

SS6G8

The student will locate selected features of Europe.

Europe

0 600 km
0 nautical miles 400



Locate on a world and regional political-physical map the countries of Belgium, France, Germany, Italy, Poland, Russia, Spain, Ukraine, and United Kingdom.

On your own paper, list each country plus at least two neighboring countries.



**Ural
Mountains**

**Scandinavian
Peninsula**

**Rhine
River**

English Channel

European Plain

Alps

**Danube
River**

Pyrenees

**Iberian
Peninsula**

Mediterranean Sea

**Locate
physical
features
of
Europe**

**Write
these
physical
features
on your
paper.**

EUROPE



AFRICA

ASIA



worldatlas

EUROPE

Major Rivers



SS6G9

**The student will discuss
environmental issues in Europe.**

Explain the major concerns of Europeans regarding the issues such as acid rain in Germany, air pollution in the United Kingdom, and the nuclear disaster in Chernobyl, Ukraine.

Environmental Issues In Europe

- Acid Rain in Germany
- Air Pollution in the United Kingdom
- Nuclear Disaster in Chernobyl, Ukraine

Acid Rain In Germany

- is rain, snow, sleet, or other wet precipitation that is polluted by acids such as sulfuric acid and nitric acid
- caused chiefly from the emission from the burning of coal, gas, and oil by cars, factories, and power plants
- harms the environment over large areas:
 - a) can damage statues, buildings, and bridges,
 - b) has killed entire fish populations in lake, &
 - c) can harm forests and soil

Acid Rain



Acid rain in Germany



Acid rain damages the waxy outer coating that protects leaves, it also harms the soil that the trees are growing in by taking most of the valuable nutrients away from the soil.



The many factories along the Ruhr Valley (area within the circle) cause pollutants which return to the earth as acid rain.





1908



Present

Areas Where Acid Rain Is A Major Problem

- Central Europe
- Scandinavia
- Eastern North America

Effects of Acid Rain

- What effects does acid rain have on the environment of Germany and that of neighboring countries?

Damage to vegetation

Damage to lakes, rivers and streams

Contamination of drinking water

Damage to buildings and monuments

Sulfur deposits from acid rain are carried through the air causing acid rain in other countries in Europe.

Air Pollution in the United Kingdom

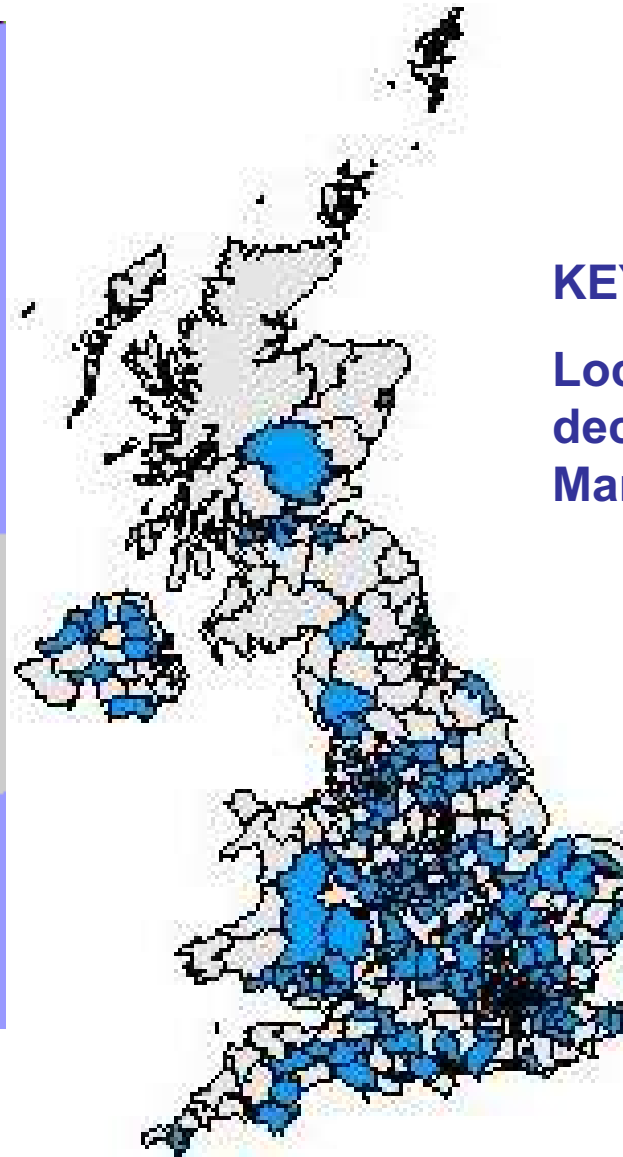
- **Smog** is a form of air pollution
- first used in 1905 to describe the combination of smoke and thick fog that at times hung over London and other cities in the United Kingdom
- also refers to a condition caused by the action of sunlight on the exhaust gases from automobiles and factories

