Assessment and Prognosis During the NPP Accident in Croatia

Closest nuclear power plants:

- NPP Krško, Slovenia, 10 km from Croatia
- NPP Pakš, Hungary, 65 km from Croatia
- 3 more NPPs within 300 km from Croatia
- 40 additional NPPs within 1000 km from Croatia

Normal operations

- One server works in automatic mode for NPP Krško
- The other server: RODOS administrator run specific calculations covering various meteorological data and release categories
- Based on the results of these calculations, assessment of areas where protective measures may be needed for various weather conditions and accident conditions is made

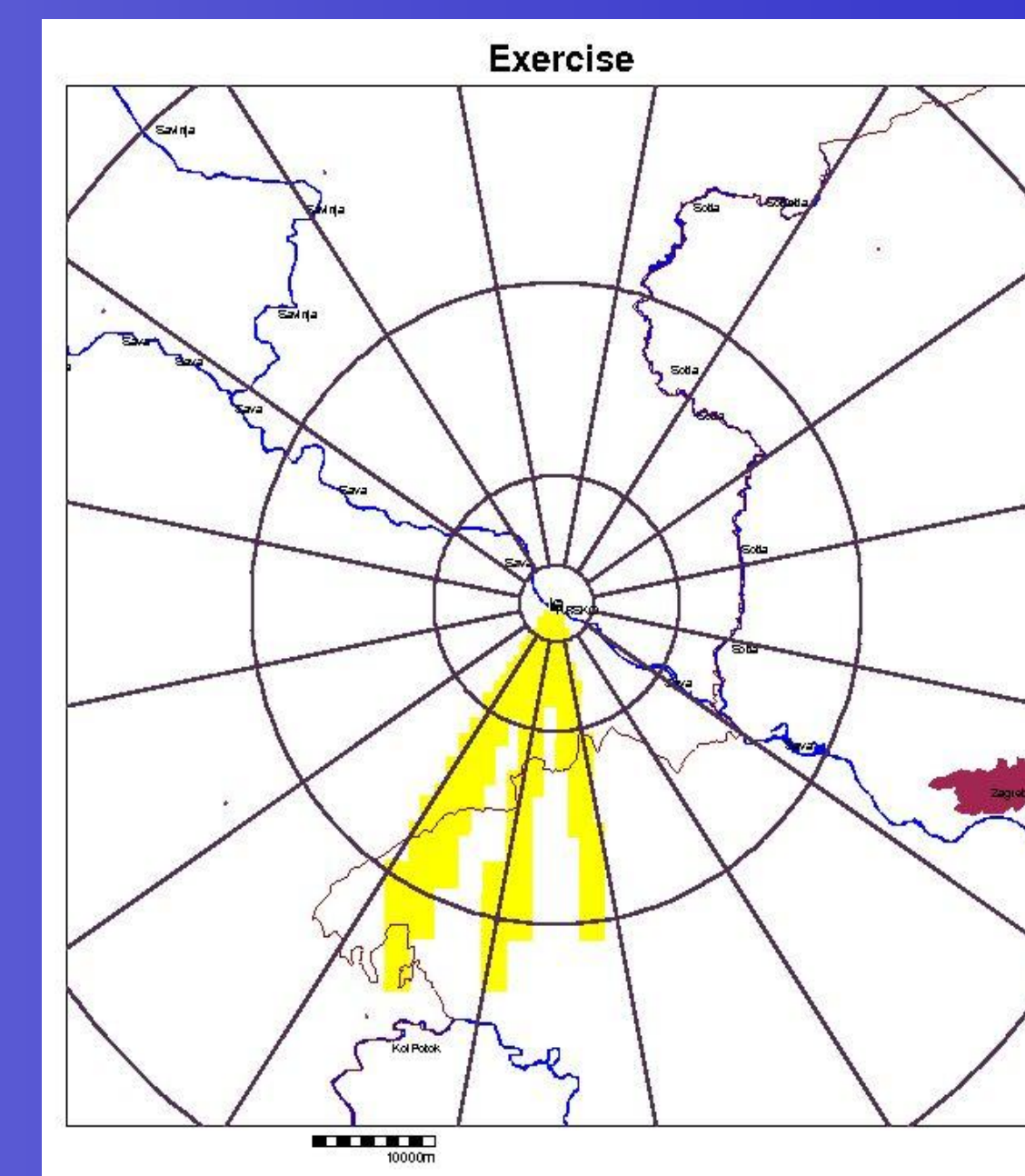## Assessment and prognosis – RODOS (real-time on-line decision support system)

