

RAPID MAPPING SERVICE

Man-made Hazards – Explosion of Ammunition and Oil Pollution

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ABSTRACT

Rapid mapping services are related with emergency response and land monitoring. In demand we could provide on a regular basis land cover/land use data and update of this information at national, regional, and local level. In case of natural disasters we have the necessary infrastructure and equipment to order satellite data from different sensors, to acquire in-situ and ancillary data, to process the satellite information in due time and to provide up-to-date information, maps and analyses for the affected area.

On July 3, 2008, around 6:30 AM within 18250 military unit located west of Sofia, between villages Chelopechene and Chepintsi, has happened a series of explosions. Division had facilities for storage and disposal (utilization) of ammunition. There are two establishments for ammunition dismantlement and explosives recovery, and adjoining warehouses for ammunition. Ministry of Defence has saved there around 1600 tons of surplus ammunition and over 15 tons of TNT. Since the storage of such munitions poses a serious risk, Ministry of Defence provides their gradual destruction. In this warehouses are not saved chemical ammunition or those with reactive action, but only classic one.

During the accident there were heard several large and numerous small explosions. In the vicinity of the accident the shock wave was felt as a horizontal earthquake. There were no victims – only two wounded by broken glass, adopted briefly in hospital. The consequences of explosions were burned area in radius of 200 meters around the accident, broken windows, including these of the Terminal 1 of Sofia International Airport, broken walls of some old houses. The Nuclear Regulation Agency declared that there was not found radioactive and ionizing radiation and radiation level was in its normal rates. In the rescue operation were involved police, fire and civil protection, and municipal administration of Sofia.

Damage assessment was made by using satellite imageries with very high resolution. These images showed the situation before (IKONOS with 1 m spatial resolution) and after the accident (FORMOSAT 2 with 2 m spatial resolution). According to performed analysis total affected area was 103.8 dka, and the military division was completely destroyed. The whole area was dotted with large pits and there are significant changes in land cover and surface soil layer.

Request for new recording was made three hours after the accident, and final product was delivered on July 8, 2008 by SPOT IMAGE, according to Bulgarian-French partnership project, within BULGARISK – damage assessment and risk management of similar disasters. Satellite imageries and information were provided by State Agency for Information Technologies and Communications and its partners from BULGARISK project, namely the ASDE ⁽¹⁾.

On the morning of October 2 a large quantity of oil slick was registered in the Bulgarian section of Danube River on the border with Republic of Serbia. According to the Regional Border Service – Vidin the oil slick was 28 km long and 0.4 km wide. High levels of pollution of the river were reported until October 6 – 7, 2006 due to high water level. The spill reached 60 km in length, and there was oil deposition along river banks. During this period on the river bank from Novo Selo to Lom deposited oil formed strips with 1 - 2 m wide and up to several kilometers length. For damage assessments were used satellite imageries by FORMOSAT, available only for the period of October 10 to 13 when oil slicks were visible only in separate small sectors. In order to assess the river pollution the State Agency for Information Technologies and Communications in Bulgaria requested assistance from the International Charter Space and Major Disasters (The Charter). ReSAC delivered available satellite imageries and information was transferred to the Directorate General Civil Defence, Ministry of Interior, at their additional request.

Focused on current disaster events and dedicated to crisis management actors, rapid mapping service provides information to support the parties during hazard by delivering thematic products for the extent and impact of the event. This service is usually complementary to the services provided by The Charter. It may be activated for events not relevant to The Charter. Rapid mapping service is applicable to any type of disaster event – flood, fire, landslide, oil spill, and earthquake, occurring in Europe or in the rest of the world.

⁽¹⁾ ASDE: Agency for Sustainable Development and Eurointegration