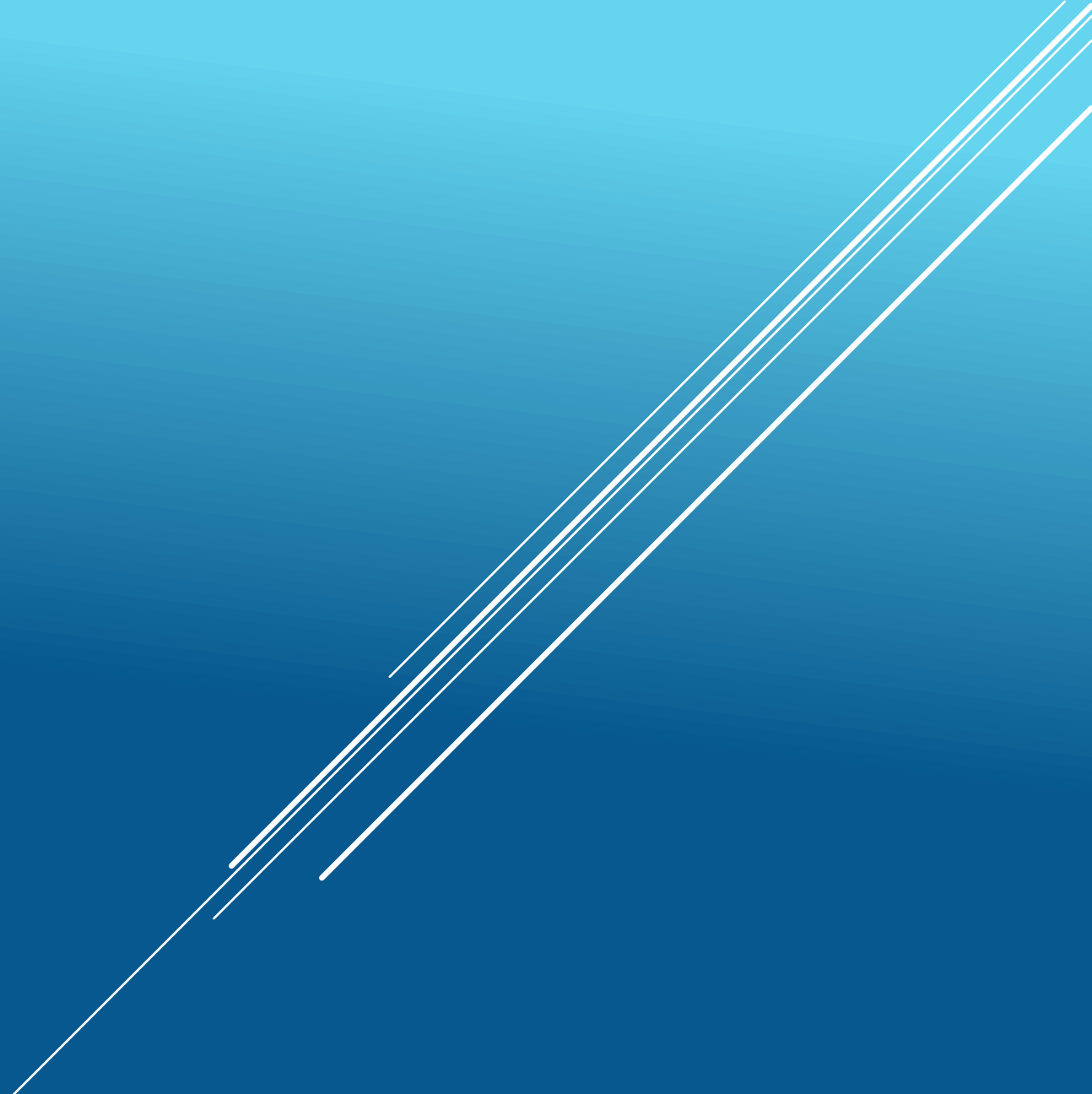


ENGINEERING GEOLOGY

KEY OF MODERN DEVELOPMENT



Introduction To Engineering Geology

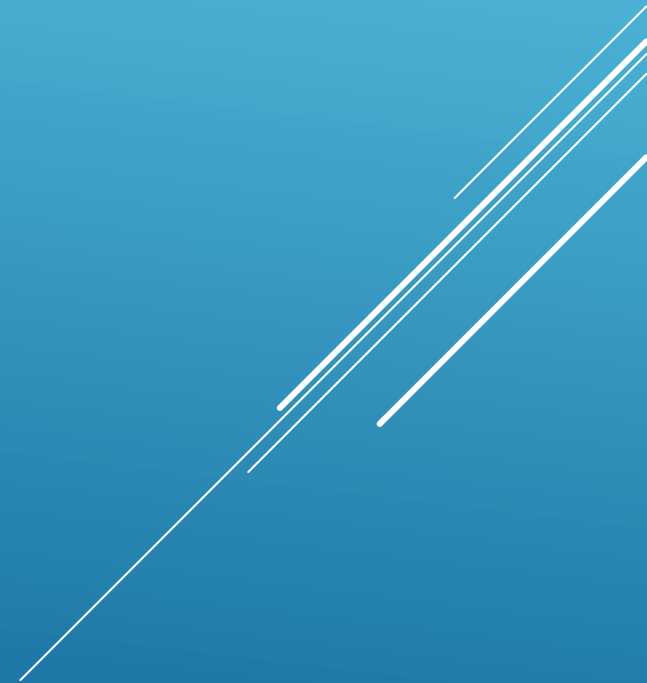
History Of Engineering Geology

Scope Of Studies

Some Important Tools

Methods And Reporting

Conclusion



geologic
deformation ground sinkhole
hazard blasting
water processes resistivity geophysical
trained CIVIL soil debris

