

Organization of searching and rescue operations in Ukraine: attention to vulnerable groups of population

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Content

1. Preparedness for wildfire incident in the Chernobyl Exclusion Zone: a worst case scenario and vulnerable groups of populations
2. Organization of search & rescue operations in Ukraine during large scale emergency situations

Ukraine at glance

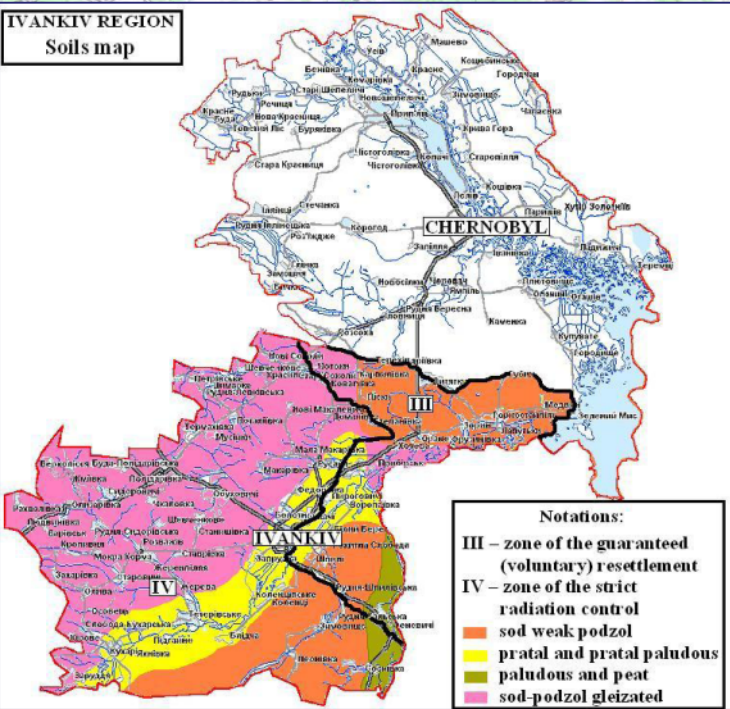
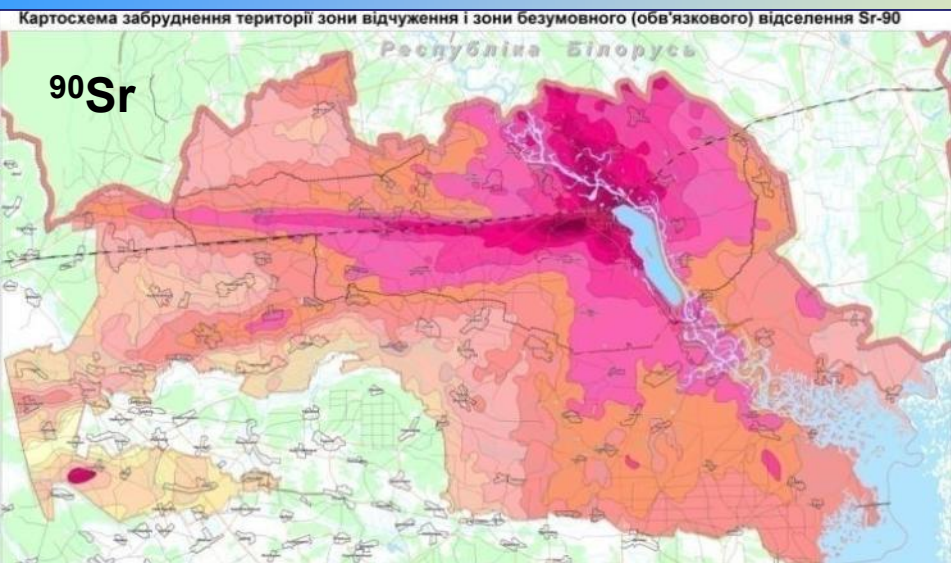
- Population – 48 million (28 production age, **13 millions of pensioners**)
- Area – 603,7 thousand square km
- **Second most industrialized former USSR republic** (5 nuclear power plants, chemical industry, steel production, coal mining)
- One of the most **militarized territories** of former USSR



1. Preparedness for wildfire incident in the Chernobyl Exclusion Zone (EZ):

a worst case scenario and vulnerable groups of populations

The exclusion zone and its vicinity today



Contaminated territories and vulnerable groups of populations in the Chernobyl EZ

- 260 000 ha of heavily contaminated forests and former agricultural lands
- Sarcophagus and radioactive waste storages, more than 100 temporary waste storages all over 10-rm zone
- 4 000 people of staff working in the EZ
- Near 300 villagers who voluntary came back to their homes (after evacuation in 1986) and are living now in the EZ permanently - mostly older than 65 year old
- 32 000 of population in the vicinity of the exclusion zone - Ivankiv rajon (working population is 28%).

