SEEQUENT

UNDERSTAND THE UNDERGROUND

GeoStudio

GeoStudio 3D

Confidently conquer 3D geotechnical challenges with GeoStudio 3D

Seequent, The Bentley Subsurface Company

GeoStudio 3D is an integrated software suite for modelling slope stability and groundwater flow in soil and rock. Get the big picture from all your data sources and run integrated analyses to reveal new insights and uncover risks in the third dimension.

3D

GeoStudio 3D

GeoStudio 3D offers simple, but powerful, analytical capabilities to model a wide range of slope stability problems using a 3D limit equilibrium formulation. Within this tier, you have the power to simulate a wide range of scenarios:

- Natural soil and rock slopes
- Dams and levees
- Roads, bridges, and embankments
- Retaining walls
- Construction excavations and mine slopes

Basic features, such as piezometric surfaces, Ru, and B-bar can be used to assess the influence of pore water pressure on stability. Weak or anisotropic surfaces can be added to represent material discontinuities.

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Soil and Rock Material Models

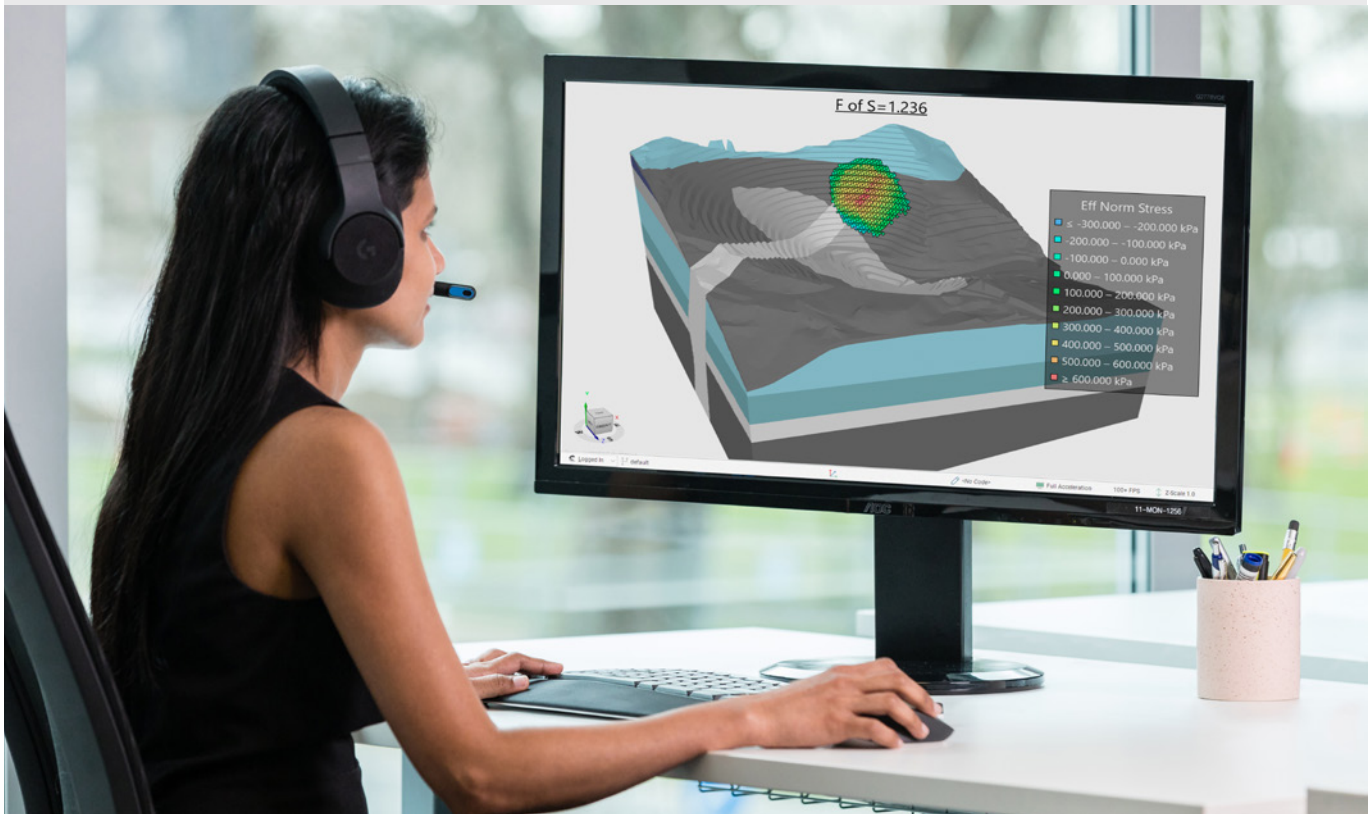
GeoStudio 3D includes a comprehensive list of material models including Mohr-Coulomb, undrained, high strength, impenetrable, Hoek-Brown, compound strength, bilinear, anisotropic strength, SHANSEP, spatial Mohr-Coulomb, and more.

Limit State Design

Limit state design or load resistance factor design is handled by specifying partial factors on seismic coefficients, and material properties.