Air pollution in the United Kingdom

The Industrial Revolution began in Great Britain.



Clean up has been expensive



KEY (blue)

Local Authority has
declared an Air Quality
Management Area

Years of
unregulated
factory waste
has caused
pollution in the
water and air.

Effects of Smog

- Can kill (About 4,000 Londoners died within five days as a result of a thick smog in 1952)
- destroys plant life
- causes building materials to deteriorate faster than usual

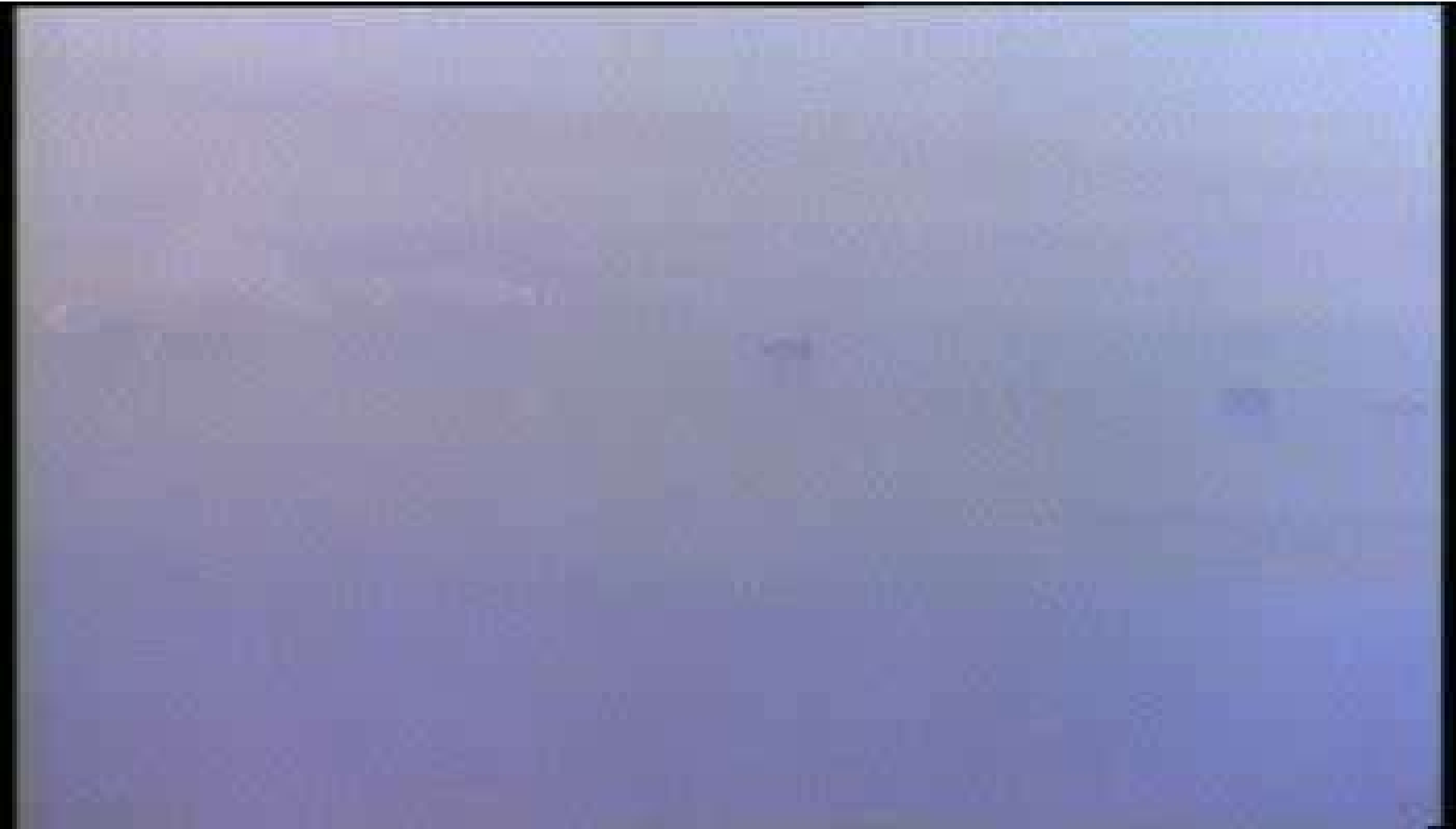


London-Type Smog

- occurs when moisture condenses with smoke produced by the burning of coal
- forms smog droplets
- sulfur dioxide is in air in London--attacks the lungs and makes breathing difficult (called *sulfur smog*)