Whether lessons have been learnt?



Evacuation of the population from city of Prypiat and whole EZ- 50 000 (1986)



Machines
deactivation

Radioactive wildfire coping
(1986-90)





Is safety of the Exclusion zone equal to safety of the Sarcophagus where 95% of support is directing?

Fire and the Nuclear Forest

By Richard Gottlieb

In the fall of 2004 in the rotunda of Marsh Hall on the Yale campus, a forester from Alaska gave a talk about the worst fire season in his state's history. Driven by record-breaking temperatures and drought, intense fires had raged across 6.5 million acres of forest, easily triple what Alaska expected even in a bad year. Despite the latest fire-fighting technology, the fires burned too big and too hot to control. At one point, a change of wind direction blanketed the city of Fairbanks in smoke, reducing visibility at times to a quarter-mile. Air quality was rated very unhealthy or hazardous for 10 days straight, forcing people to stay indoors or even evacuate the city. NASA later reported that the smoke plume had worsened air quality as far away as Houston.

In the audience that day at Yale was an associate professor from the National Agricultural University of Ukraine named Sergiy Zibitsev, who was visiting from Kiev as a Fulbright scholar. As the speaker's photos played across the screen, he contemplated the catastrophic scale of the fires and wondered, "What if it happened at Chernobyl?"

A 50-year-old Scotch pine plantation five miles from the Chernobyl nuclear power plant, the stand has been devastated by insects and is now at an extremely high risk for fire.

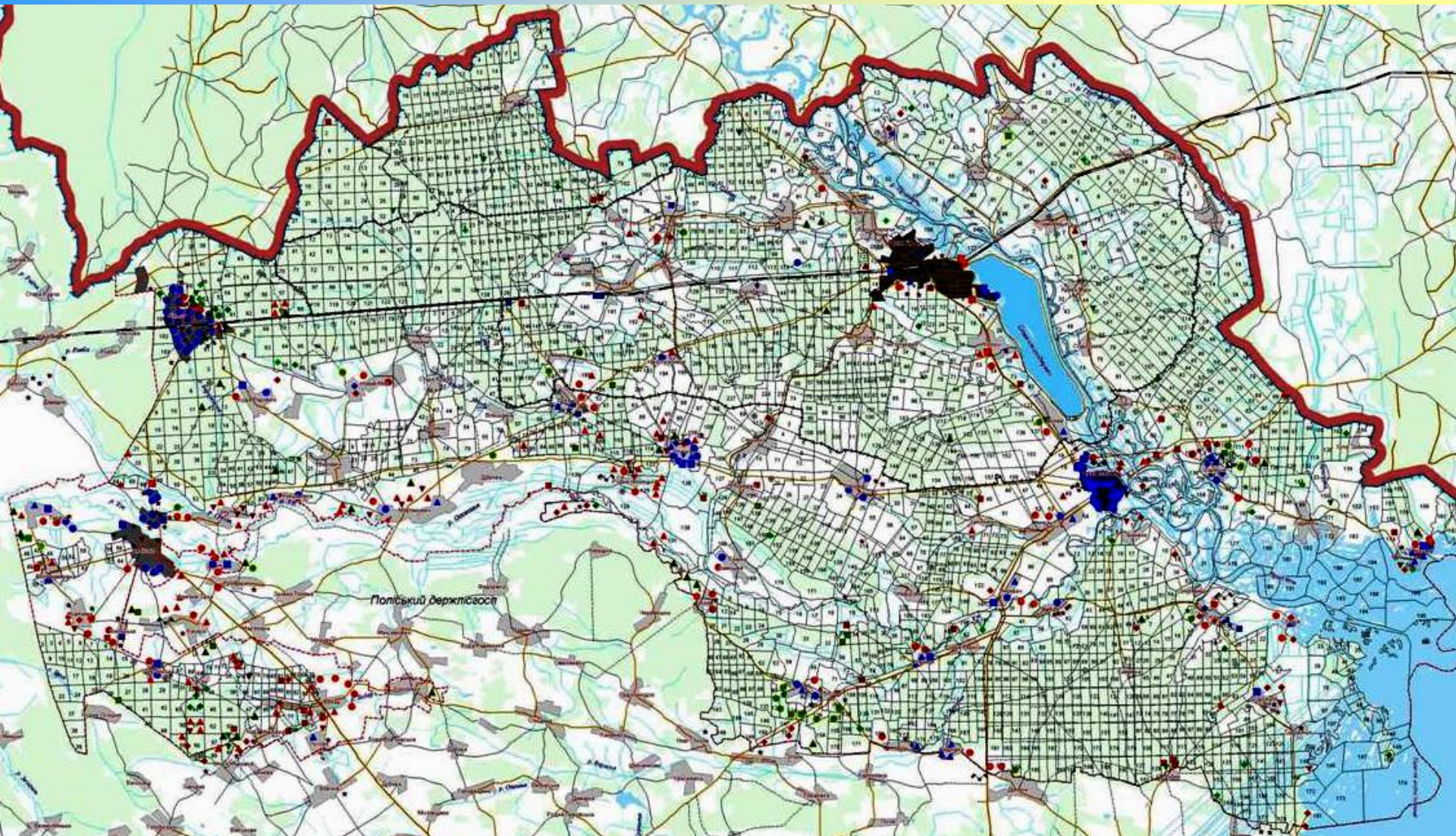
Zibitsev, a tall, almost ectoplasmically thin 48-year-old, with a slight stoop and thick hair just starting to go gray, knew the forests around the Chernobyl Nuclear Power Plant as well as anyone. Kiev, where he teaches at the Institute of Forestry and Landscape Architecture, is a two-hour drive to the south. Starting in 2003, he'd spent five summers working five hours a day in the so-called exclusion zone, a fenced-off area of almost 600,000 acres around the power plant. The human population there had been hastily evacuated after the April 26, 1986, explosion at nuclear reactor number four. What