engineering

volcanic construction
seismically pipeline practice

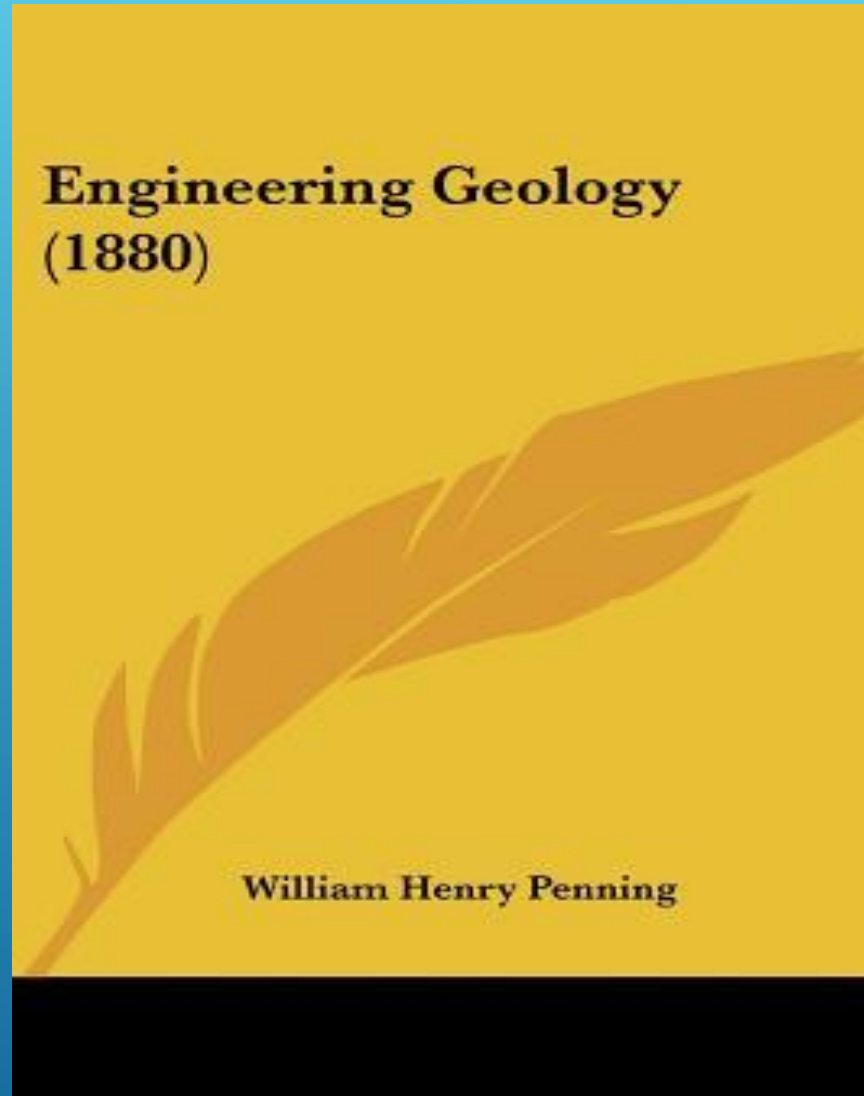
geology

structures
stereoscopic

rockbuilder
data falling

mine projects surveys earth related
human liquefaction methods
mechanics engineer geology
seismic dam studies
avalanche design backhoe
landslide performed kinematics
aqueduct geotechnical trenching
geologist

