File : C1 – Glossary

The material listed below has been collected by Matt Steffan and Andy Banas, Engineering Geology students of Prof. Scott Burns at Portland State University (USA) in the framework of a students assignment. The material has not yet been screened and commented nor approved by the C16 chair and membership

Glossary

1. **Geohazards:**
   - events related to geological features and processes that cause loss of life and severe damage to property and the natural and built environment (Source: the International Centre for Geohazards (ICG))
2. **Actuarial Science**
   - The discipline that applies mathematical and statistical methods to assess risk in the insurance and finance industries. (Source: www.Wikipedia.org)
3. **Probable Maximum Loss**
   - The probable maximum loss for a property is that proportion of the total value of the property which will equal or exceed, in a stated proportion of all cases, the amount of loss from a specified peril or group of perils. (Source: http://www.casact.org/pubs/proceed/proceed69/69031.pdf)
4. **Engineering Geology**
   - Engineering Geology is geologic work that is relevant to engineering, environmental concerns, and the public health, safety, and welfare. "Engineering Geology" is defined by the Association of Engineering Geologists as the discipline of applying geologic data, techniques, and principles to the study both of a) naturally occurring rock and soil materials, and surface and subsurface fluids, and b) the interaction of introduced materials and processes with the geologic environment, so that geologic factors affecting the planning, design, construction, operation, and maintenance of engineering structures (fixed works) and the development, protection, and remediation of groundwater resources, are adequately recognized, interpreted, and presented for use in engineering and related practice. (source: http://www.aegweb.org)
5. **Geophysics**
   - The subsurface site characterization of the geology, geological structure, groundwater, contamination, and human artifacts beneath the Earth's surface, based on the lateral and vertical mapping of physical property variations that are remotely sensed using non-invasive technologies. Many of these technologies are traditionally used for exploration of economic materials such as groundwater, metals, and hydrocarbons. (Source: www.eegs.org)
6. **Discrete Element Method**
   - A discrete element method (DEM), also called a distinct element method is any of family of numerical methods for computing the motion of a large number of particles of micron-scale size and above… Today DEM is becoming widely accepted as an effective method of addressing engineering problems in granular and discontinuous materials, especially in granular flows, powder mechanics, and rock mechanics. (source: www.Wikipedia.org)
7. **Lidar**
   - The optical analog of radar. The term lidar is an acronym for light detection and ranging. Lidar systems employ intense pulses of light, typically generated by lasers, and large telescopes and

sensitive optical detectors to receive the reflected pulses. (Source: *McGraw-Hill Encyclopedia of Science and Technology*, 5th edition)

8. Geographic Information System (GIS)

- Computer-based technologies for the storage, manipulation, and analysis of geographically referenced information. Attribute and spatial information is integrated in geographic information systems (GIS) through the notion of a data layer, which is realized in two basic data models: raster and vector. (Source: *McGraw-Hill Encyclopedia of Science and Technology*, 5th edition)

9. Data Acquisition

- Data acquisition (abbreviated DAQ) is the process of sampling of real world physical conditions and conversion of the resulting samples into digital numeric values that can be manipulated by a computer. Data acquisition and data acquisition systems (abbreviated with the acronym DAS) typically involves the conversion of analog waveforms into digital values for processing. (Source: www.Wikipedia.org)