Dry Scotch Pine contaminated fire prone forests damaged by insects and diseases (1034 ha - inside 10 km zone)



Wildfires are regular event in the EZ (93-08)



•Despite a general prohibition of access to the Exclusion Zone, human-caused ignition is common in the area.

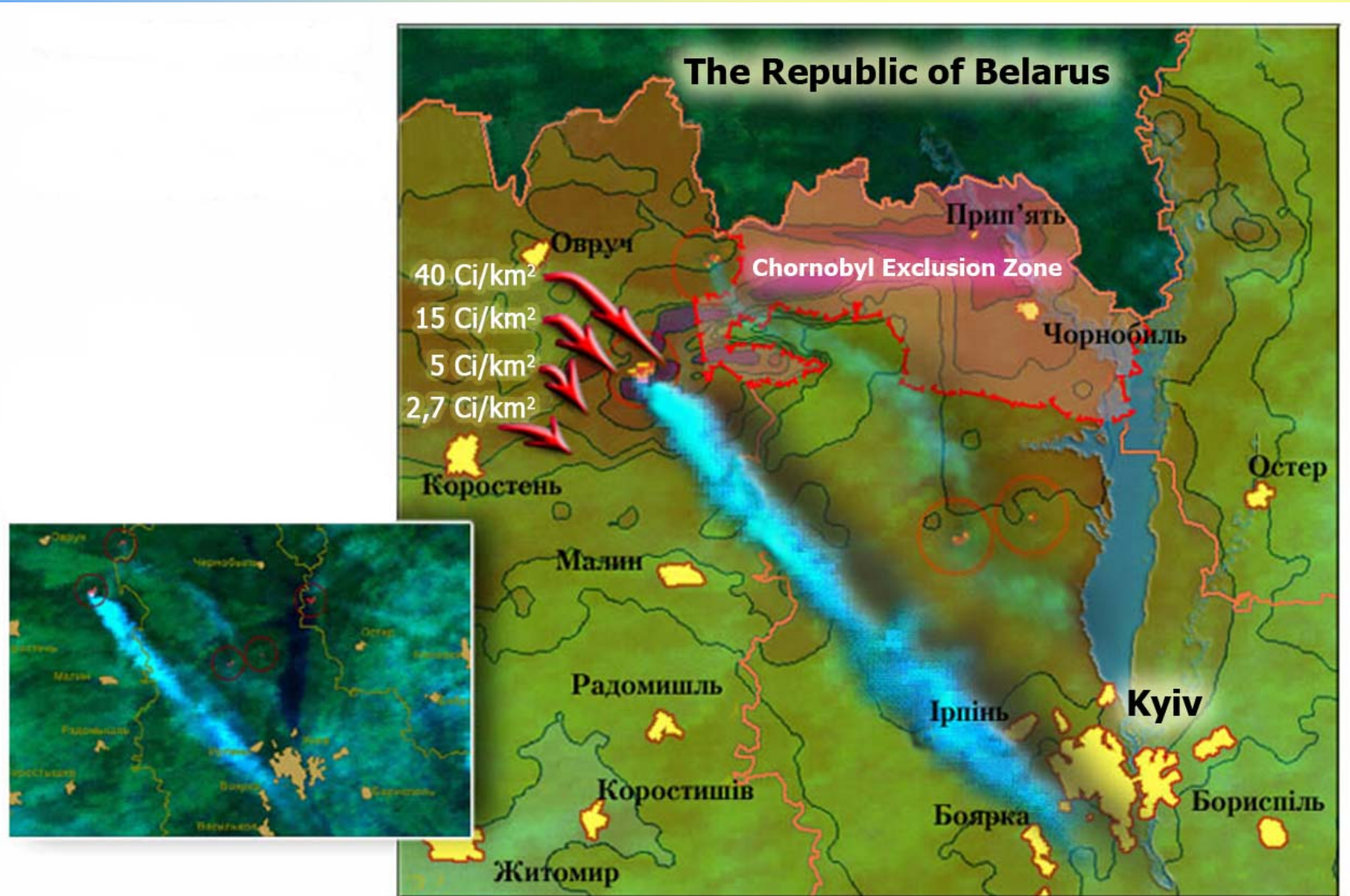
During large wildfire in 1992 crown fire destroyed forests on area more than 5 000 ha (left low corner)