- Two servers – two independent calculations
- Meteorological data received every 12 hours
- Data for past 6 hours and prognosis for next 48 hours
- Meteorological data can be analysed directly (as .txt file)
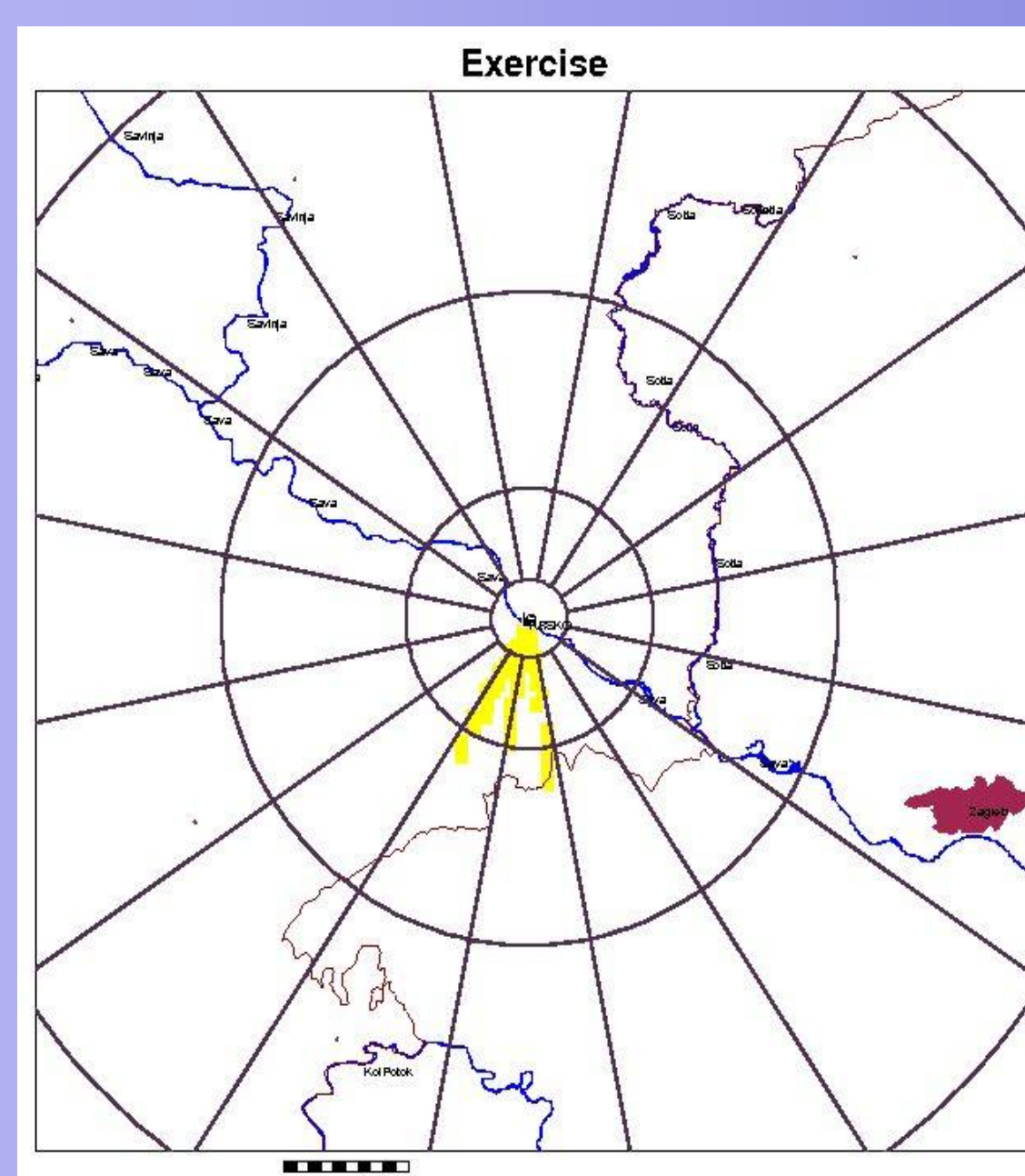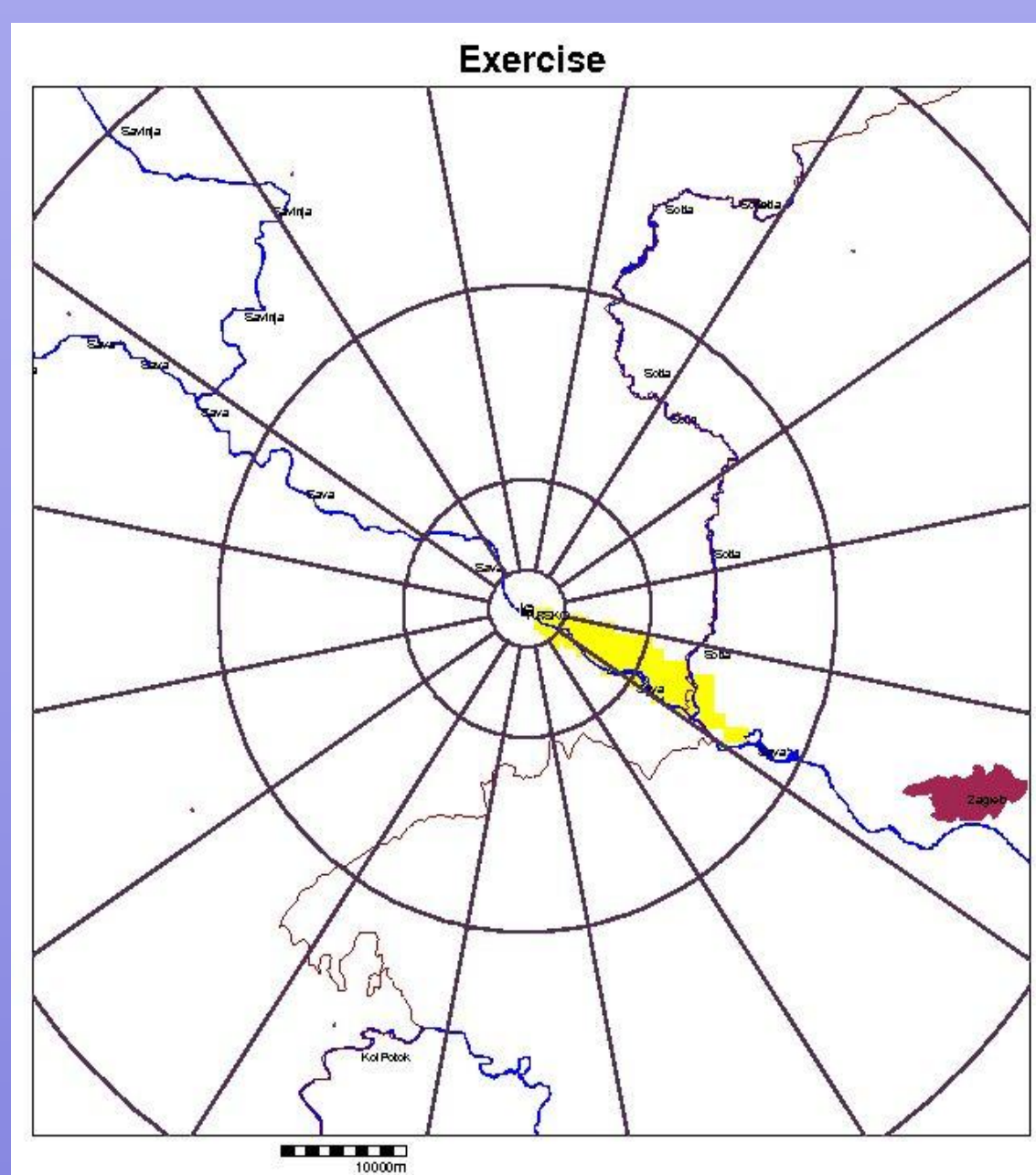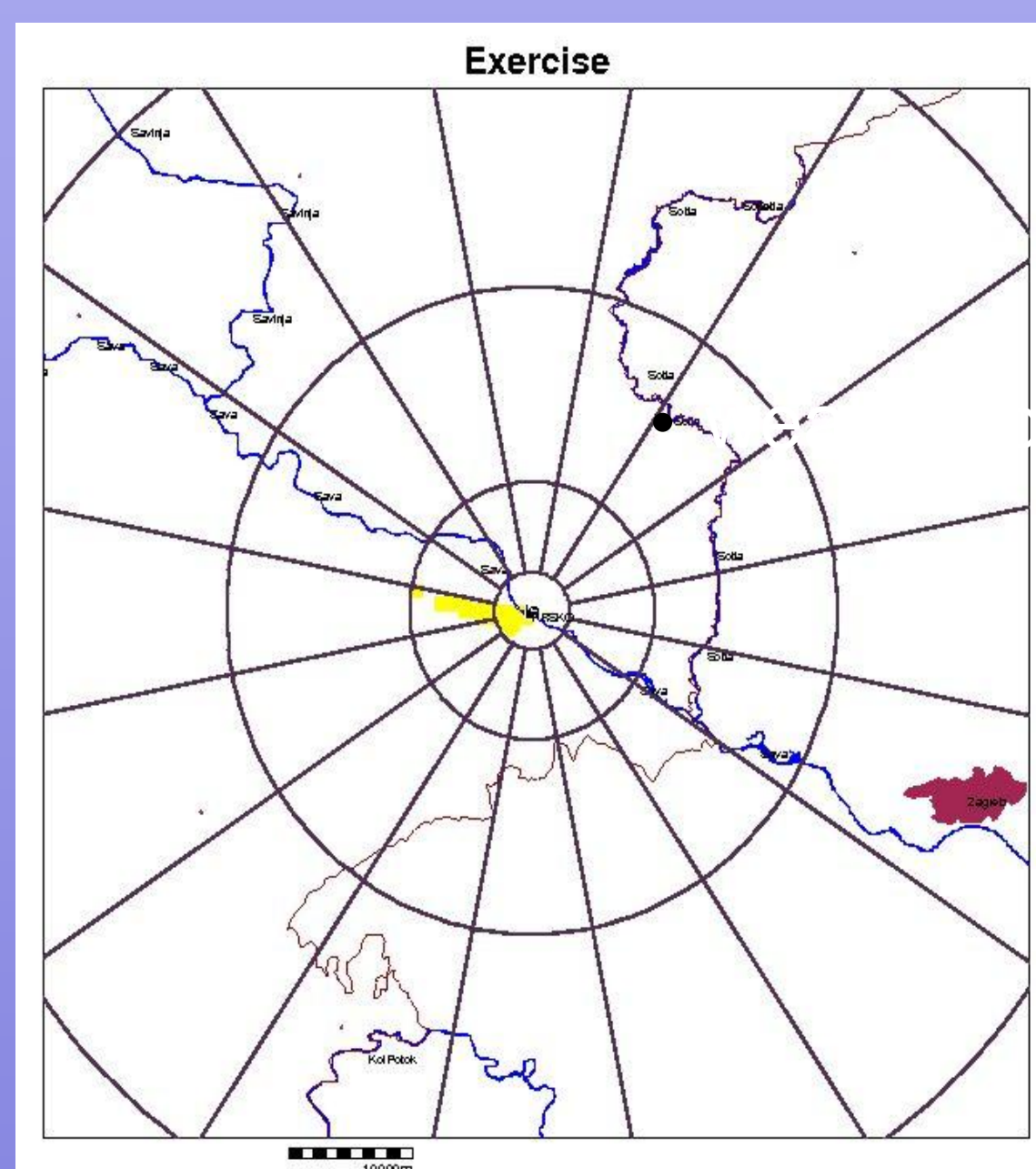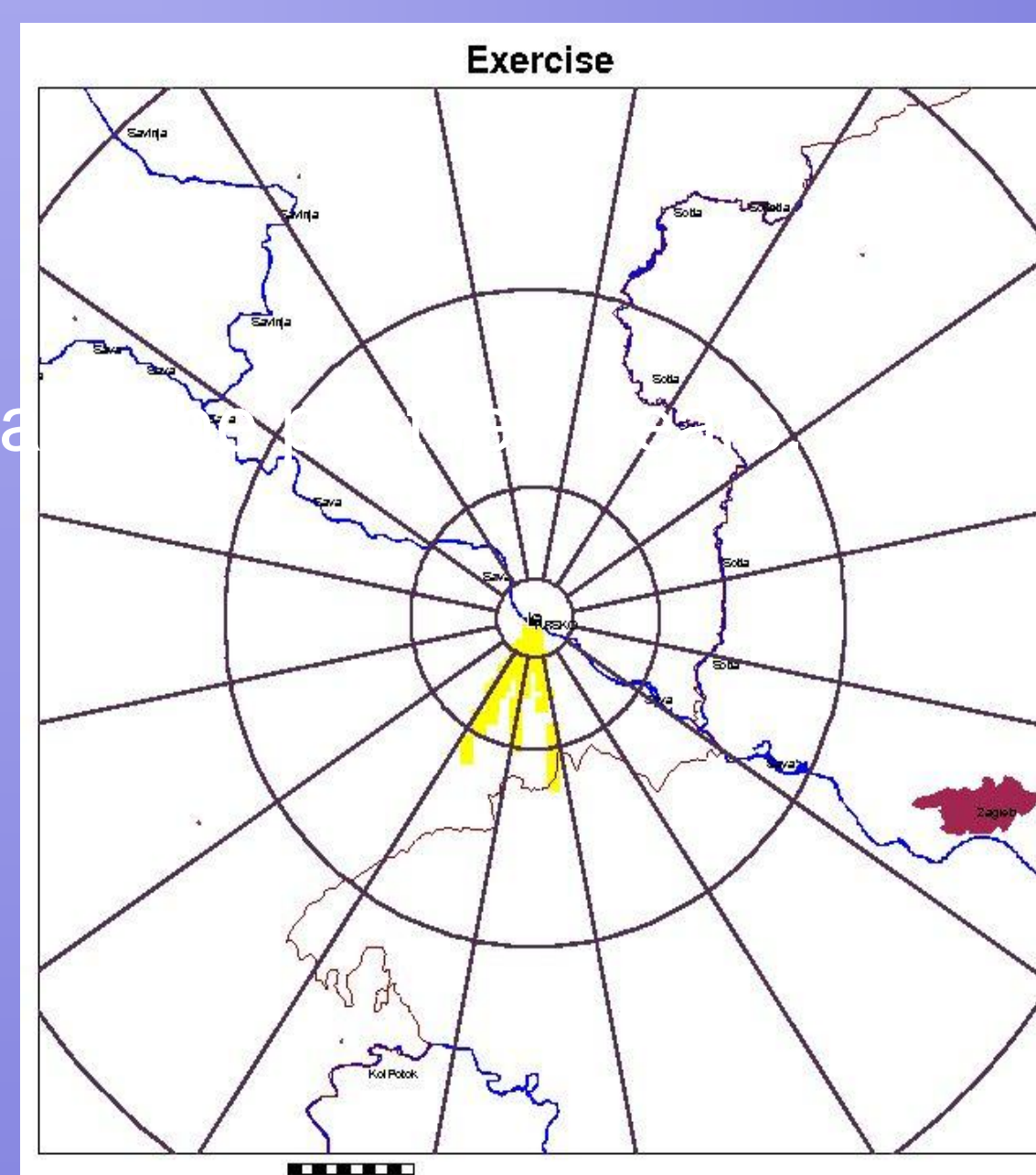

