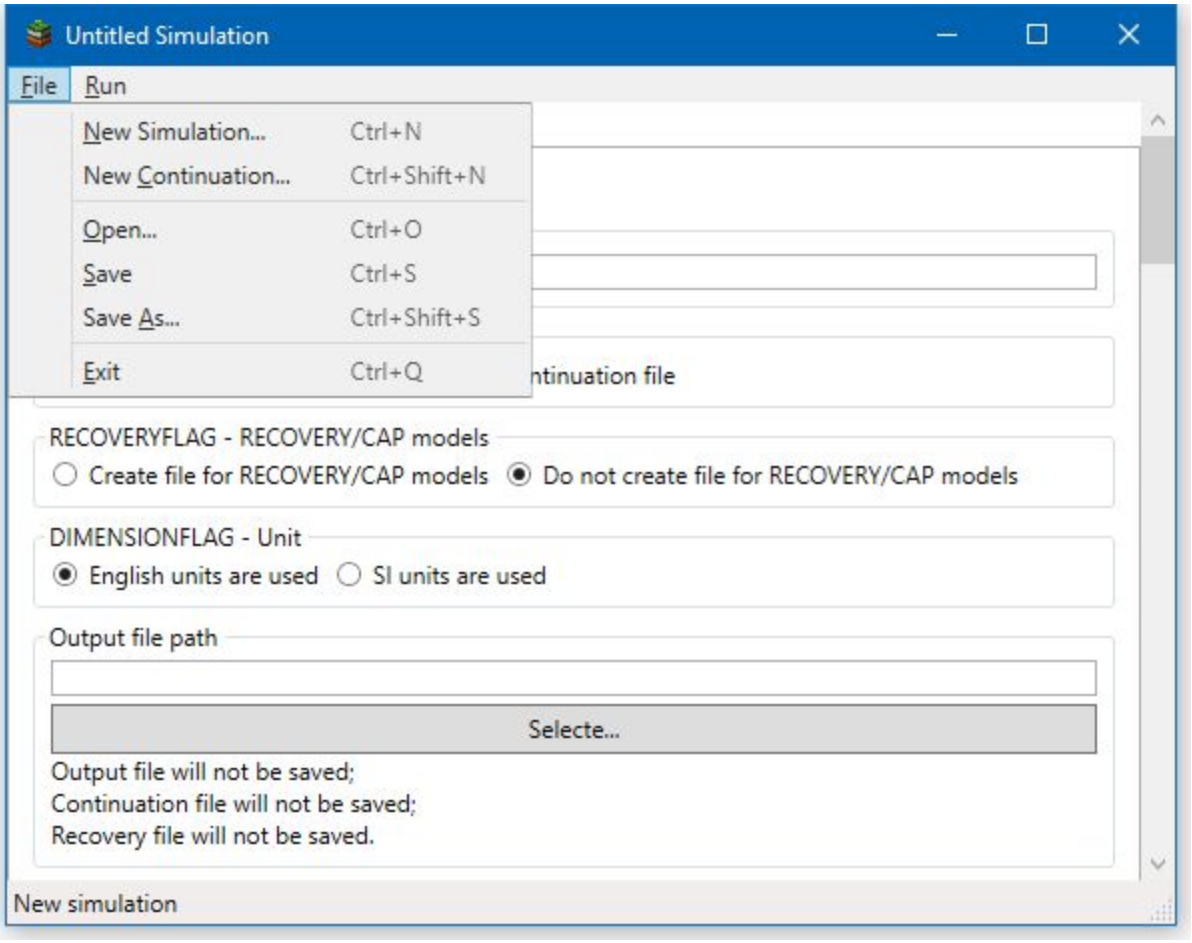
PSDDF is an console program on DOS written in Fortran95. The program utilizes finite strain consolidation theory, the Cα/Cc concept for secondary compression, and an empirical desiccation model to estimate the changes in dredged material surface elevation with time. This allows determination of the optimal filling schedule and quantification of the effects of operational techniques on the service life of confined dredged material placement areas. The program can also simulate underwater placement of cohesive or cohesionless soil and placement of a sand capping or drainage layer.

