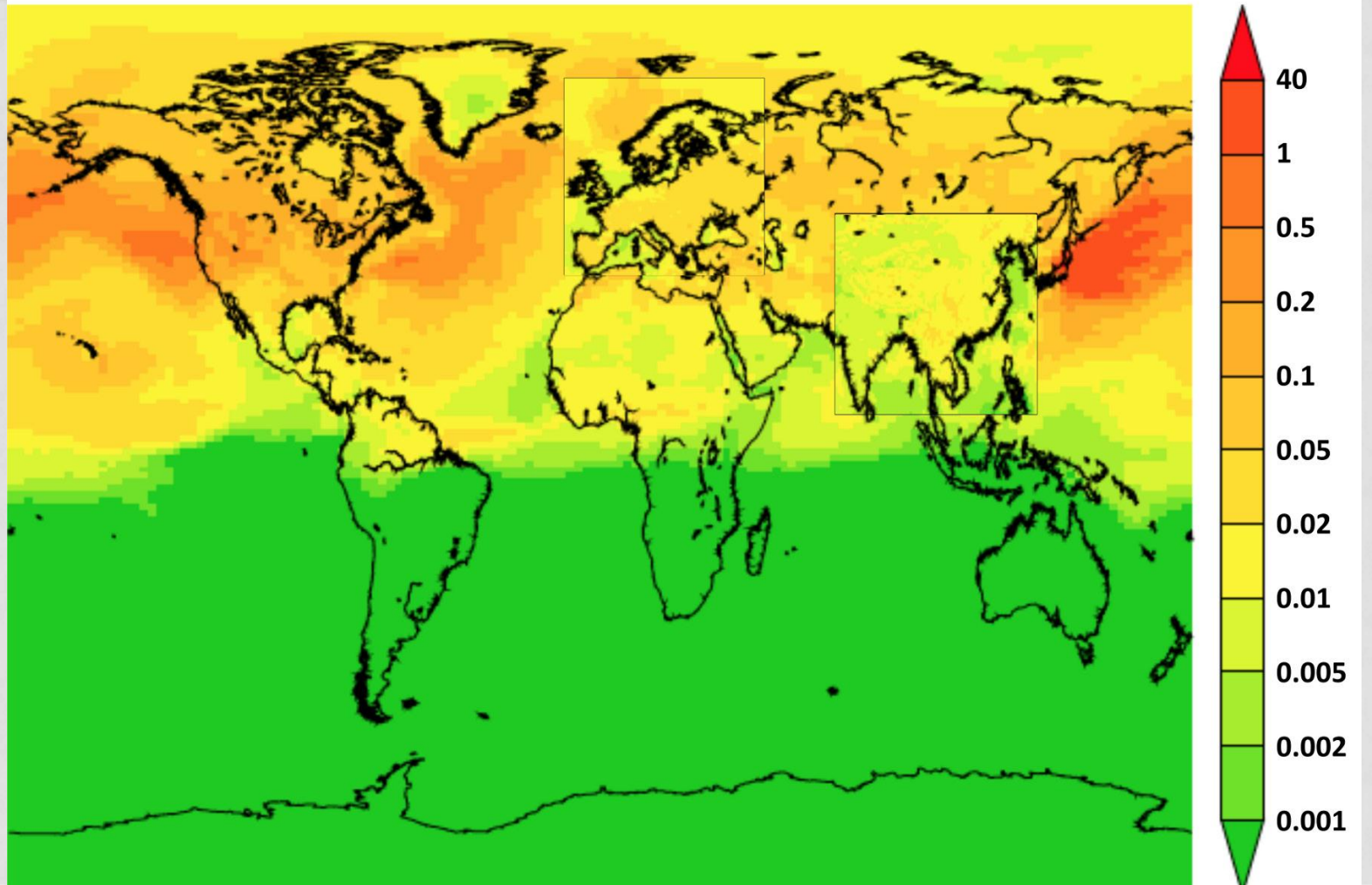
39 vertical levels



Combined

Deposition at the end of 2011

Combined map of global ^{137}Cs deposition in 2011

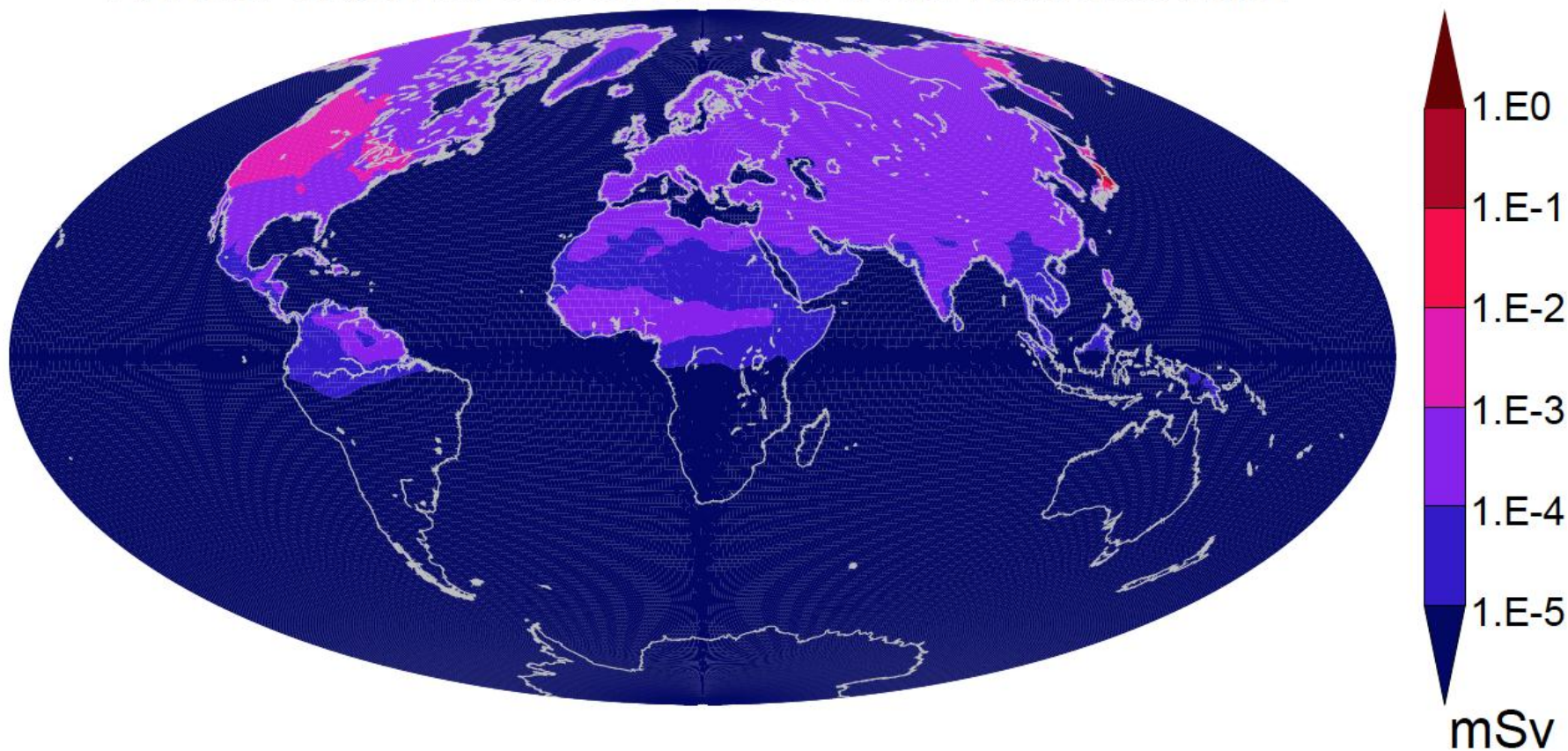


RG19L

Global dosimetry from deposition

REGULAR GRID - 19 LAYERS

Annual external effective dose from radiocaesium



RG19L and
zAsia

Dose rates of population exposure

REGULAR GRID - 19 LAYERS

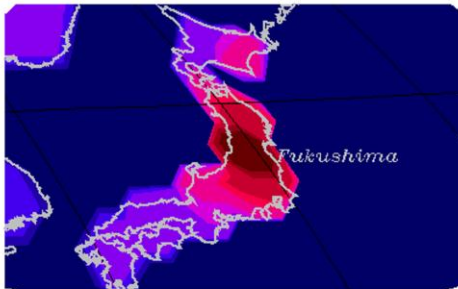
Effective dose from fallout Effective dose from deposition