RC7A
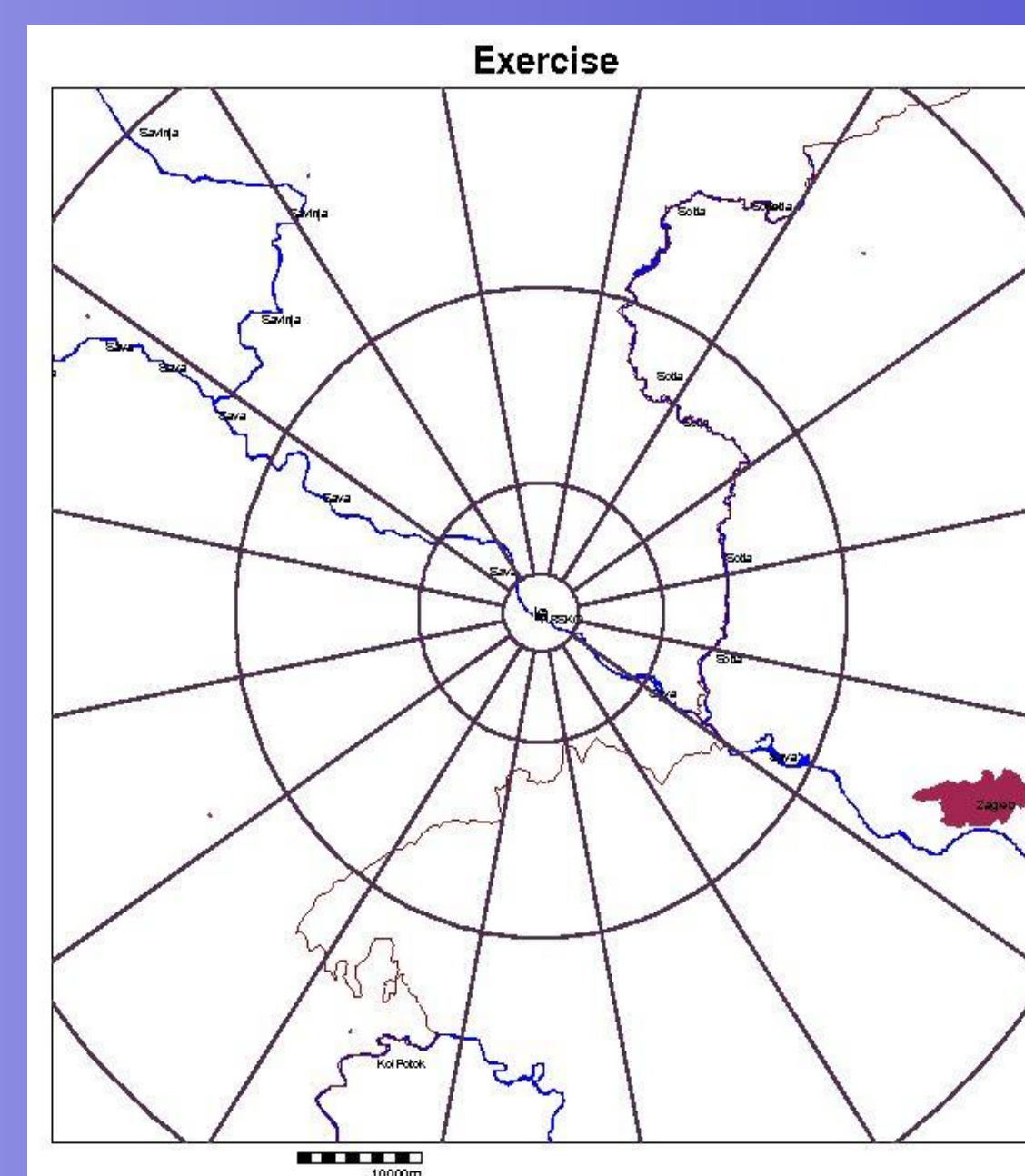
RC8A

RC8B

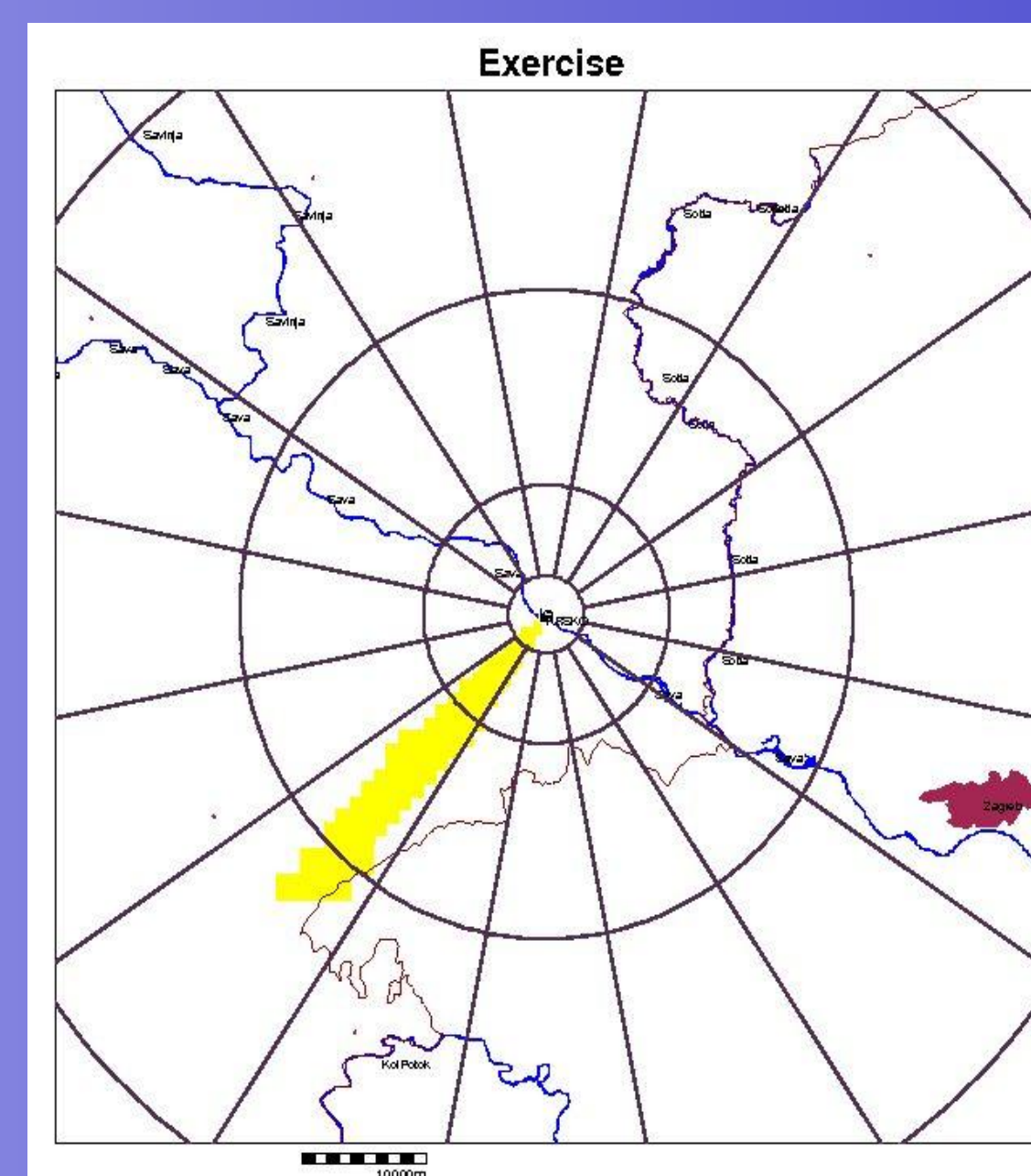Calculations for