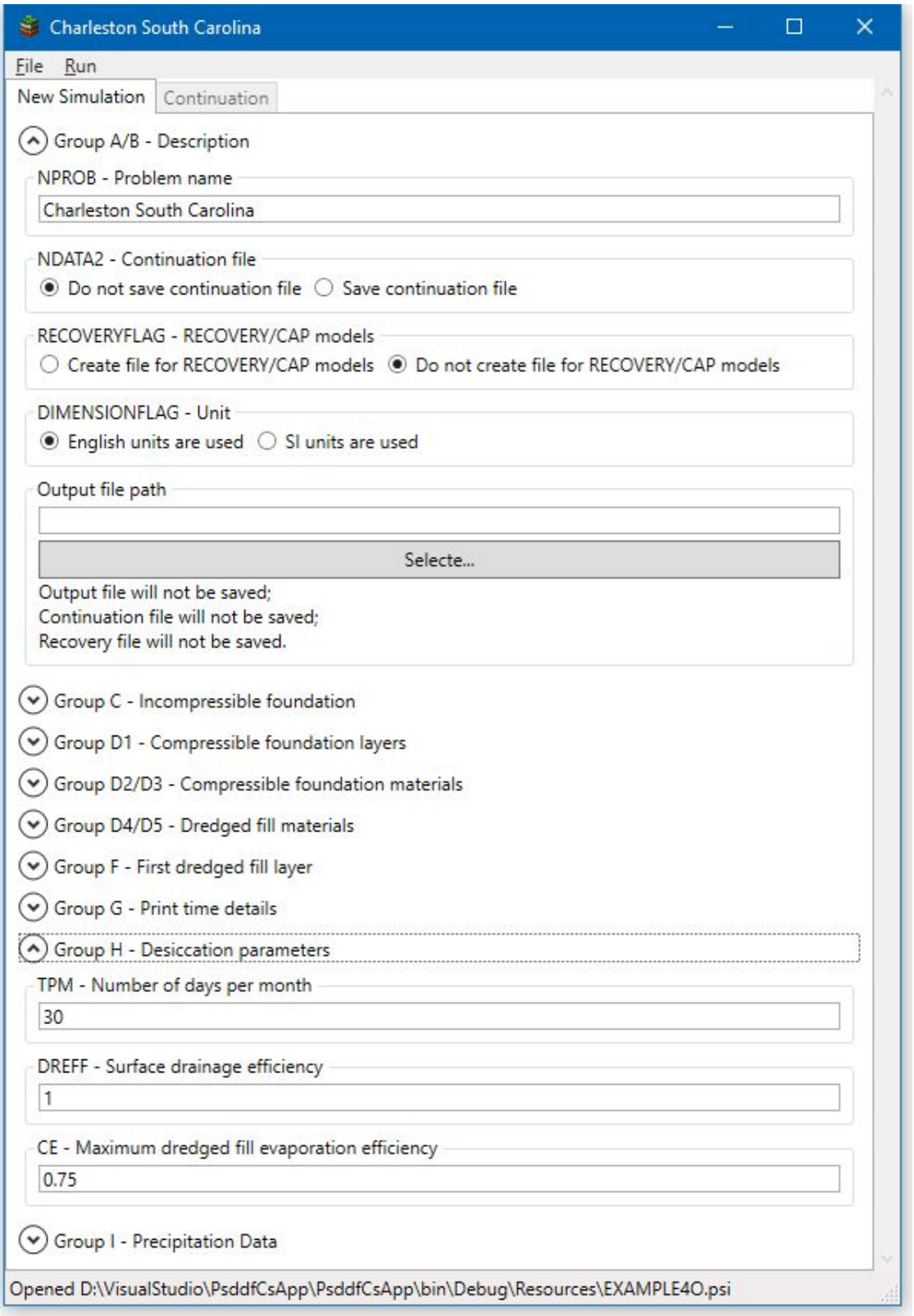
PsddfCsApp is an interactive Windows application for visualizing simulation data generated by PSDDF. It is written in C# using Windows Presentation Foundation by Kailang Fu from University of Illinois under the supervision of Professor Timothy D. Stark from Civil and Environmental Engineering Department of UIUC. To better maintain PSDDF in the future, Kailang Fu also rewrote PSDDF in C#.