London Smog



Air Pollution in the United Kingdom

- What are the primary causes of air pollution in the U.K.?
Power stations
Vehicle emissions
- What effects does air pollution have on the environment of the U.K. and that of neighboring countries?
Damage to vegetation
Harm to the atmosphere
Harm to humans

Air Pollution in the U.K.

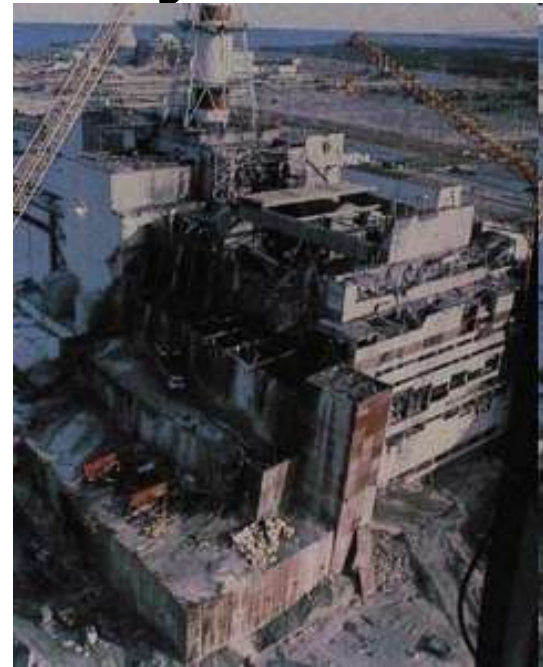
- How are acid rain and air pollution related?

Air pollution rises into the air and returns as acid rain in the form of precipitation or a “dry fall”.

Air pollution is carried from the U.K. to other countries by air currents resulting in acid rain in those countries as well.

Nuclear disaster in Chernobyl, Ukraine

Abandoned apartments.