same weather conditions and different release categories – evacuation areas
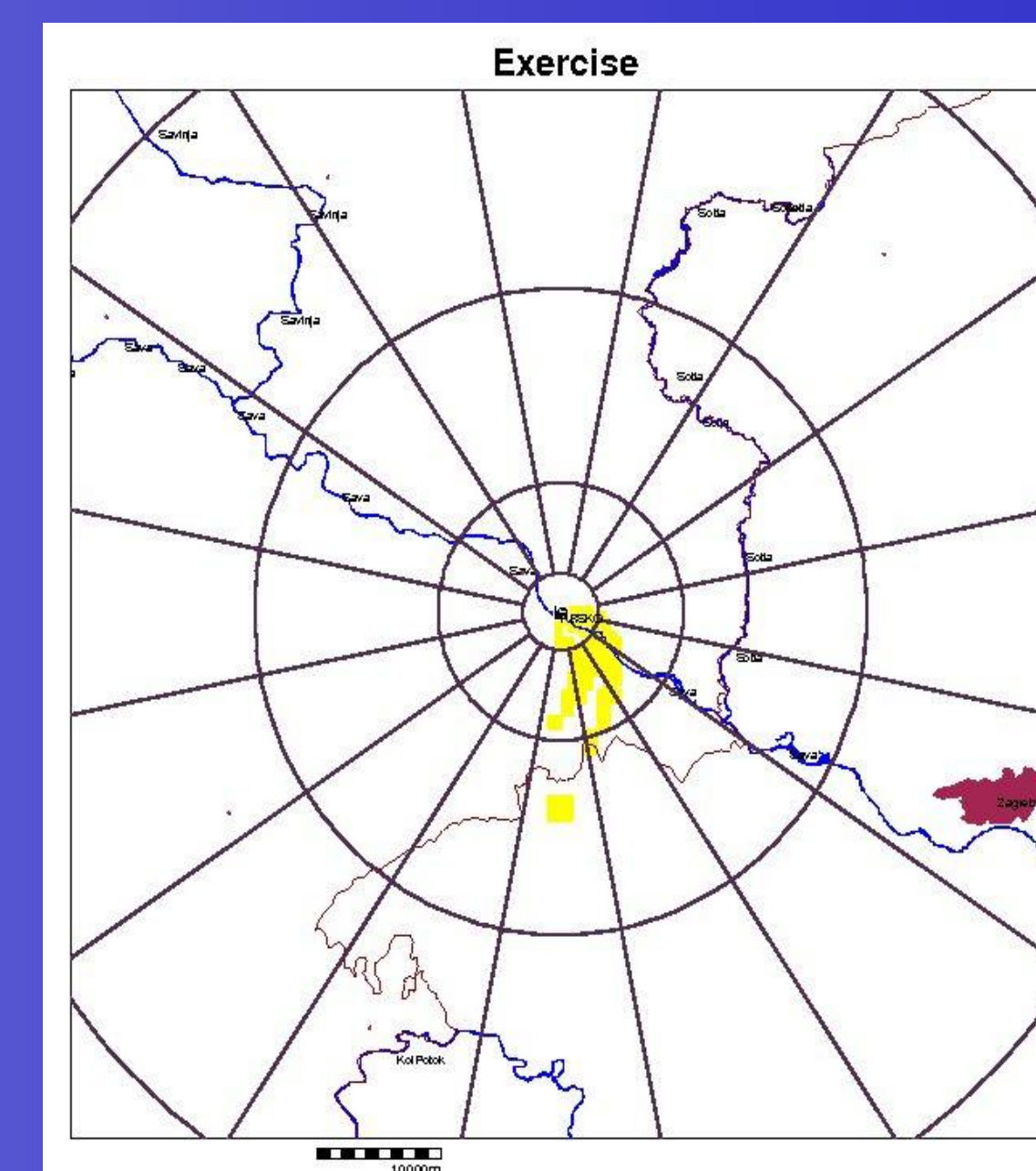