The source files for PsddfCsApp and the migrated PsddfCs was posted at github.com/Kailang/PsddfCsApp and github.com/Kailang/PsddfCs. The source files are removed from GitHub by the request of Professor Stark in September 22nd, 2018.



Menu with shortcuts.

- Now, we can create a new file, open an existing file, save file, save as another file, or exit the program like you would do in any other modern applications.
- Common shortcuts like Ctrl+N for opening and Ctrl+S for saving, are also available.



Foldable input groups listed.

- Now, we can quickly jump to and view any input group and fields by just scrolling and temporarily hide information by folding input groups.

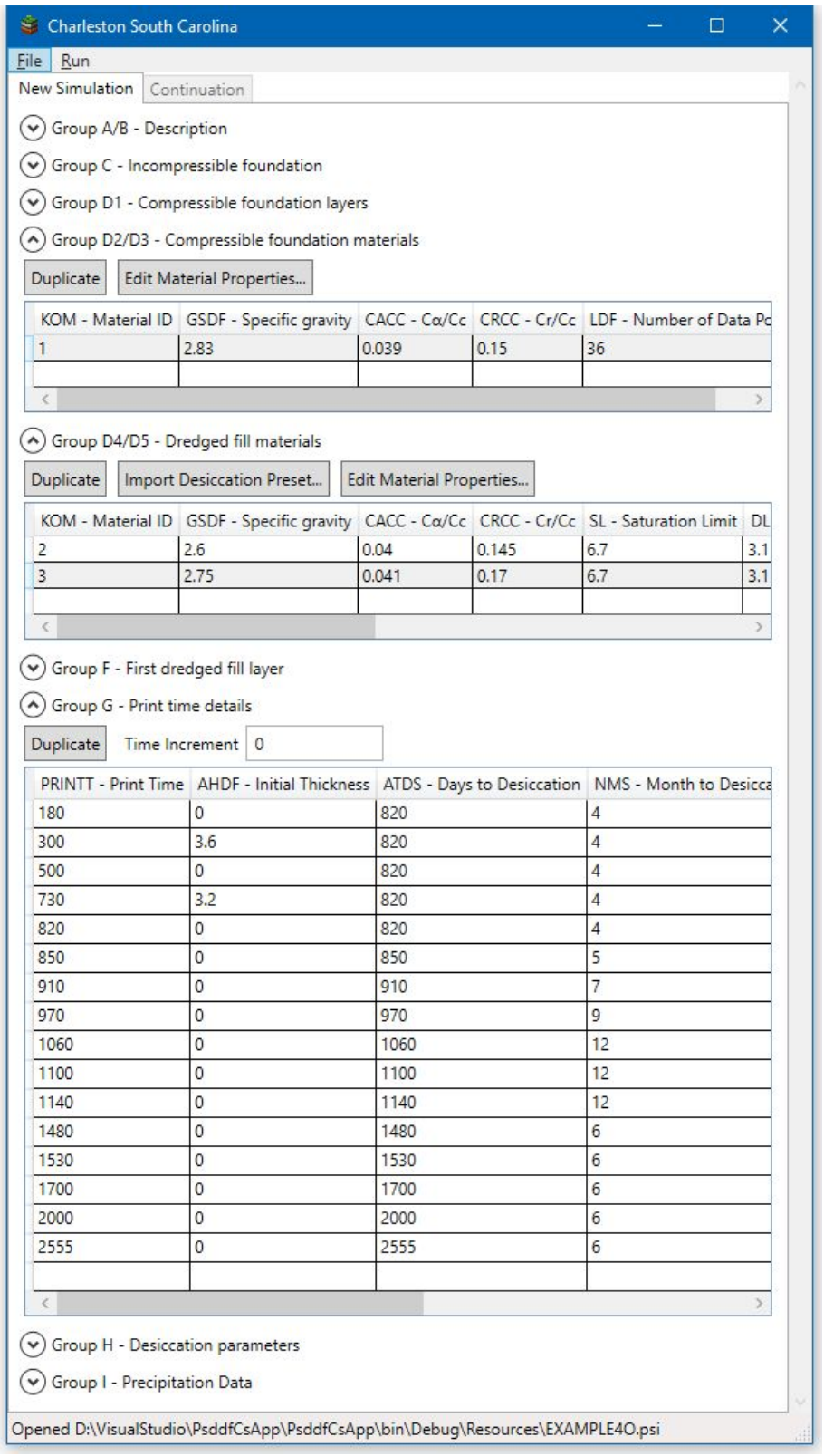
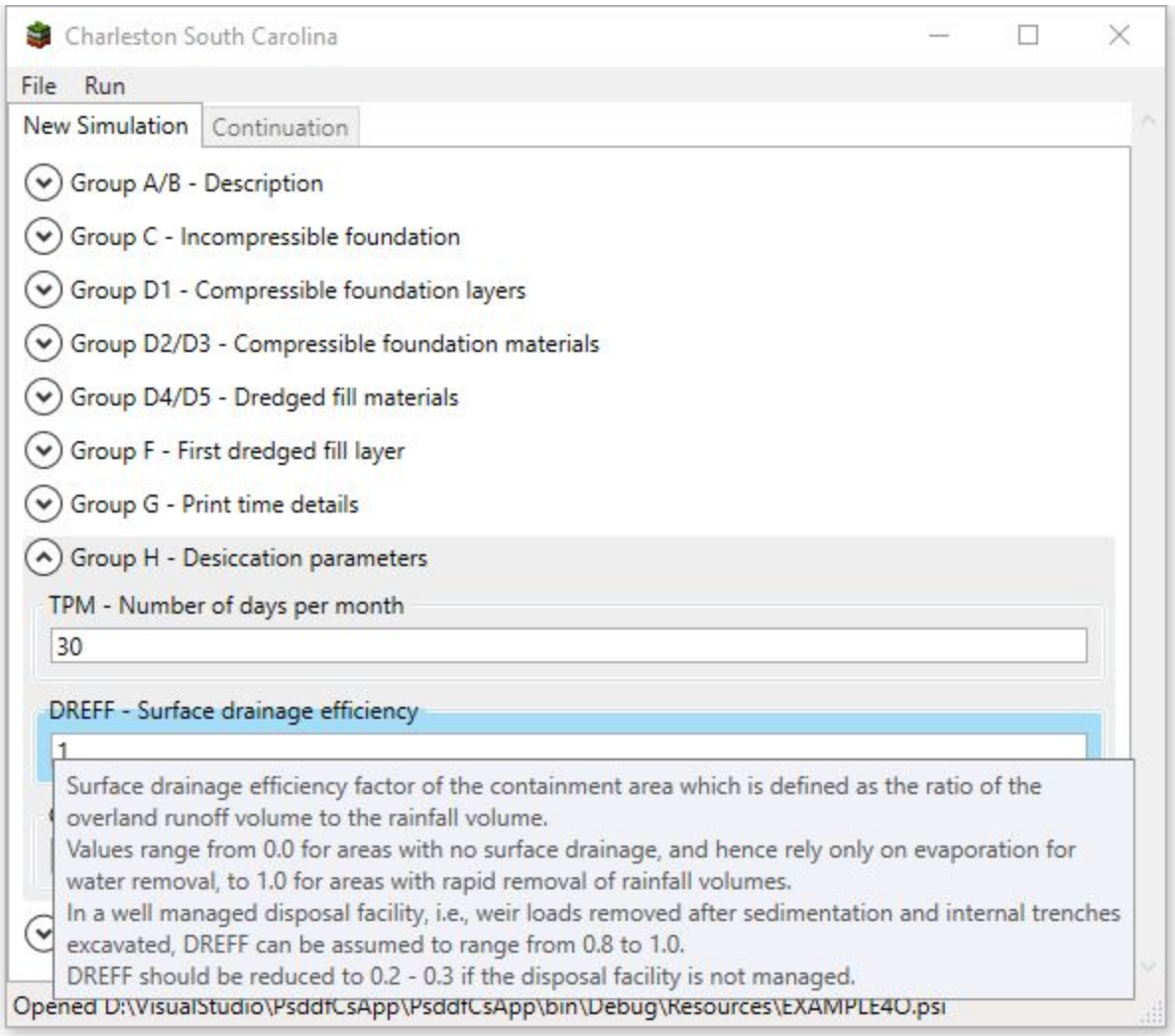