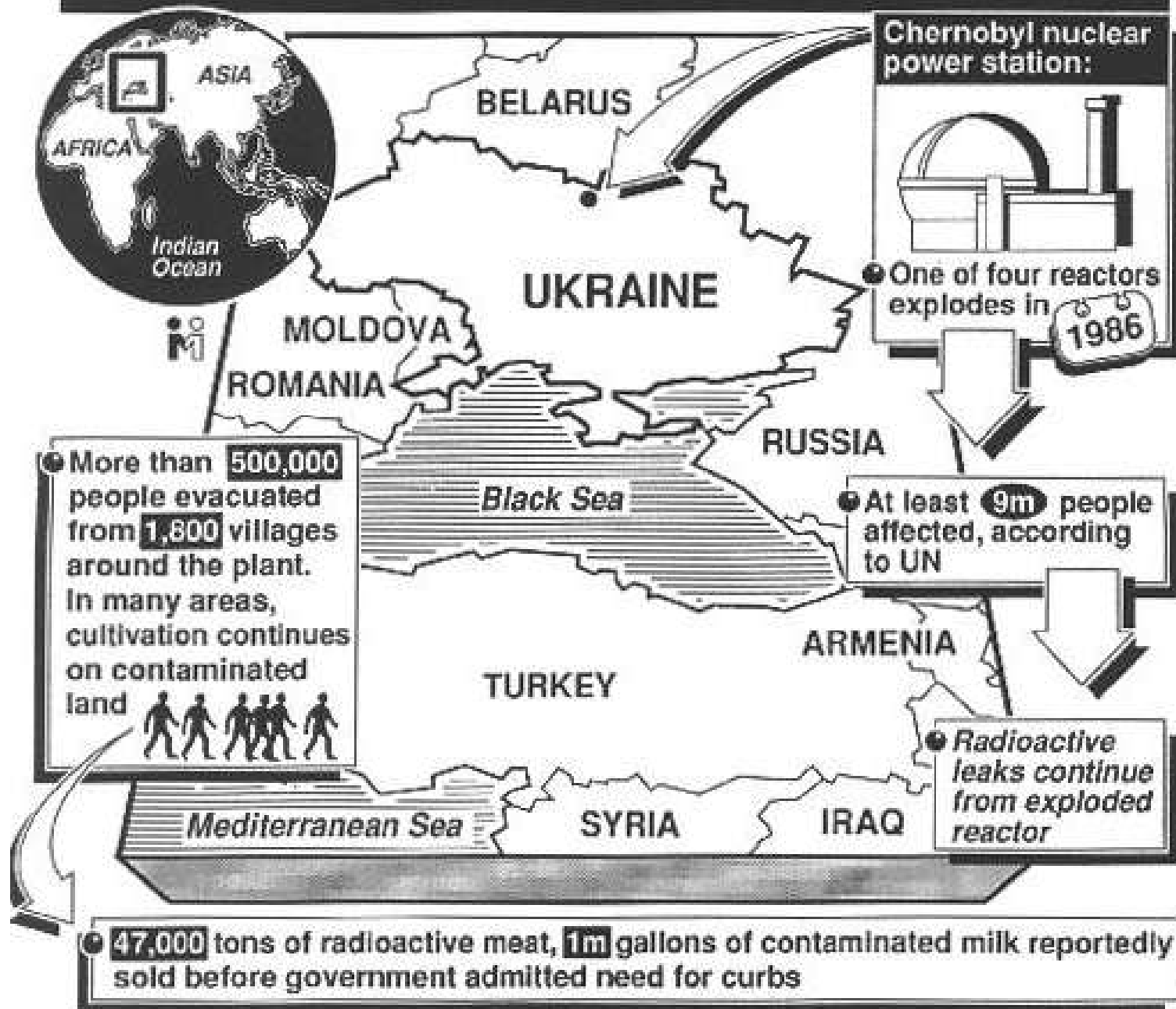


The Plant

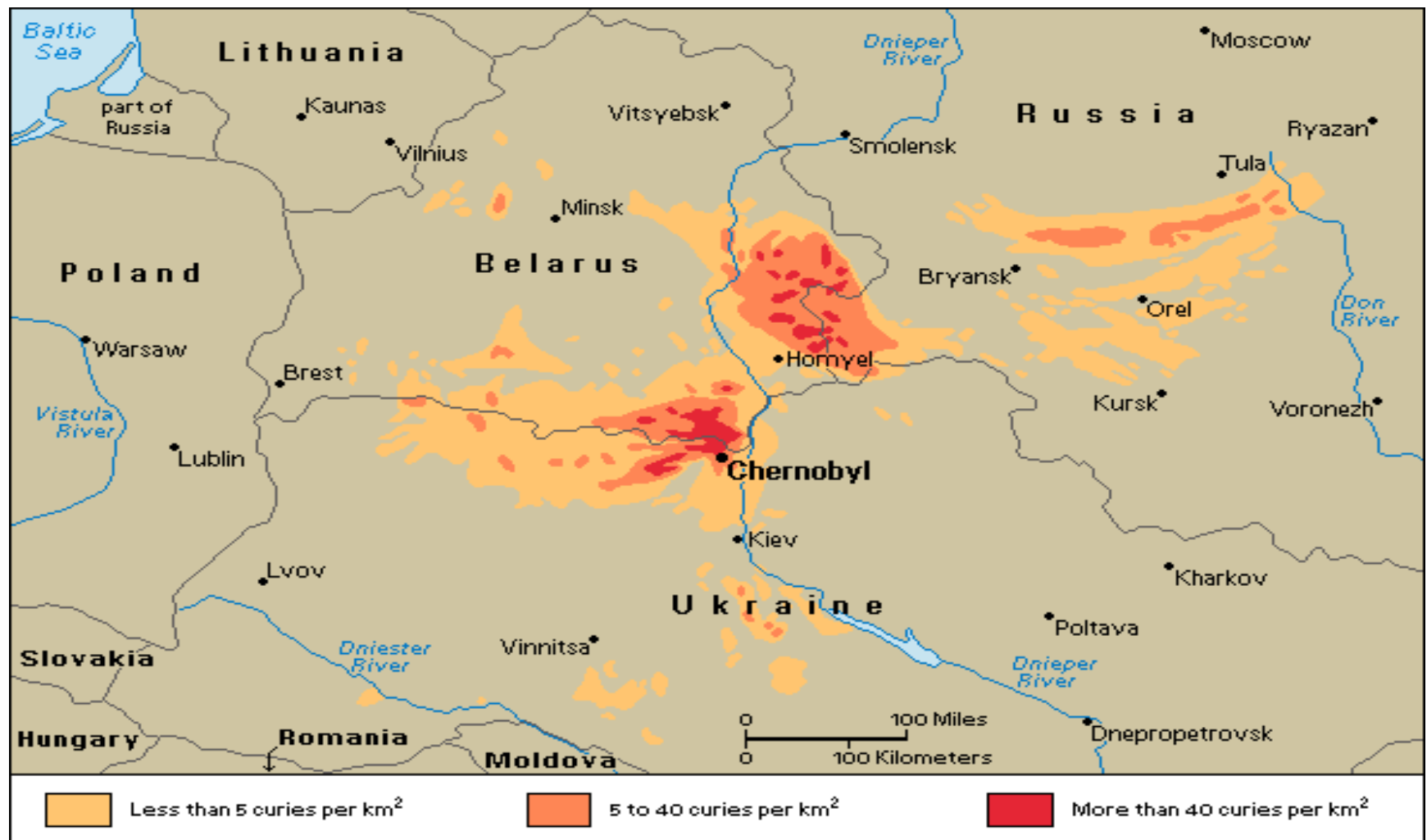
On April 26, 1986 at 1:23 AM, a nuclear explosion took place in Reactor #4 of the Chernobyl Nuclear Power Plant located in Ukraine.