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Calculations for same release category and different weather conditions – evacuation areas

Operation during the accident

- One server runs constantly in automated mode, tracking situation in real-time
- Results are displayed for all expert groups analysing the situation
- On the other server RODOS administrator runs series of calculations with current weather data assessing possible release times and categories
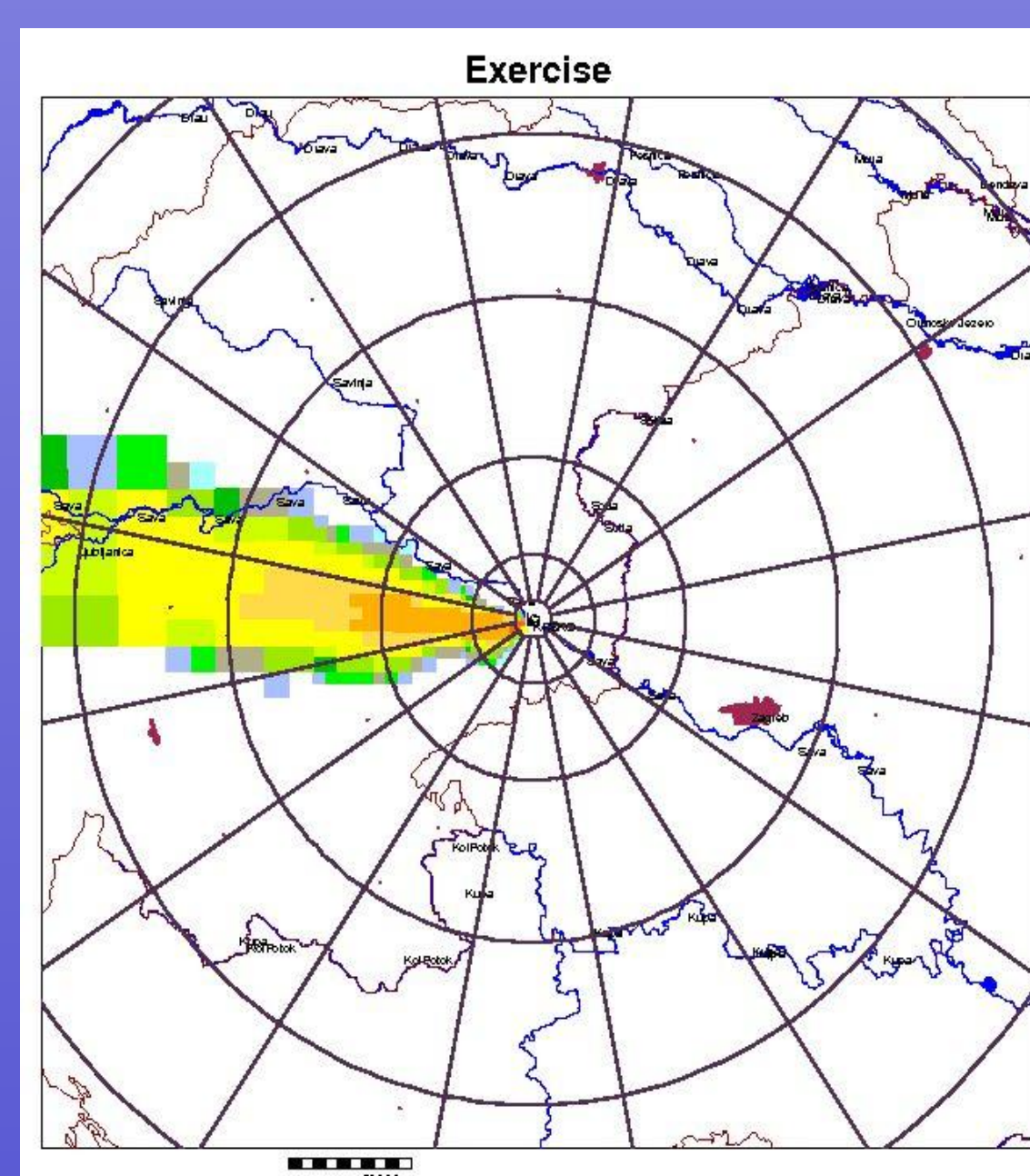
Local dose rate