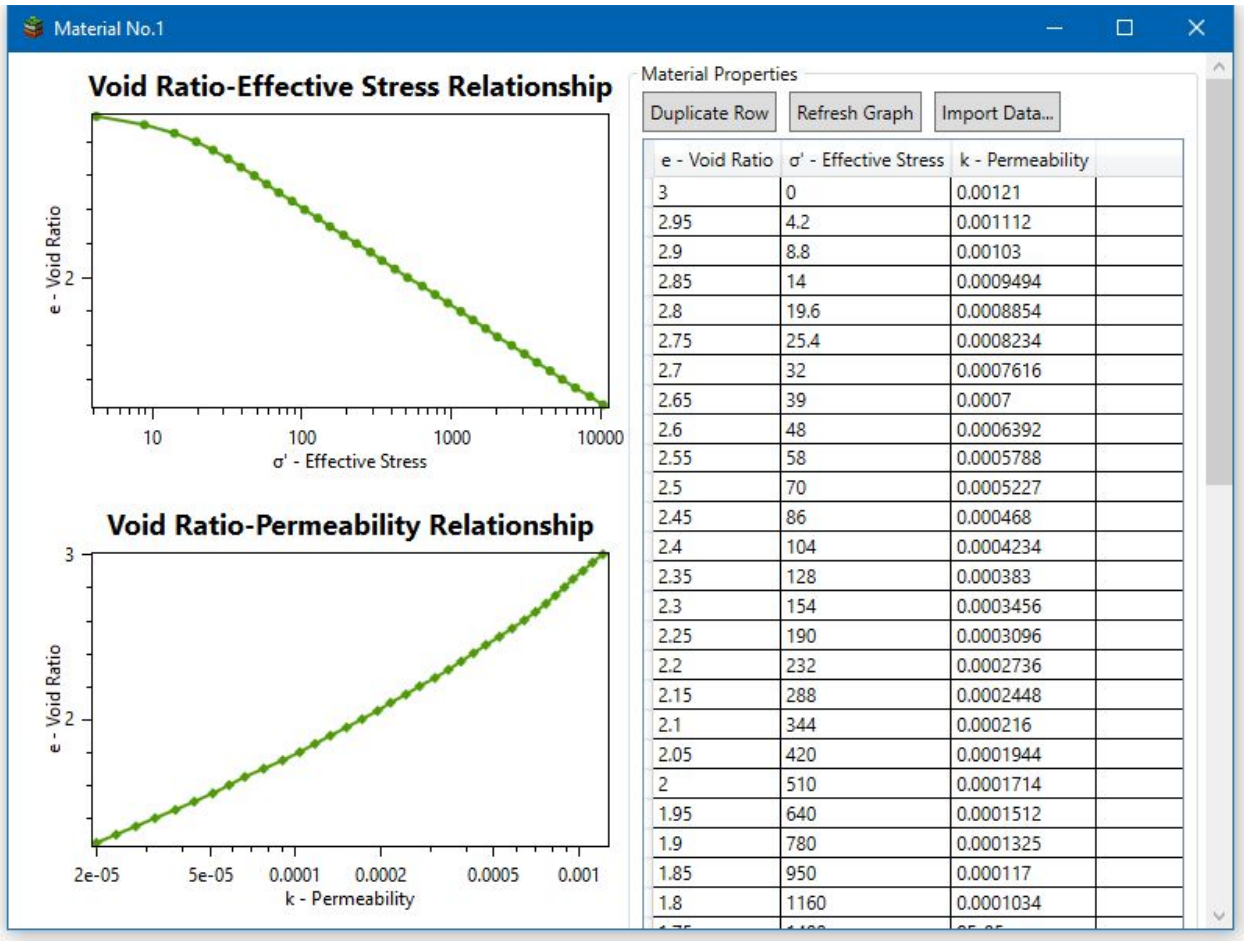
Table for material types, compressible foundation layers, and print times.