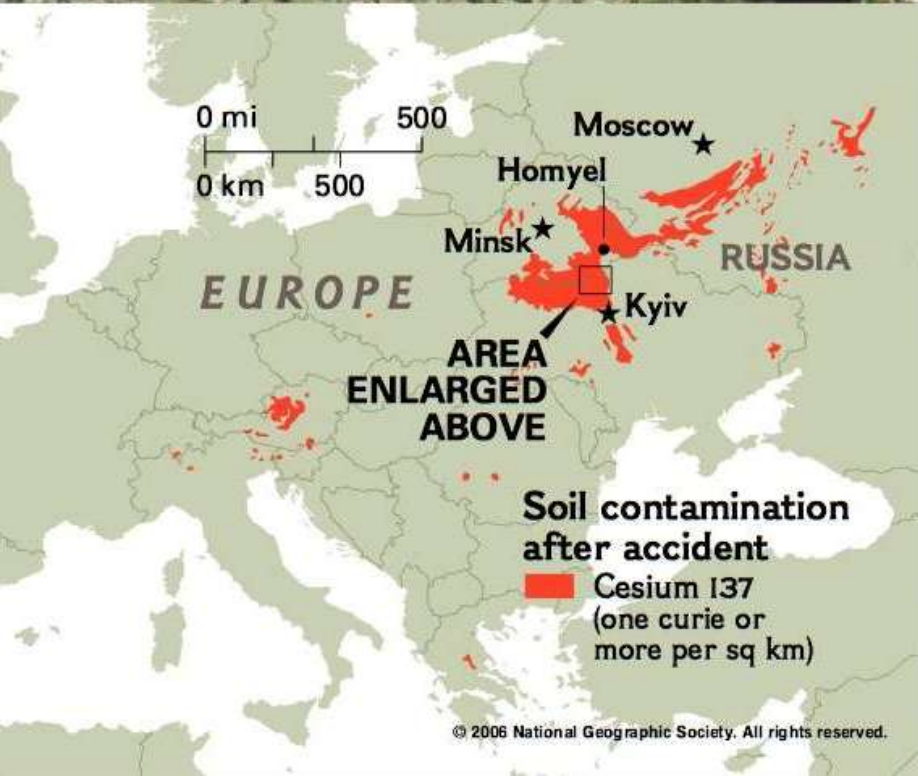
190 Tons of highly radioactive materials were released into the atmosphere. Scientists estimate that the amount of radionuclides released into the environment is equal to twenty nuclear bombs.