Effective dose from inhalation Effective dose from ingestion



Internal and external effective dose from radiocaesium

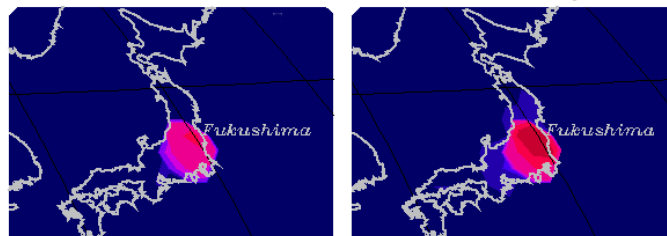


mSv



ZOOM VERSION - 19 LAYERS

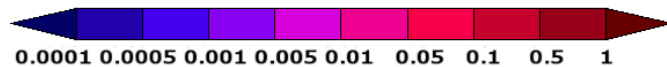
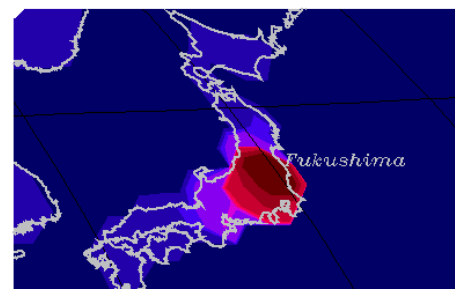
Effective dose from fallout Effective dose from deposition