Part of areas burned in August 1992 fire (5000 ha from total 17 000 ha)



Smoke from medium size wildfire out of the EZ reached vicinity of Kyiv in May of 2003

(NOAA satellite image is courtesy of Ukrainian Land and Resources Management Centre).



International conference devoted to Chernobyl wildfire problem, Kyiv-Chornobyl, July 2007

Council of Europe



OSCE

IUCN

Global Fire Monitoring Center (GFMC)

Ministry of Emergency



Avialesoohrana Russia

National University of Life and Environmental Sciences of Ukraine

Yale University School of Forestry & Environmental Studies





Advanced Seminar

Wildfires and Human Security



Fire Management on Terrain Contaminated by Radioactivity, Unexploded Ordnance (UXO) and Land Mines

Kyiv / Chornobyl, Ukraine, 6-8 October 2009

An activity of Global Fire Monitoring Center (GFMC)
in the frame of the activities of the Council of Europe (CoE)
Environment and Security Initiative [ENVSEC]
OSCE
UNISDR Regional Southeast Europe / Caucasus
and Central Asia Wildland Fire Networks
UNECE / FAO Team of Specialists on Forest Fire



Preliminary results of worst case catastrophic wildfire scenario modeling

Hohl A., Yale University

Kashparov V., National University of Life and Environmental Sciences of Ukraine

The potential dosage derived from the consumption of contaminated foodstuffs could exceed acceptable levels.

The Ukrainian government calls for limitations on the consumption of foodstuff if the prevented internal irradiation dose exceeds 5 mSv or if the prevented average annual dose exceeds 1 mSv.

For both adults and infants these levels could be almost met or exceeded by consuming food produced at distances as great as 150 km from the center of the CEZ.

2. Organization of search & rescue operations in Ukraine during large scale emergency situations



THE MINISTRY OF UKRAINE OF EMERGENCIES AND AFFAIRS OF POPULATION PROTECTION FROM THE CONSEQUENCES OF CHERNOBYL CATASTROPHE