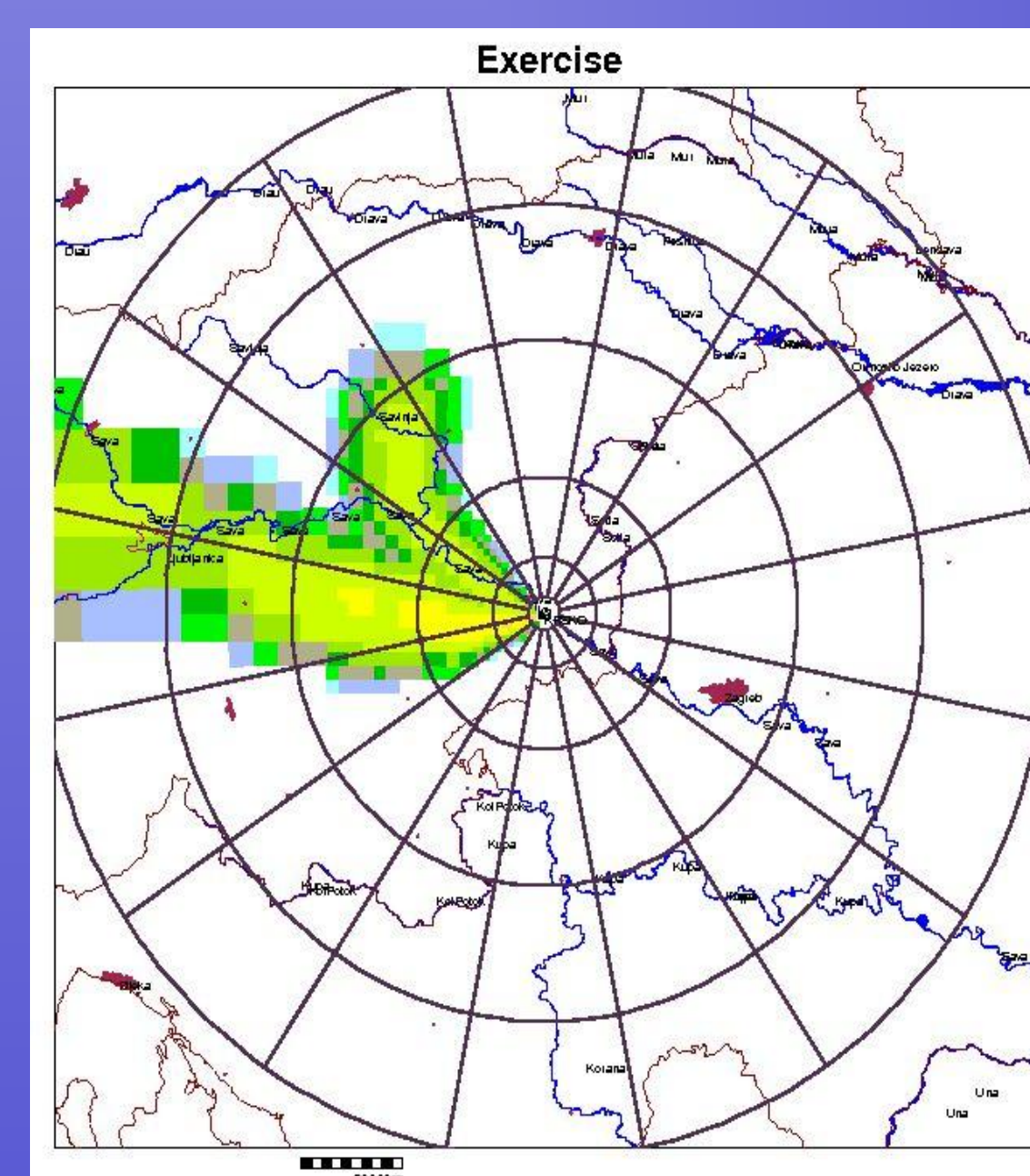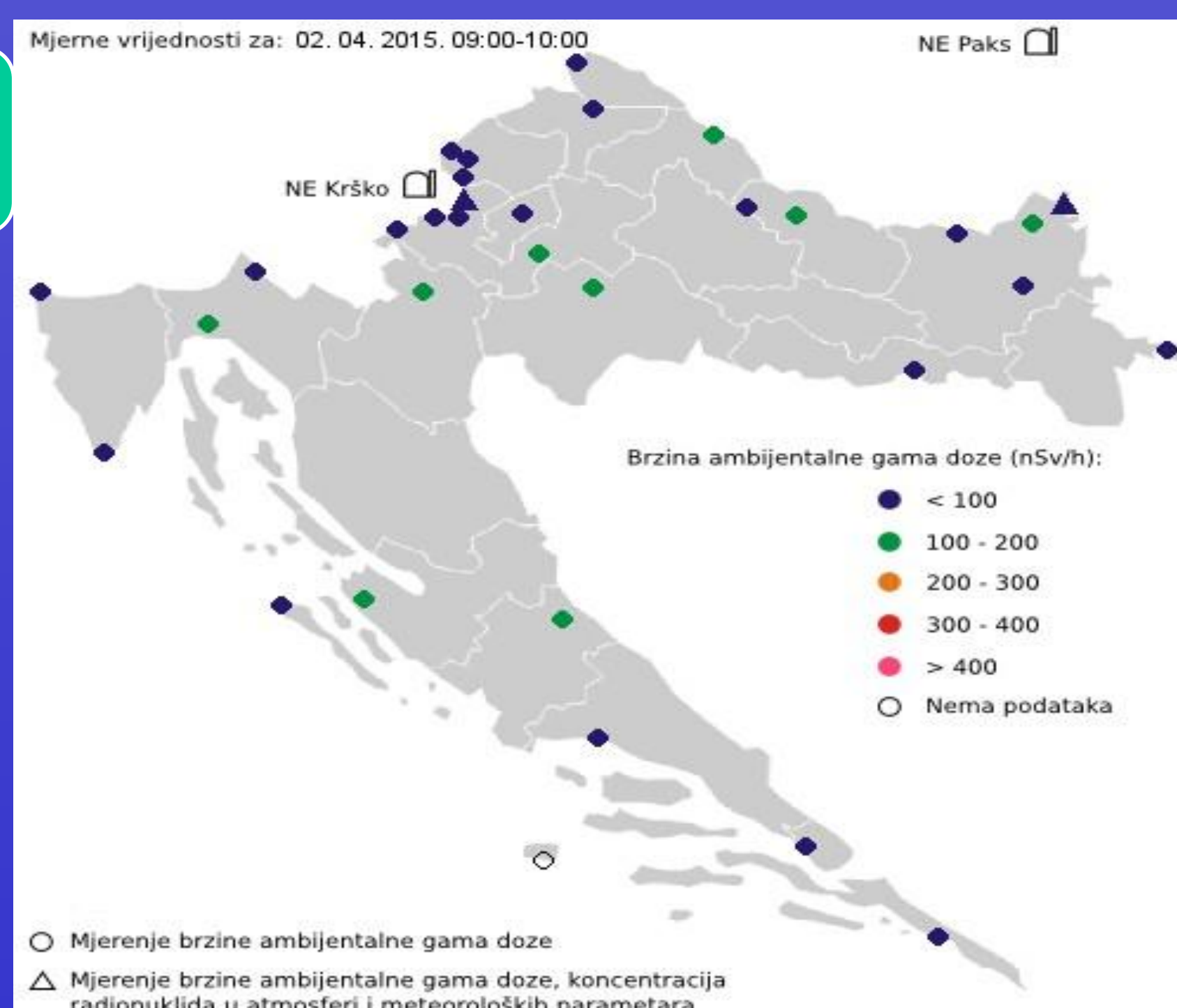
Time integrated air concentration of I-131
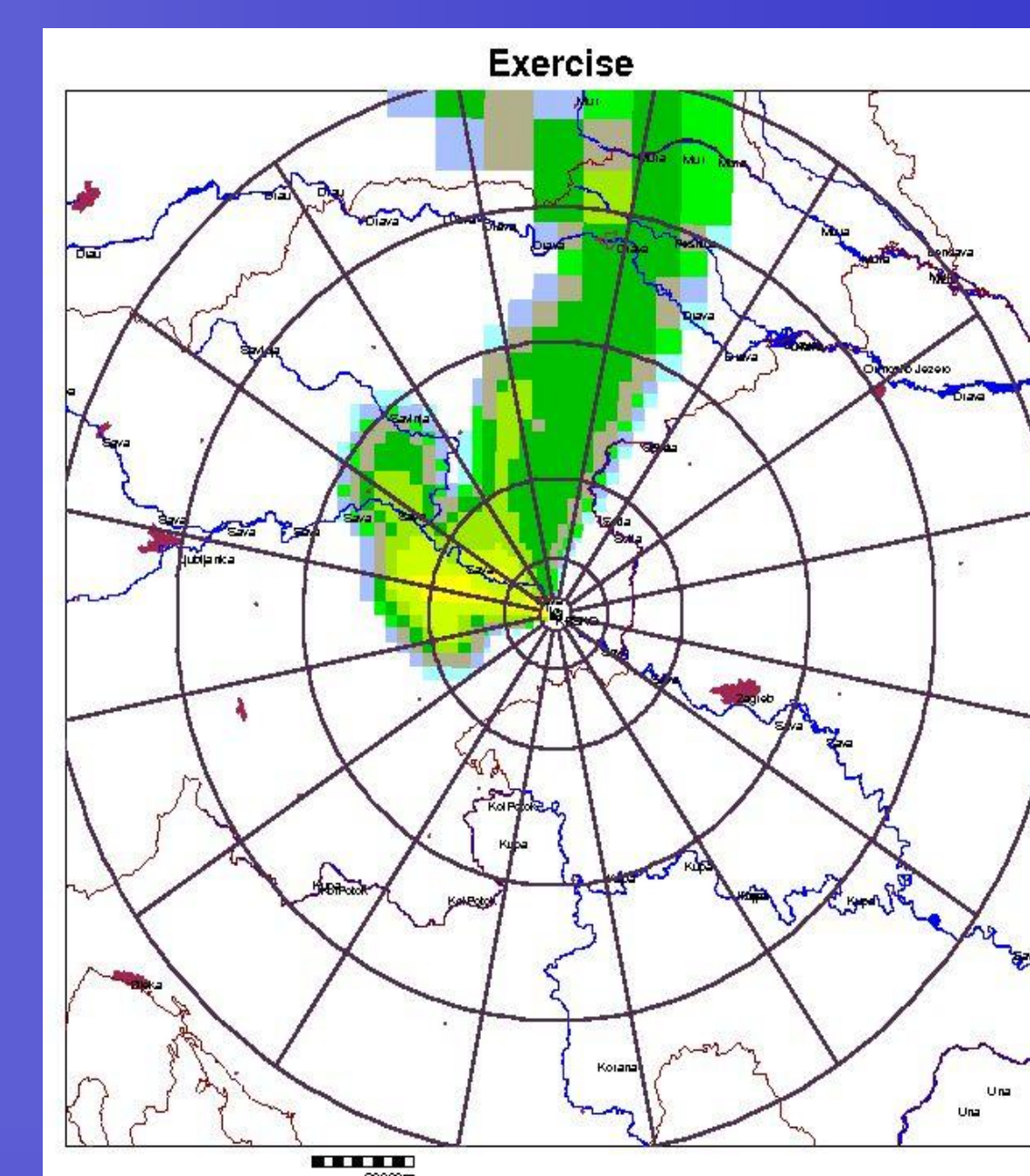
Ground concentration of Cs-137

Calculations done during the exercise

Croatian early warning system (CEWS):

- consists of 33 measuring stations
- all stations measure gamma dose rate
- 2 stations (one towards NPP Krško, one towards NPP Pakš) also measure concentration of isotopes in the air
- Radon, iodine, cesium

Mjerne vrijednosti za: 02. 04. 2015. 09:00-10:00

NE Paks

NE Krško

Brzina ambijentalne gama doze (nSv/h):
- < 100
- 100 - 200
- 200 - 300
- 300 - 400
- > 400
- Nema podataka

○ Mjerenje brzine ambijentalne gama doze
△ Mjerenje brzine ambijentalne gama doze, koncentracija radionuklida u atmosferi i meteoroloških parametara

Future activities in 2015:

- SORNS plans to run RODOS calculations with selected release categories from NPP Krško and historical weather data of the past few years.

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