

**IRSN**INSTITUT  
DE RADIOPROTECTION  
ET DE SÛRETÉ NUCLÉAIRE

## AIR CONTAMINATION

# The radioactive particles released during the explosion of the reactor were blown over thousands of kilometers by the wind

Reactor No. 4 at the Chernobyl power plant exploded on 26 April 1986. Radioactive particles were released over 10 days. The resulting plume of smoke was blown in all directions as the wind changed during this period.

The releases from 27 April affected France between 30 April and 5 May 1986.

## ON 26 APRIL 1986, REACTOR NO. 4 AT THE CHERNOBYL POWER PLANT EXPLODED

Fragments of the reactor core were blown out through the roof of the reactor building. A plume of smoke rose up into the air containing some of the core's radioactive material.

Helicopters quickly arrived at the scene to dump thousands of tons of sand, clay and lead over the reactor to cover it. The releases stopped on 5 May. They lasted 10 days.

Radionuclides in the releases:

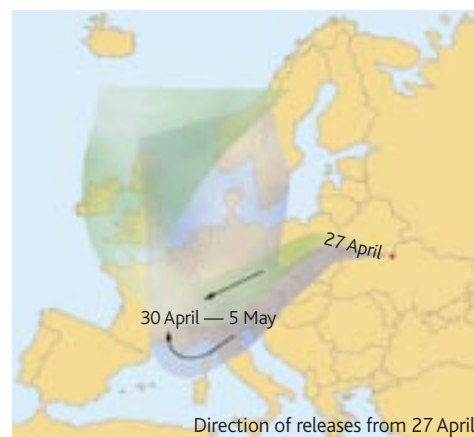
- noble gases (xenon, krypton),
- volatile particles (iodine, caesium, tellurium, strontium, ruthenium),
- heavy particles, such as plutonium, in smaller quantities.

The heavy particles fell in the vicinity of the site. The lighter particles were dispersed in the atmosphere.

## CHANGING WINDS PUSHED THE MASS OF POLLUTED AIR INTO SEVERAL DIRECTIONS SO THAT MOST EUROPEAN COUNTRIES WERE CONTAMINATED TO VARYING DEGREES



The first plume of smoke released on 26 April contained over 50% of the total radioactivity released by the damaged reactor. It was carried in a north-westerly direction. On its arrival over the Scandinavian countries, it turned east then south to release its radioactive pollutants over Central Europe and the Balkans.



The releases from 27 April were driven westwards. Those from the morning arrived in France from the east (green arrow) and those from the afternoon from the south (blue arrow). They spread across the country between 30 April and 5 May. All releases after 27 April affected the eastern and southern parts of Europe, sparing France.

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