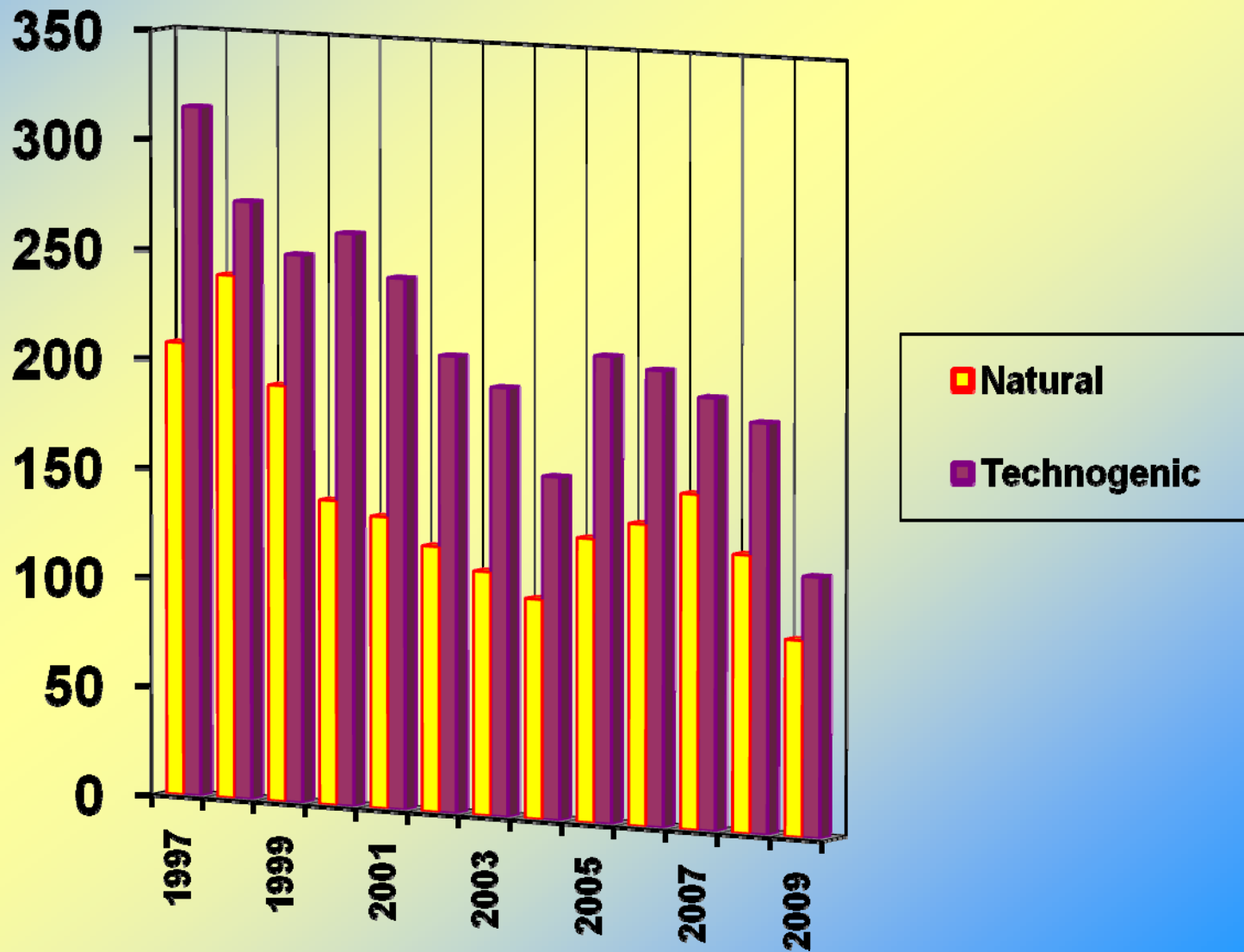


The Ministry is a main authority that responsible for the implementation of state policy on protection of population and territories from:

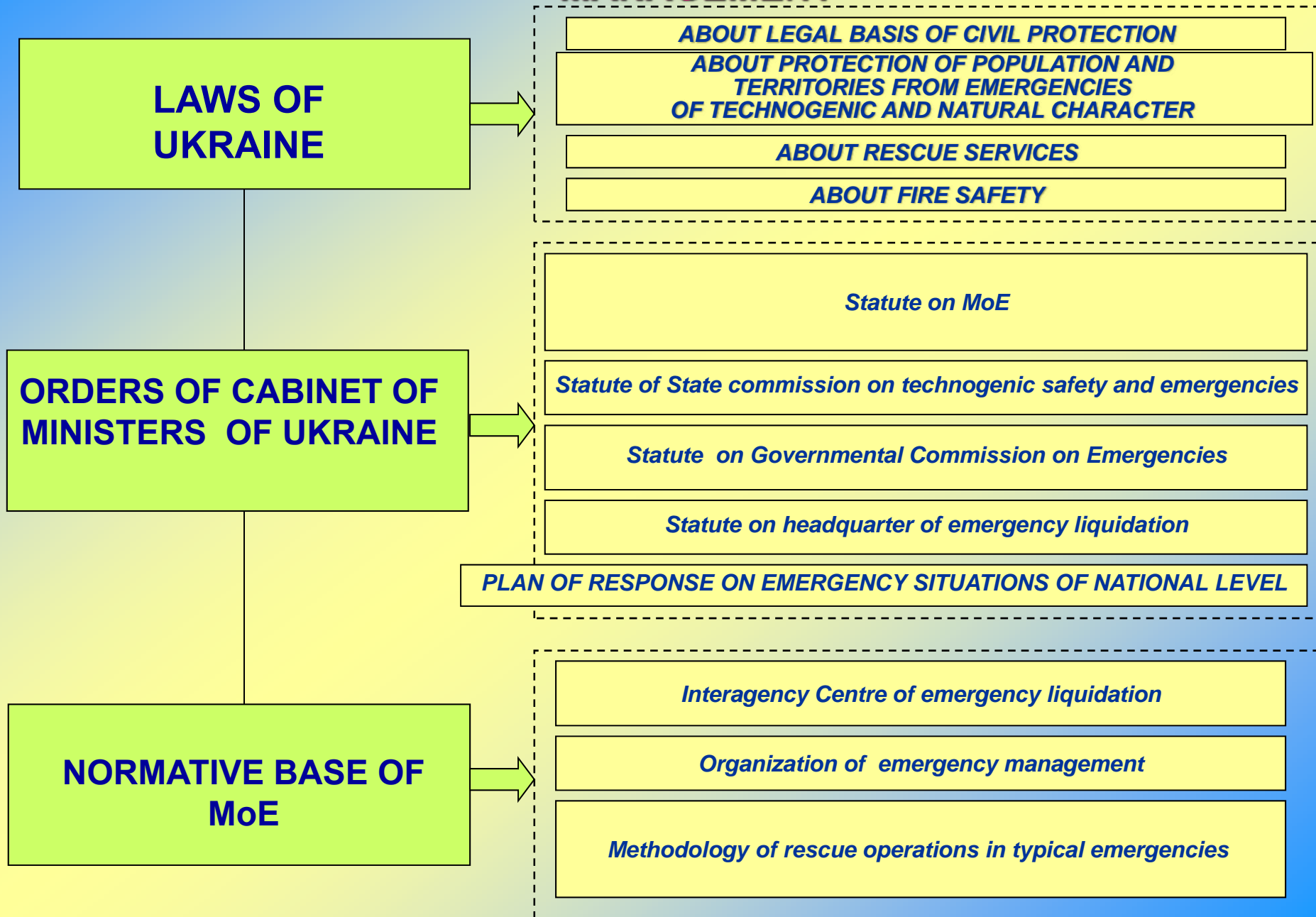
- **technogenic emergency situations,**
- **natural disasters,**
- **consequences of the Chernobyl disaster,**
- **rescue operations,**
- **fire safety and**
- **radioactive waste**