- Now, we can edit material types, compressible foundation layer properties, and print time definitions in the table form.
- This enables us quickly to add new materials, new layers, and new print times.
- We can even duplicate a print time entry with a time increment to add new print times super fast!



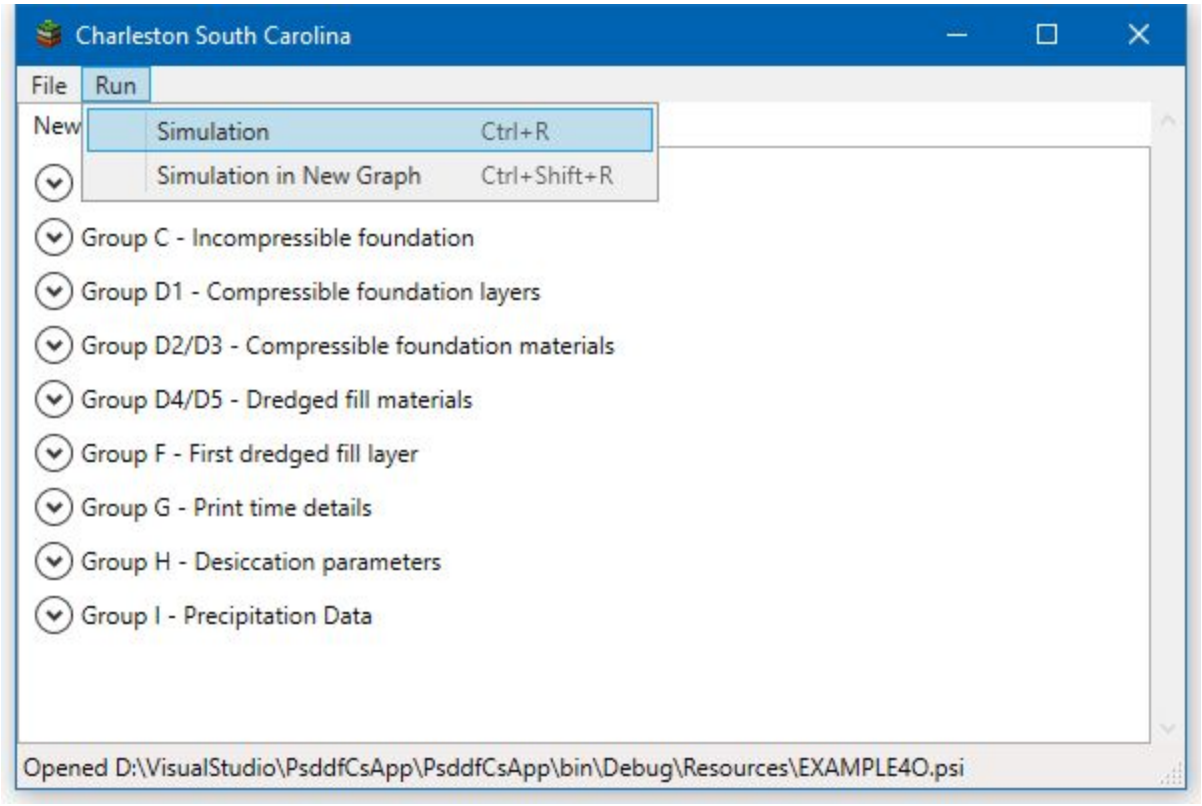
See help on mouse hover.

