

INTERNATIONAL ASSOCIATION OF ENGINEERING GEOLOGY AND THE ENVIRONMENT

COMMISSION No. 1: ENGINEERING GEOLOGICAL CHARACTERISATION AND VISUALISATION

TERMS OF REFERENCE

1. To monitor, review and make recommendations on good practices for matters relating to engineering geological characterisation and visualisation utilising traditional maps as well as computer models having regard to:
 - a) Characterising geohazards in terms that can be used directly by actuarial scientists in their application of mathematical, probabilistic, and statistical methods to finance and insurance, specifically for assessing risk needed to set insurance premiums;
 - b) Characterising physical damage caused by geohazards to transportation, municipal, civil, and residential infrastructure and buildings in systematic ways that can be used by civil and structural engineers and actuarial scientists in their evaluation of event-specific losses and determination of maximum probable loss;
 - c) Characterising transient and dynamic environmental factors, such as climate, groundwater levels, and coastal processes, in systematic ways that quantify variability and uncertainty;
 - d) Effectively using information technology in engineering geology characterisation and visualisation, including:
 - i) Digital acquisition of field data,
 - ii) Use of 3D laser scanning and terrestrial photogrammetry for virtual geological mapping,
 - iii) Database structure,
 - iv) Visualisation and display with alternative Geographical Information System platforms, including freely available software (e.g., GRASS, Landserf) and modestly priced Internet applications (e.g., Google Earth), and
 - v) 2D, 3D and 4D modelling of physical characteristics, environmental processes, and system responses.
2. To prepare occasional articles and papers based on findings of the Commission primarily for publication in the Bulletin of the International Association of Engineering Geology and the Environment (IAEG) or in free-standing volumes;
3. To liaise with other Commissions of the IAEG, as appropriate, to ensure that activities of mutual interest are coordinated and to minimise duplication of effort;
4. To carry out Commission business chiefly by electronic communication, but to take advantage of opportunities to meet at international conferences; and
5. To report progress annually to the Council of the IAEG.