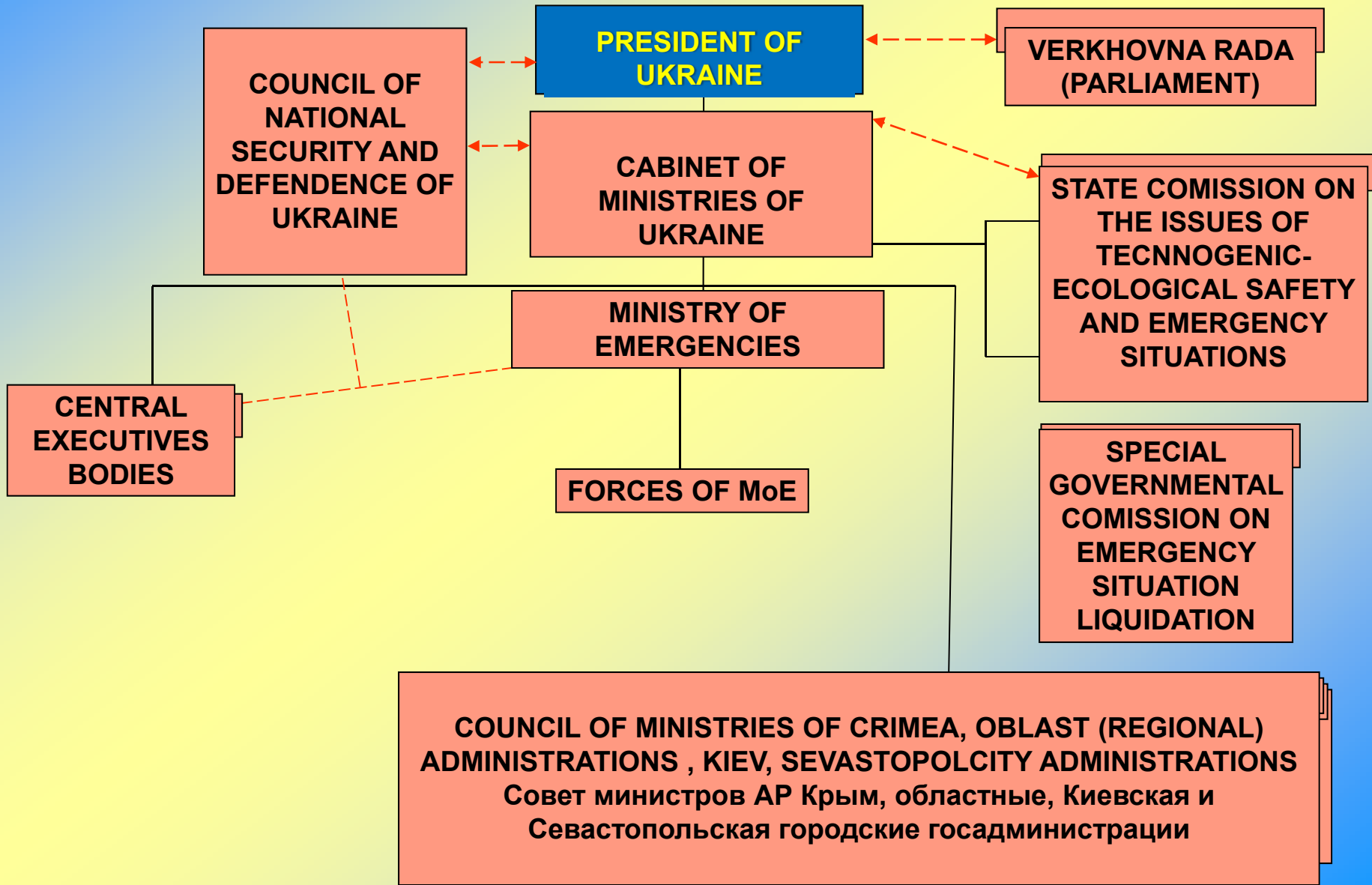
DYNAMICS OF NATURAL AND TECHNOGENIC DISASTERS AND EMERGENCY SITUATIONS IN UKRAINE (97-09)