Leapfrog Interoperability

Easily import your 3D geological models from Leapfrog into GeoStudio 3D to set up your model geometry. For other CAD software, you can alternatively import 3D background meshes or build your 3D geometry using the powerful, user-friendly geometry creation tools in GeoStudio 3D.



GeoStudio 3D **Advanced**

In addition to the features of GeoStudio 3D, the Advanced tier brings you the power to analyze the influence of groundwater flow and hydraulic structures on your project's stability using an integrated finite element seepage formulation. Consider complex saturated/unsaturated pore-water pressures or investigate stability changes over time with transient groundwater flow.

Expand your understanding of your project by adding the functionality to analyze:

- Groundwater flow systems, from small-scale to complex systems with 3D topographic features and variable stratigraphy
- Subsurface dewatering applications for civil infrastructure, construction, and mining projects
- Comprehensive pore water pressures due to transient flood events, rapid drawdown, and sequential material placement

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Integration

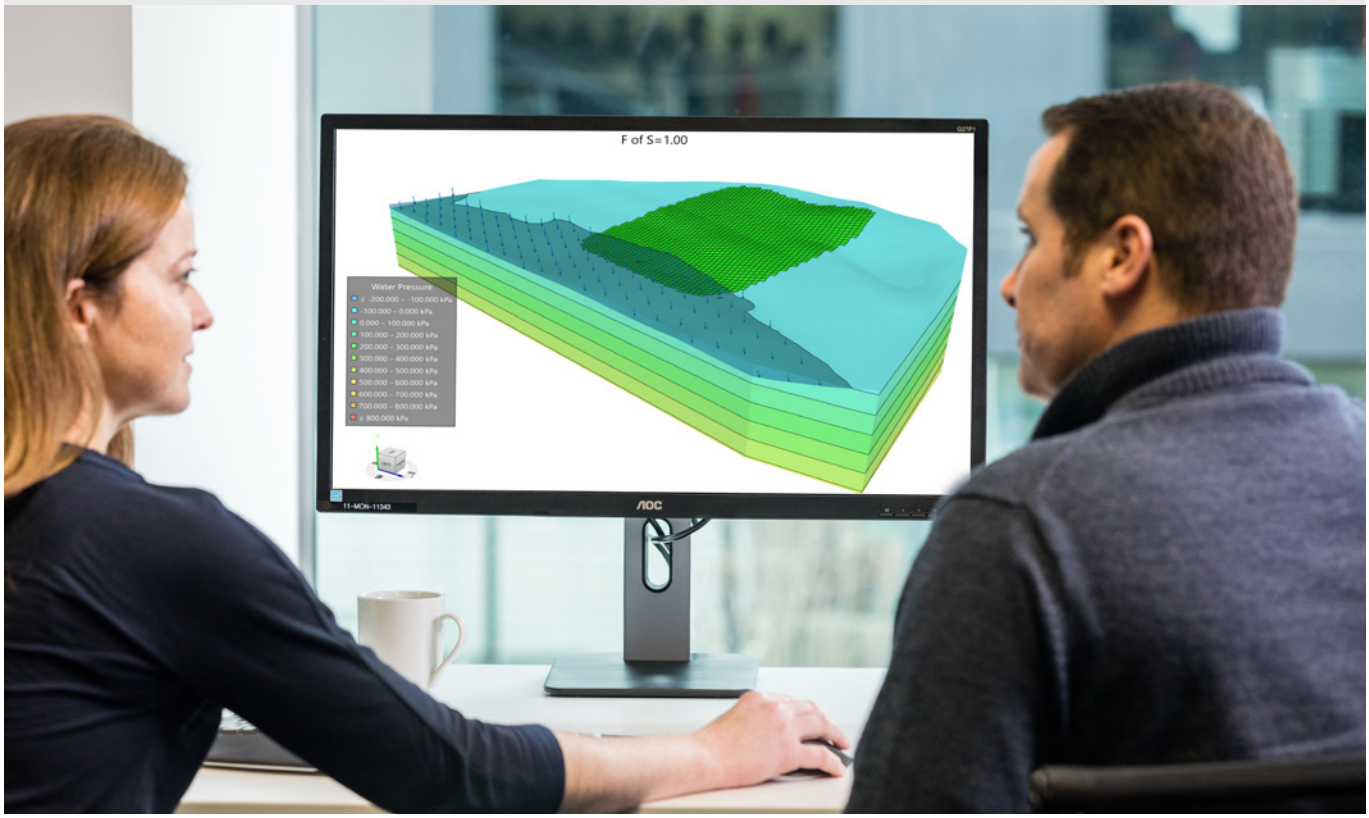
The addition of groundwater flow makes it possible to analyze the stability of any natural or man-made system subject to transient changes in pore-water pressure. Seamlessly add finite element groundwater flow in the same project file.

Saturated/Unsaturated

The rigorous saturated/unsaturated formulation means that even the most demanding flow problems, such as infiltration into dry soil or seepage through complex upstream tailings dams, can be analyzed with ease.

Boundary Conditions

GeoStudio 3D Advanced supports a range of boundary condition options. Field data or user-specified functional relationships can be inputted to define hydrographs, reservoir fluctuations, and rainfall cycles.



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A better understanding of the earth
creates a better world for all

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