▶ History of Engineering Geology



First book of Engineering geology

▶ St. Francis Dam Failure

curved concreted gravity dam for Los Angeles



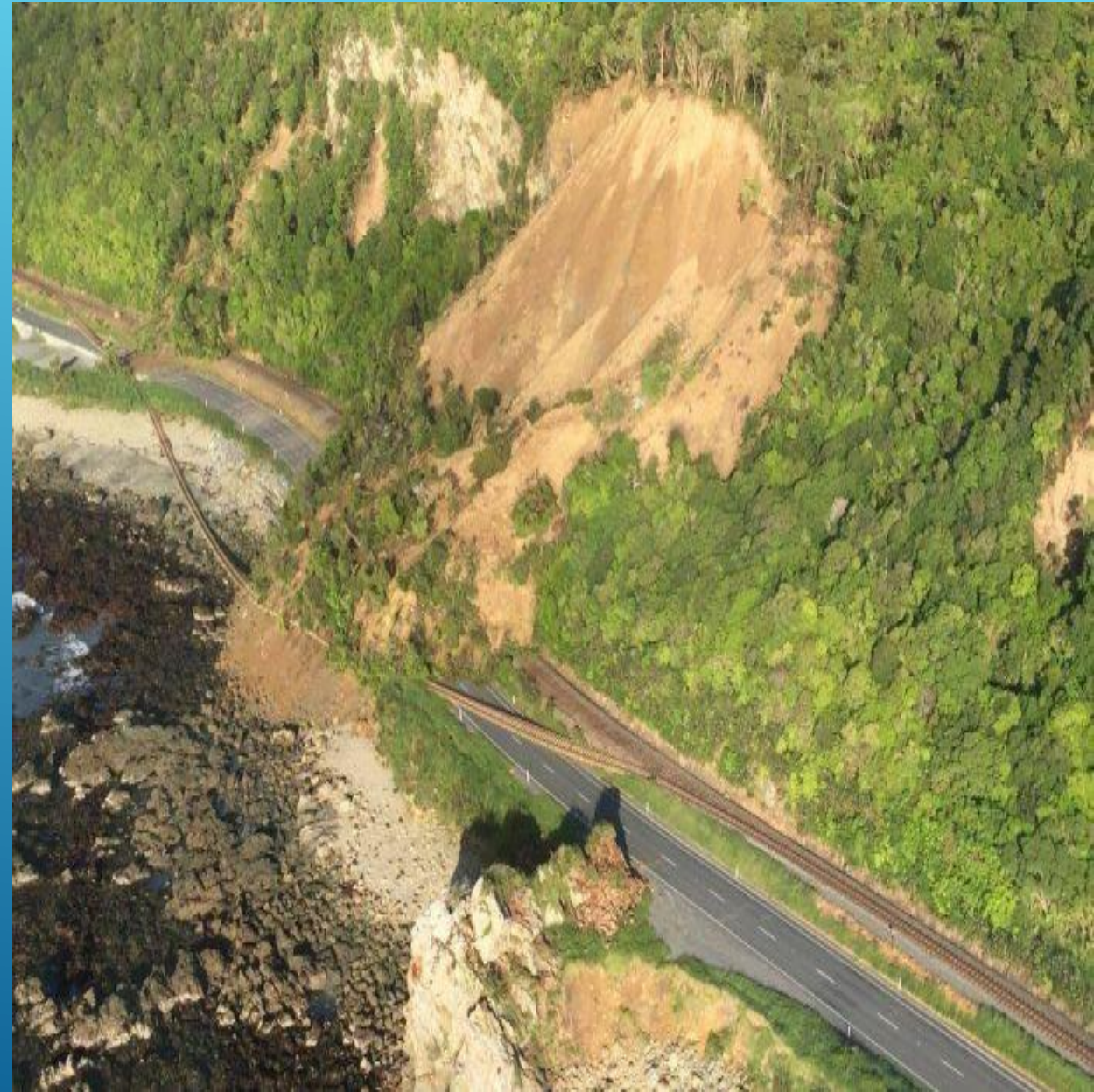


HISTORY

Scope Of Studies

- ▶ for residential, commercial and industrial developments.
- ▶ for governmental and military installations.
- ▶ for public works such as power plant, wind turbines, transmission lines, sewage treatment plant, water treatment plant, pipeline works, tunnels, trenchless construction, canal, dams, reservoir building, railroad, transit, highways, bridges, seismic retrofits, airports and parks.
- ▶ for mining works such as tunneling, excavations.
- ▶ for wetland and habitat restoration programs.
- ▶ for coastal engineering, sand replenishment, bluff or sea cliff stability, harbor pier and waterfront development.
- ▶ for offshore outfall, drilling platform and sub-sea pipeline, sub-sea cable and other type of facilities.