LEGISLATION OF UKRAINE FOR EMERGENCY SITUATION MANAGEMENT



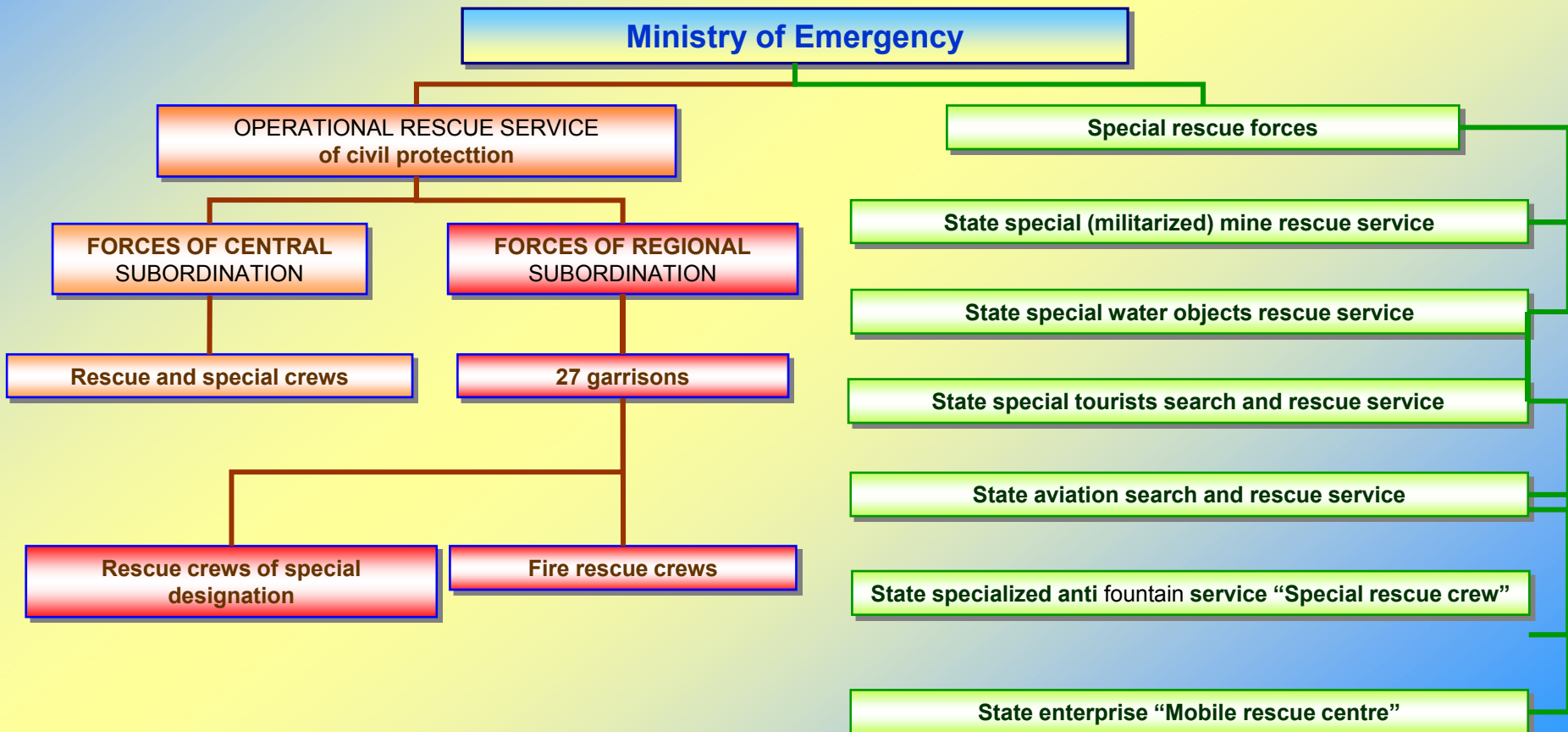
UNIFIED STATE SYSTEM OF CIVIL PROTECTION OF POPULATION AND TERRITORIES



RESCUE FORCES OF THE MINISTRY



- RESPONSE FOR EMERGENCIES AND LIQUIDATION OF THEIR CONSEQUENCES;
- INFRASTRUCTURAL AND WILDFIRES SUPPRESSION;
- PEOPLES RESQUE IN BUILDINGS, BLOCKAGES, ON WATER, INASSESIBLE MOUNTAIN AREAS, MININGS;
- CLEANING OF TERRITORIES FROM UXO AND LAND MINES;
- LIFE SUPPORT OF INJURED POPULATION;





Rescue operations during catastrophic floods in settlements



Catastrophic floods took place in 1998, 2001 and 2008 in Ukraine.