- Now, we can see the documentation on any field by moving the mouse over it.



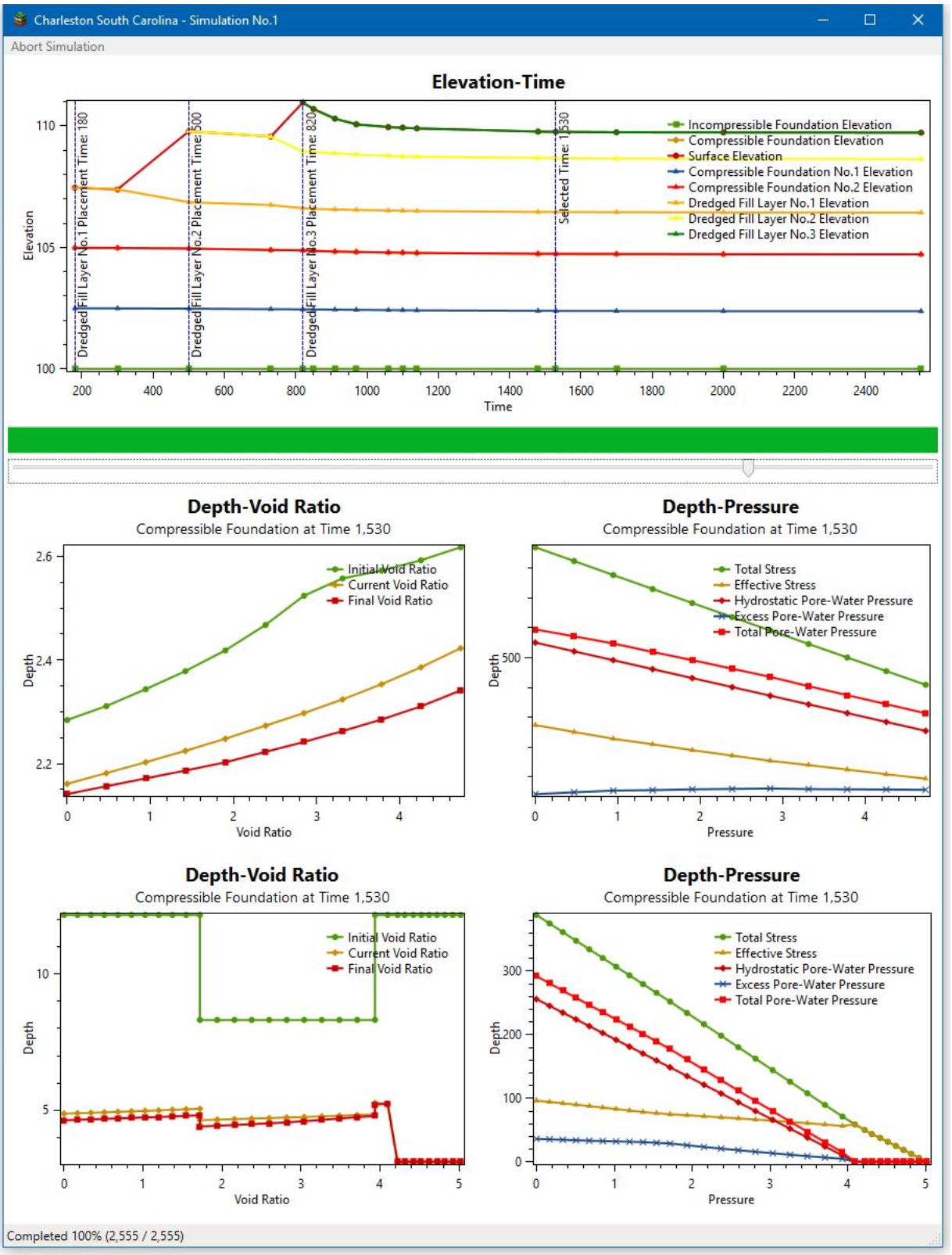
Edit void ratio-effective stress and void ratio-permeability relations with graphs!