SITE INVESTIGATION



For Residential, Commercial and Industrial Development



Dam and reservoir



▶ Tunnel Construction



▶ Drilling And Blasting




► Road Construction



▶ Various Geo hazards



► Some Important Tools

- Geologic Knowledge as a backbone
 - Engineering knowledge specially related to civil engineering
 - IT knowledge
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the slide.

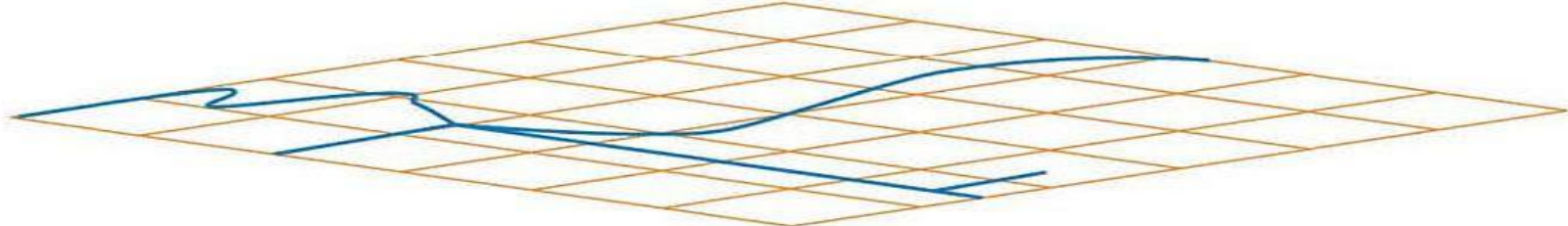
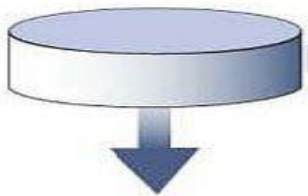
▶ IT knowledge



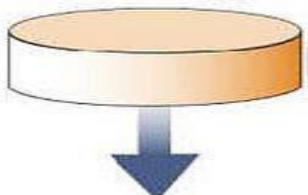
Data source

Data layers

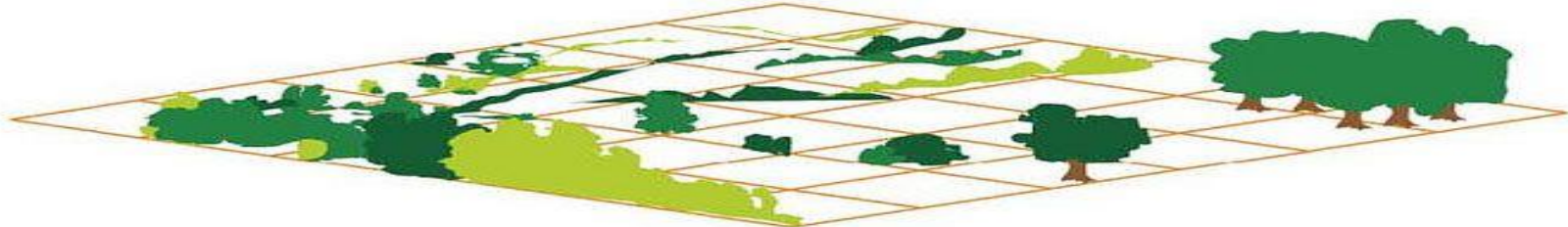
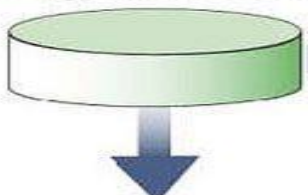
Street data