Effective dose from inhalation Effective dose from ingestion



Internal and external effective dose from radiocaesium



HIMA DAIICHI
JAPAN

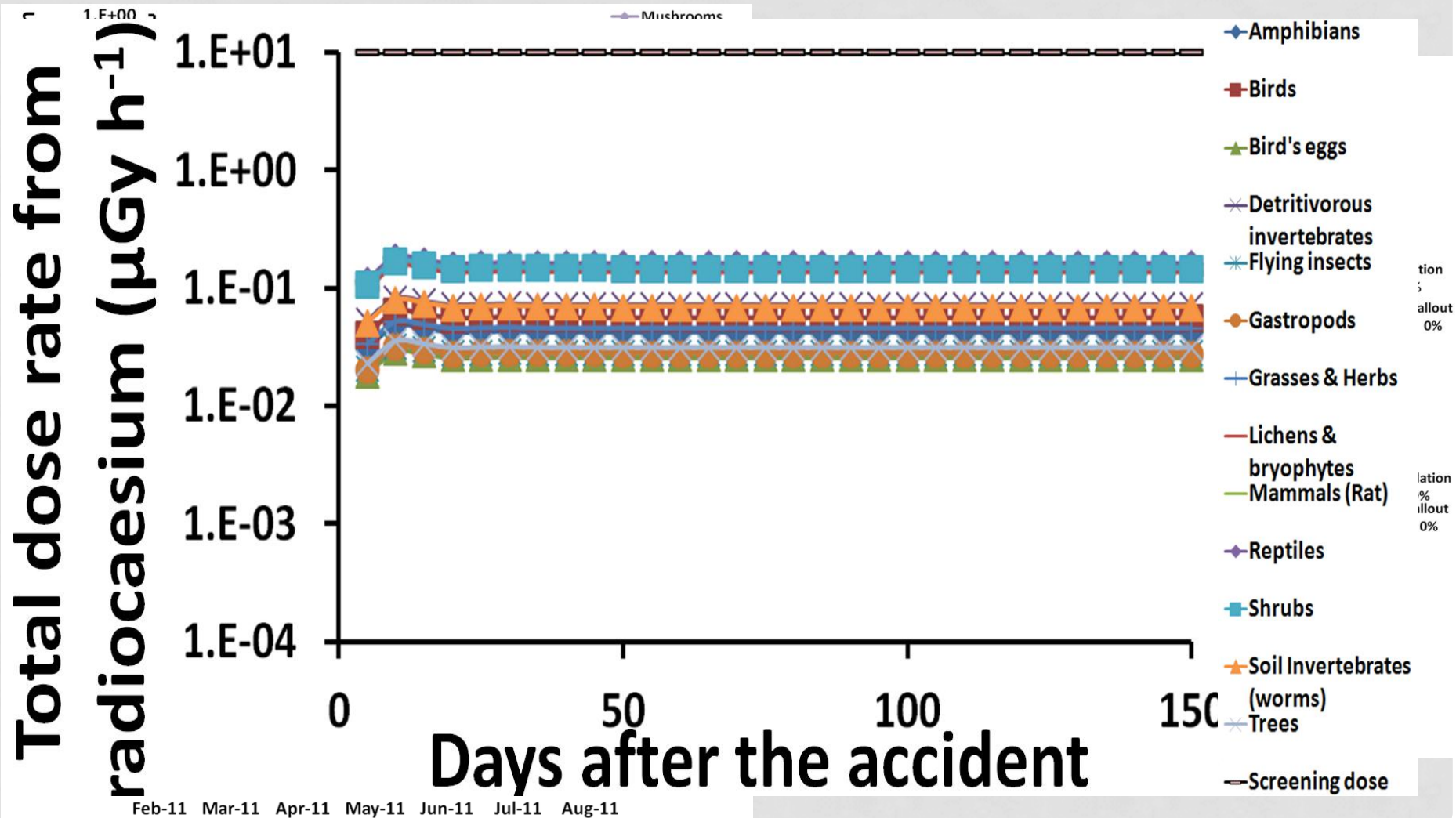
First Year Dose

2000
100 - 2000
10 - 1000
10 - 500
100

00
Kilometers
Miles

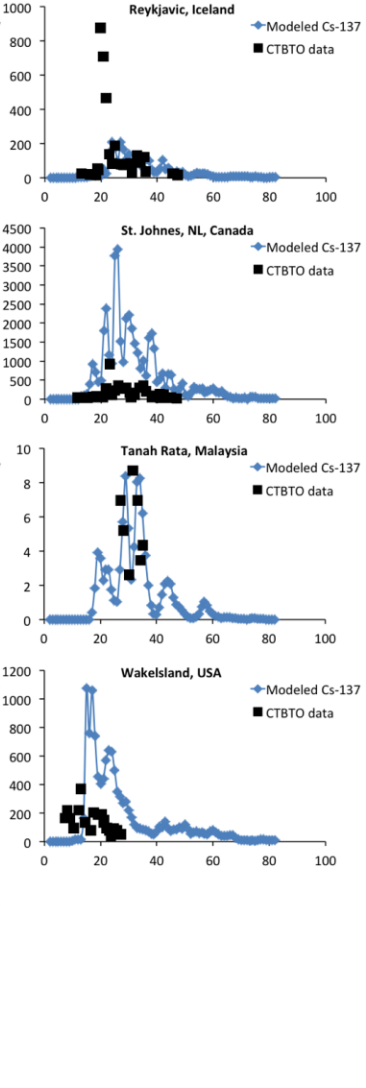