'World's worst man-made disaster'



Radiation Found In the Ground After Chernobyl Disaster





The Chernobyl tragedy is the largest peacetime radiation catastrophe that has ever occurred on this planet. Considered to be **the worst man made nuclear disaster in world history**. The Chernobyl nuclear accident is a global environmental event which has left thousands of refugees and long term contamination of the land, water and air.

How Did The Disaster Happen?

- had four *nuclear reactors* (devices that produce and control nuclear energy) in service
- operators shut off several safety systems and began to power down the fourth reactor for a test of the plant's emergency electrical power supply
- power surge caused fuel in the reactor to overheat, resulting in a steam explosion and fire
- produced a radioactive cloud more than 3,280 feet in height
- radioactive substances spread over parts of what are now Ukraine, Russia, and Belarus
- Winds carried the radioactive material into northern and central Europe.

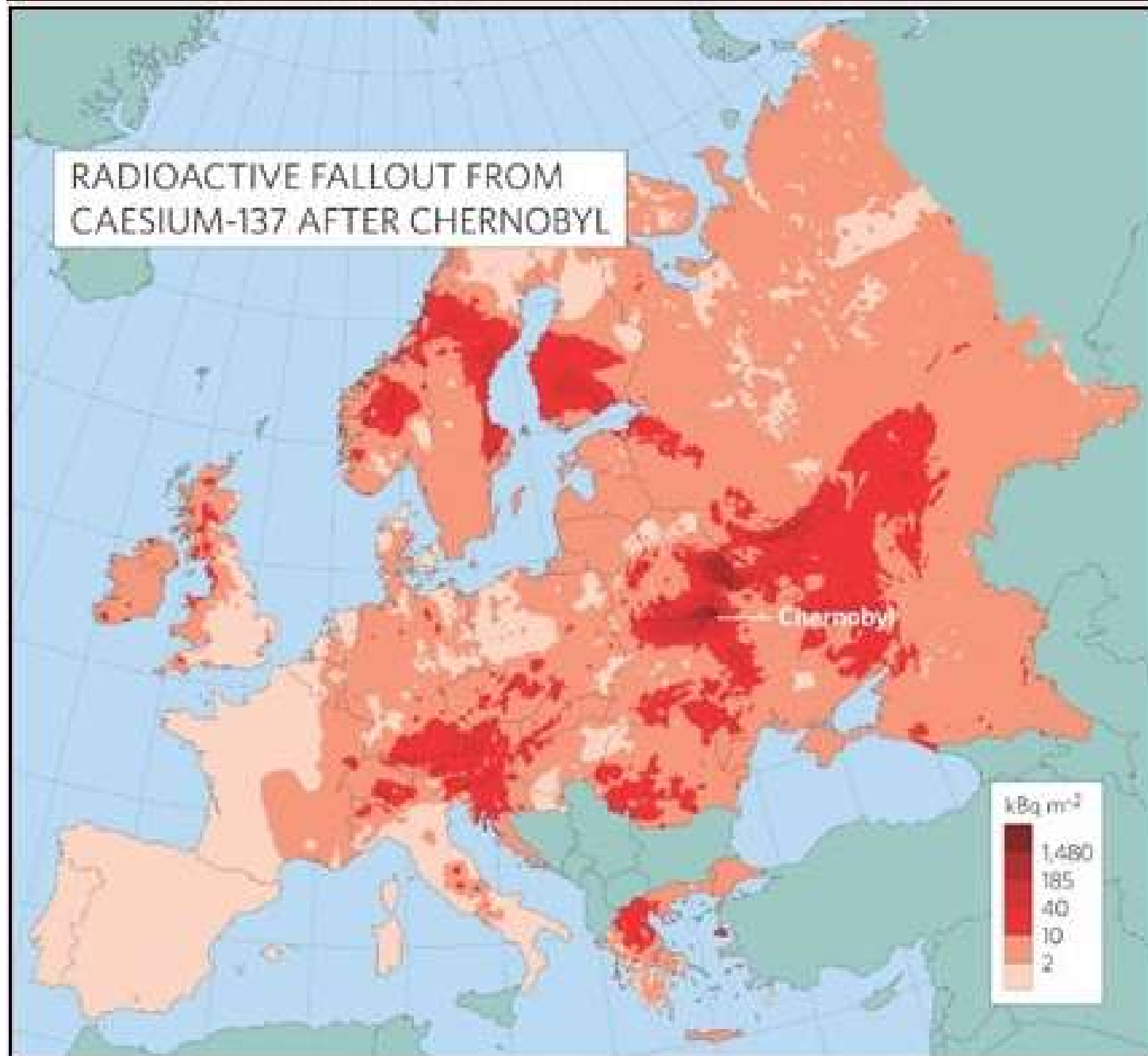
The Cover-Up

- Soviet leaders concealed the accident from the public for nearly two days and refused outside help
- Eventually, nearby towns were evacuated
- Cleanup workers covered the reactor with a concrete shell

Effects of Chernobyl Disaster

- 31 people reportedly died from radiation sickness or burns
- more than 200 others were seriously injured
- *Fallout* (radioactive material) from the accident caused a number of health and environmental problems
- increased rate of cancer, skin diseases, respiratory ailments, and heart problems

RADIOACTIVE FALLOUT FROM
CAESIUM-137 AFTER CHERNOBYL



J. SMITH & N. A. BERESFORD CHERNOBYL: CATASTROPHE AND CONSEQUENCES
(PRAXIS, CHICHESTER, 2005)

Chernobyl, Ukraine



Photos of the Effects of the Chernobyl Disaster



