



MAJOR URBAN RISKS

WHO WOULD HELP YOU IN THE CASE OF EMERGENCY?

The answer is easy: 'It would depend on what sort of an emergency situation.

If you were trapped in a fire it would be firemen; if you fell sick – tell doctors; if you were the victim of a crime – the police; if the water pipes burst – a plumber.

Major industrial plants, factories, energy and scientific facilities, airports and water-treatment plants are usually located in cities.

Accidents at these facilities can give rise to complex emergency situations which may have a considerable impact on the environment.

The problem is that none of the above mentioned emergency services can deal with the consequences of such an accident on their own.

It is therefore specialists from the Russian EMERCOM who must intervene.

CLASSIFICATION OF URBAN RISKS

NATURAL DISASTERS:

EARTHQUAKES

FLOODS

HURRICANES, STORMS, TORNADOES

LANDSLIDES, MUDFLOWS

AVALANCHES

TIDAL WAVES

VOLCANIC ERUPTIONS

STORMS AT SEA

CYCLONES

BIO-SOCIOLOGICAL RISKS:

EPIDEMICS

TECHNOLOGICAL RISKS:

INDUSTRIAL ACCIDENTS

ACCIDENTS AT ENERGY FACILITIES

EXPLOSIONS

TRANSPORT ACCIDENTS

FIRES

HYDRO-DYNAMIC ACCIDENTS

The EMERCOM recently carried out R/D for control on emergency situations, analyzing their cause, the risk factors and the extent of the social and economic consequences. This came to the following conclusions for the cities: technological risks make up 64% of all emergencies, next comes biological risks at 7% and then natural disasters at 3%. The remaining emergency situations had no direct link to cities.

EARTHQUAKES



AN EARTHQUAKE —

is a series of underground shock waves and movements on the earth's surface caused by natural processes within the earth's crust.

In May 1995, an earthquake occurred in the Okhinsky district of the Sakhalin Region which registered 7-9 on the Richter scale and almost totally destroyed the city of Neftegorsk.

In some parts of the world earthquakes occur frequently and are sometimes of great magnitude, cracking open the earth's crust, causing buildings to collapse and claiming human lives.

According to data from the IDNDR and UNESCO, earthquakes claim more lives and cause more material damage than any other natural disaster and are particularly deadly when they occur in built up areas.

The underground point where an earthquake originates is called the hypocentre and the place where the rupture reaches the surface — directly above the hypocentre — is called the epicentre. The magnitude of an earthquake is rated on a twelve point scale.

Earthquake regions in Russia include the Pribaikalie, Kamchatka, Yakutia, Sakhalin, the Caucasus, Primorie, the Urals, Western Siberia, Altai and the Sayans.

CLASSIFICATION OF EARTHQUAKES

Magnitude (Richter scale)	Characteristics
1 – 2	Felt by people on the upper floors of buildings
2,5 – 4,5	Doors open and close by themselves, window panes rattle and ripples appear on water surfaces
5 – 6,5	It is hard to stay upright, wall plaster cracks and window panes break
7	Buildings collapse and large cracks appear in the ground
8	Dangerous deformation of rail and tram lines and of underground pipelines
9	Buildings are razed to the ground and large crevices appear and swallow up earth. Chunks of land jut out of the ground

FLOOD

FLOOD=

A flood is the temporary inundation of large regions as the result of an increase of water levels in reservoirs, or of rivers or lakes flooding their banks because of heavy rains, high winds or melting snow.

SAFETY TIPS:

- switch off gas, water and electricity supplies;
- move all valuables to upper floors;
- close doors and windows;
- prepare a first aid kit, a three day supply of food, some warm clothing, your documents and money;
- move up to the upper floor of a building or to the nearest high ground;
- look for something buoyant to stay afloat on (tyres, planks of wood, plastic bottles or logs);
- remove your footwear and outer clothing in advance;
- if there is a danger of finding yourself in the water: stuff some light, buoyant objects (balls, plastic bottles) under your clothing.



A flood in Primorye in 1995.

The difference between floods and other natural disasters is that in many cases the time, character and extent of a flood can be forecast. Floods nevertheless rate second only to earthquakes in the number of human lives claimed and are among the top three major natural causes of material losses. Moreover, consequential economic losses from floods are even greater than direct losses.

There are three types of floods. The first is flooding caused by heavy precipitation and melting of snow – flash floods combined with drifting ice are particularly dangerous. The second is floods caused by high winds and the

third is floods caused by underwater earthquakes, underwater eruptions and sleeping volcanoes.

In Russia, more than 40 cities and thousands of villages are under threat of flooding. Major floods have occurred in Saint Petersburg. Flooding periodically affects the Ural cities of Orsk, Serov, Novotroitsk and Slatoust and Western Siberian cities like Tyumen, Tobolsk, Kemerovo. Flooding of Far Eastern rivers (such as the Amur, the Zeya, the Bureya and the Ussuri) often become disaster areas.



In Spring 1908 a major flood occurred in Moscow as the result of melting snow. This photo of the Kremlin wall was taken in Alexandrovsky Gardens.