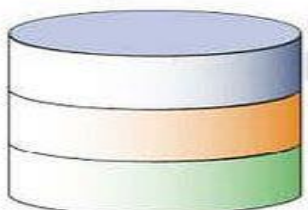
Buildings data



Vegetation data

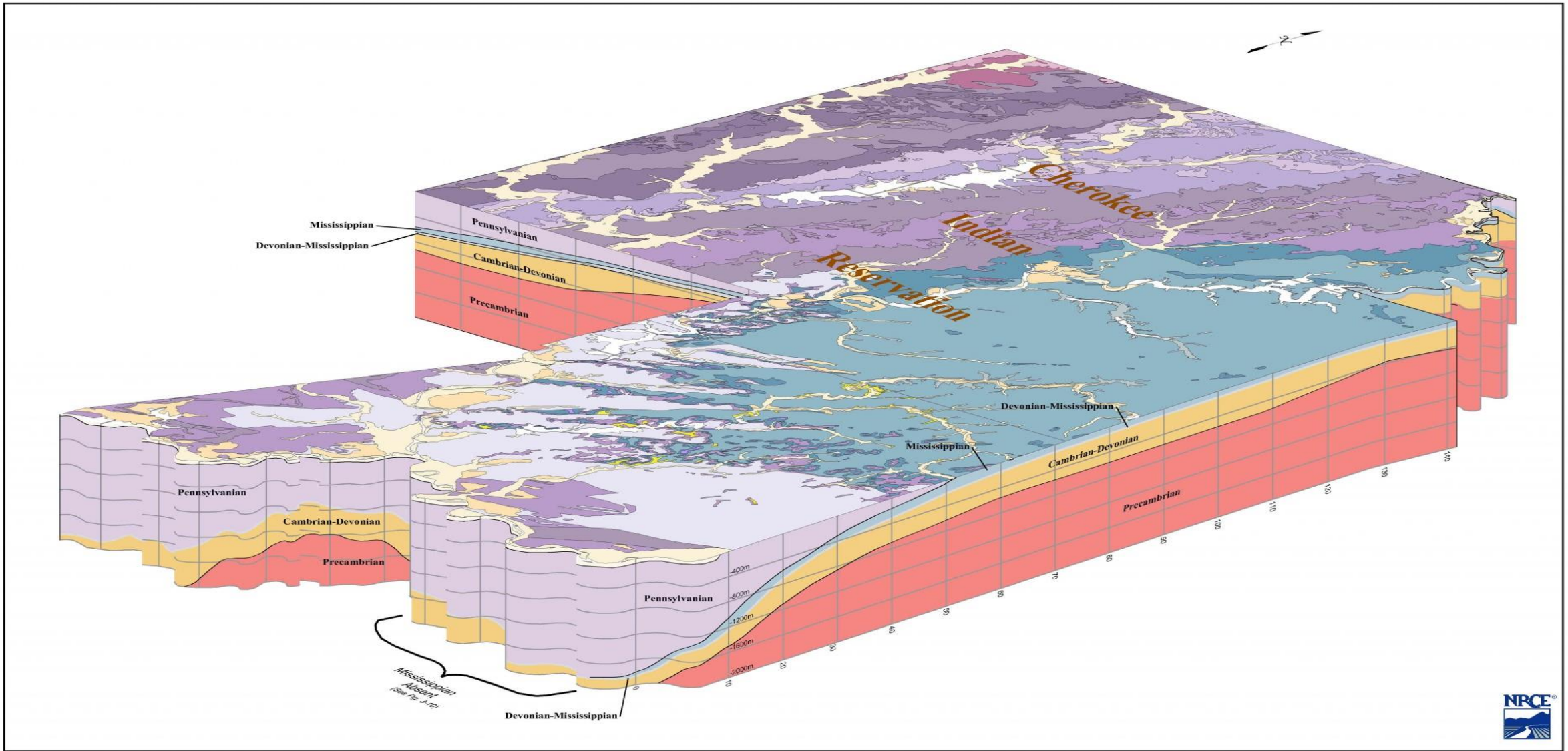


Integrated data





TOP 9 PROGRAMMING LANGUAGES OF 2016



BASIC METHODS USED BY ENGINEERING GEOLOGIST

- Geological field mapping of geological structures, formations, soil units and hazards.
- Review of Geological literatures, maps, Geotechnical reports, engineering plans, environmental reports, Arial photographic studies, remote sensing data, topographical map etc.
- The surface and subsurface investigations as the excavation, sampling and logging of earth/rock materials in drilled borings, backhoe test pits and trenches, fault trenching, and bulldozer pits, Geomechanical test, hydrological tests etc.
- Geophysical survey.
- Deformation monitoring of soil (Plate load Test), Rock on surface & subsurface.
- Recommendation for safety measures.

► Conclusion:

The practice of engineering geology is also very closely related to geological engineering and geotechnical engineering.

The principal objective of the engineering geologist is the protection of life and property against damage caused by various geological condition.

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Thank You