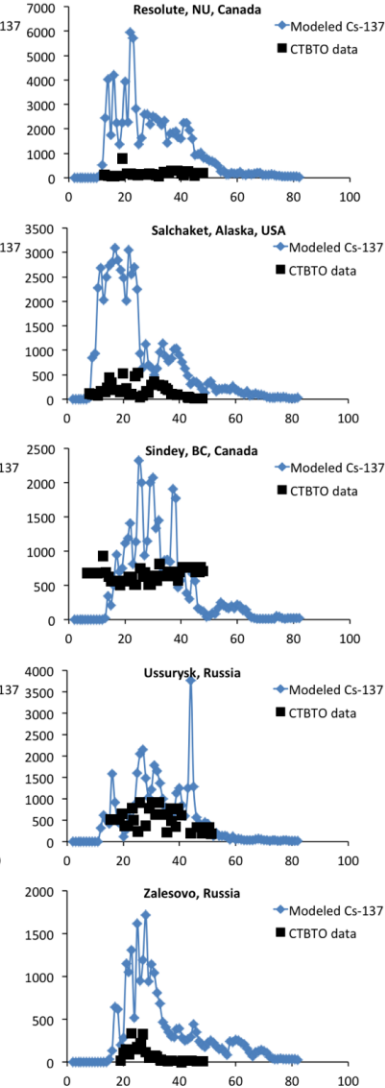
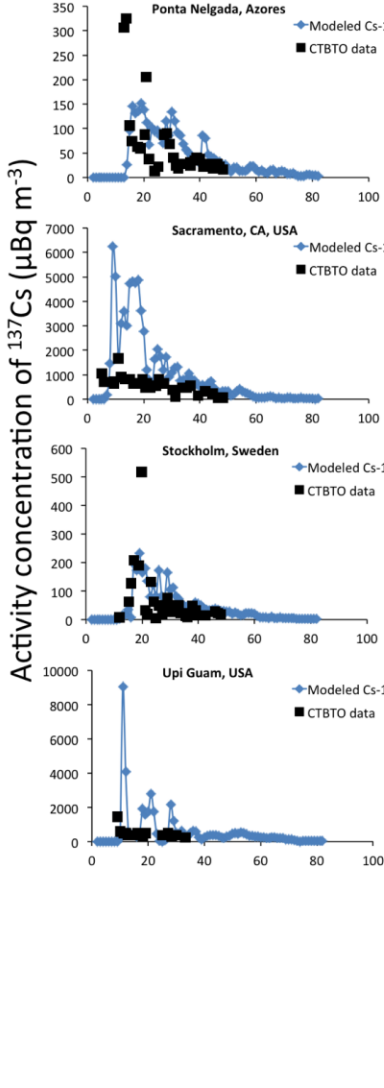
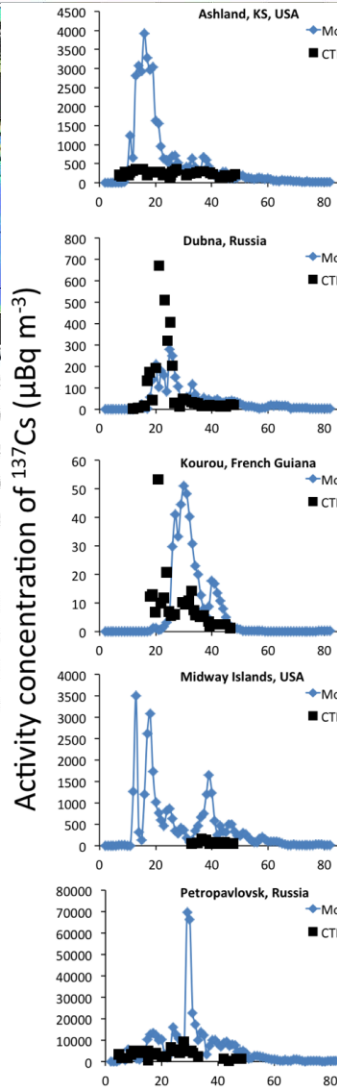
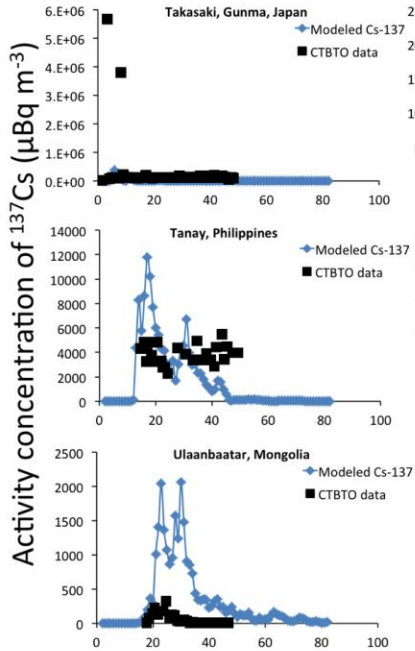
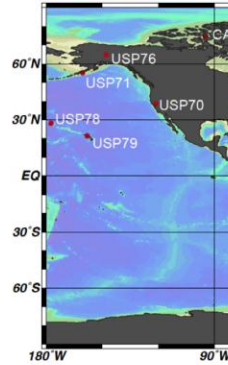
OE/NIT
100

Dose rates of population exposure



VALIDATION

Model vs Measurements



Days after the accident