Chernobyl Nuclear Disaster

April 26, 1986

- What were the consequences of the disaster?

Evacuation

Land Contamination

Economic impact on East and North

Europe farmers

Health issues- cancer, birth defects, death

- Did not effect just Chernobyl, but spread to surrounding countries by air currents.
- This disaster still effects people and land TODAY.
- This nuclear disaster was the worst in history.

How do these major environmental issues effect the economies and population of Europe TODAY?

- Acid Rain

Damage to fish stocks and forests have great economic impact to local economy and international trade.

Damage to buildings resulting in money having to be spent to renovate.

Closure of many factories resulting in loss wages.

- What can be done?

European Union memebers have agreed to the Kyoto Protocol, or reduce emissions of greenhouse gasses

Find alternative energy sources

Conserve resources

All of these “fixes” cost money!!

How do these major environmental issues effect the economies and population of Europe TODAY?

- Air Pollution

Respiratory disease= greater healthcare costs.

Contribution to acid rain in the U.K .and other European countries.

Damage to fish stocks and forests have great economic impact to local economy and international trade.

Damage to buildings resulting in money having to be spent to renovate.

Closure of many factories resulting in loss wages.

Money has to be spent on improving public transportation to reduce number of vehicles on road therefore reducing emissions.

How do these major environmental issues effect the economies and population of Europe TODAY?

- What can be done about air pollution?

Use of cleaner fuels, emission controls and advanced engine technologies.

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