2008 - search and rescue operations were conducted with the use of aviation, floating transporters, rescue, engineering and special machinery.

3 498 people were rescued by the special forces the extreme conditions (thunder, lightning, pouring rain, wind).

29 000 people have been evacuated from affected areas

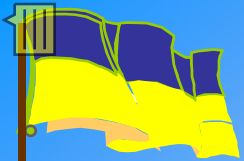


Rescue operations during catastrophic floods in settlements: attention to vulnerable groups of population



Priority to rescue of:

- **older peoples (often refused to leave their homes)**
- **peoples with disabilities**
- **pregnant women**
- **children**



LIQUIDATION OF CONSEQUENCES OF WINDBREAKS IN UKRAINE

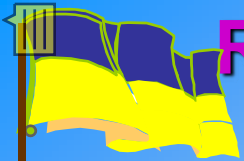


Windbreak of 2007 year
(Volyn region).

Damaged:

- 2 702 houses
- 5808 ha of forests
- Electricity supply 190 settlements





RESCUE OPERATION AFTER BUILDINGS COLLAPSE

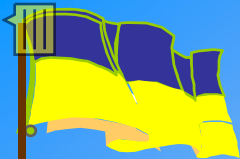


AFTER BLAST OF NATURAL GAS IN APPARTMENT BUILDING, EVPATORIA, 2008



LIQUIDATION OF COLLAPSE OF BUILDING,
DNIPROPETROVSK, 2007 - rescued 25 peoples





LIQUIDATION OF YELLOW PHOSPHORUS (750 TONS) CONTAMINATION DURING TRAIN INCIDENT



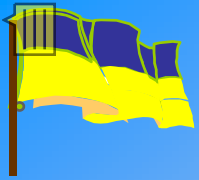
15 CARRIAGES BROKEN, 6 OF THEM BURNED
Forces mobilized - 1000 peoples, 113 engines





FIGHTING WITH FIRES IN INFRASTRUCTURAL OBJECTS AND NATURAL ECOSYSTEMS





LIQUIDATION OF CONSEQUENCES AND RISKS OF BLASTS ON ARTILLERY BASES AND ARSENALS



Exploded during summer draught military ammunition on the artillery base # 275 in Zaporizska oblast, 2006 - 2008



Military arsenal # 61 Kharkiv oblast



POTENTIAL USE OF THE MINISTRY FORCES FOR RESCUE OPERATIONS ABROAD



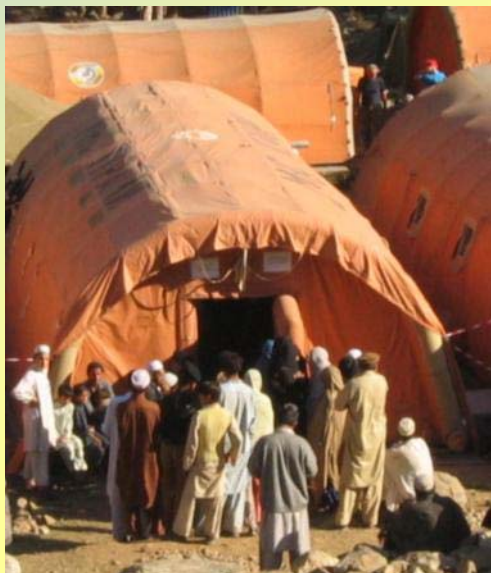
MOBILE RESCUER CENTER OF MOE OF UKRAINE



ASSISTANCE THAT FORSES OF THE MOE PROVIDE ABROAD



**MOBILE RESCUER CENTER OF MOE OF
UKRAINE DESIGNATED FOR MEDICAL
ASSISTANCE TO POPULATION IN
EMERGENCY ZONES**



RESCUE OPERATIONS OF MoE ABROAD OF UKRAINE



1999 TURKEY

- 185 **RESCUERS** WERE INVOLVED IN RESCUE OPERATION DURING EARTHQUAKE. MOBILE RESCUER CENTER OF MOE PROVIDE Medical assistance were provided for 5 432 **PEOPLES**, including 1 847 kids



2001 INDIA

- MEDICAL ASSISTANCE TO 5 558 **PEOPLES** SUFFERED FROM EARTHQUAKE, INCLUDING 1 053 **KIDS**



2003, 2005 IRAN

MEDICAL ASSISTANCE TO 7 304 **PEOPLES** SUFFERED FROM EARTHQUAKE, INCLUDING 1 890 **KIDS**



2005 PAKISTAN

MEDICAL ASSISTANCE TO 10 758 **SUUFERED** FROM EARTHQUAKE, INCLUDING 1 437 **KIDS**

Thank you for attention!

