Geophysical Research Abstracts
Vol. 20, EGU2018-1065, 2018
EGU General Assembly 2018

Complex hazards and natural-technological accidents in Russia

Elena Petrova

Lomonosov Moscow State University, Faculty of Geography, Laboratory of Snow Avalanches, Moscow, Russian Federation (epgeo@mail.ru)

A modern vector of civilization development is directed toward the saturation of all aspects of our life with technogenic and natural-technogenic sources of hazards. Not only the risk of technological accidents and catastrophes associated with technology failures grows, but the risk of natural-technological accidents, triggered by hazardous natural processes and phenomena, also increases significantly. The whole spectrum of hazardous natural processes and phenomena that can trigger natural-technological accidents and emergency situations are presented on the territory of the Russian Federation. Complex hazards are understood as various combinations of sources of hazards that lead to the accident occurrences. Hazardous natural processes and phenomena of various genesis including geological, hydrological, atmospheric, cryospheric and others impact on the technosphere objects (industrial, transport, infrastructure), leading to the occurrences of natural-technological accidents and emergencies. The term "natural-technological" applies to both human-induced intensification of natural risks and any accidents in the technosphere triggered by natural processes or phenomena. Ten types of natural-technological accidents are identified. Using the long-term series of data, the total risk of occurrences of natural-technological accidents of all types at the level of the administrative units of the Russian Federation is estimated and displayed on the map. The risk of natural-technological accidents is calculated based on their average annual frequency of occurrences over 1991-2016. The complex social risk from natural-technological accidents for the population of the Russian Federation is also estimated.