- We can now see the e-log σ' and e-log k relations directed in the application.



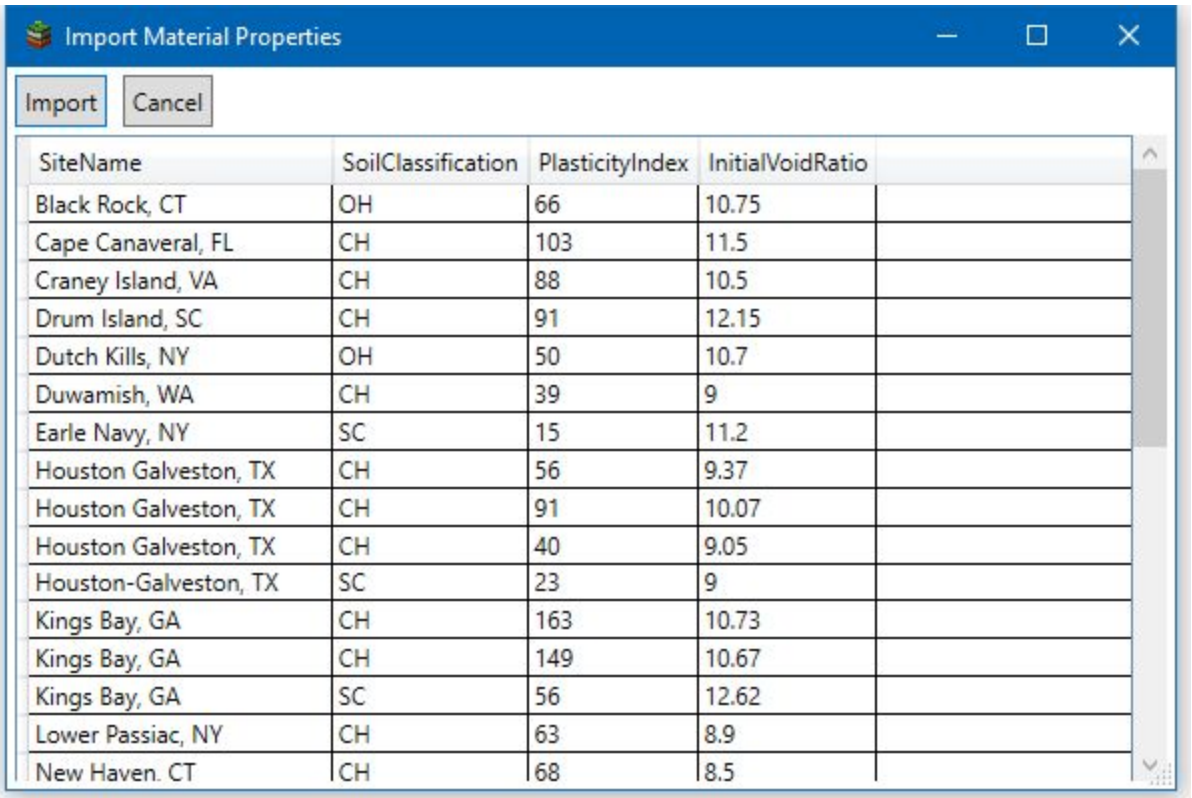
Run simulation by pressing Ctrl+R!

- Run simulation super fast.

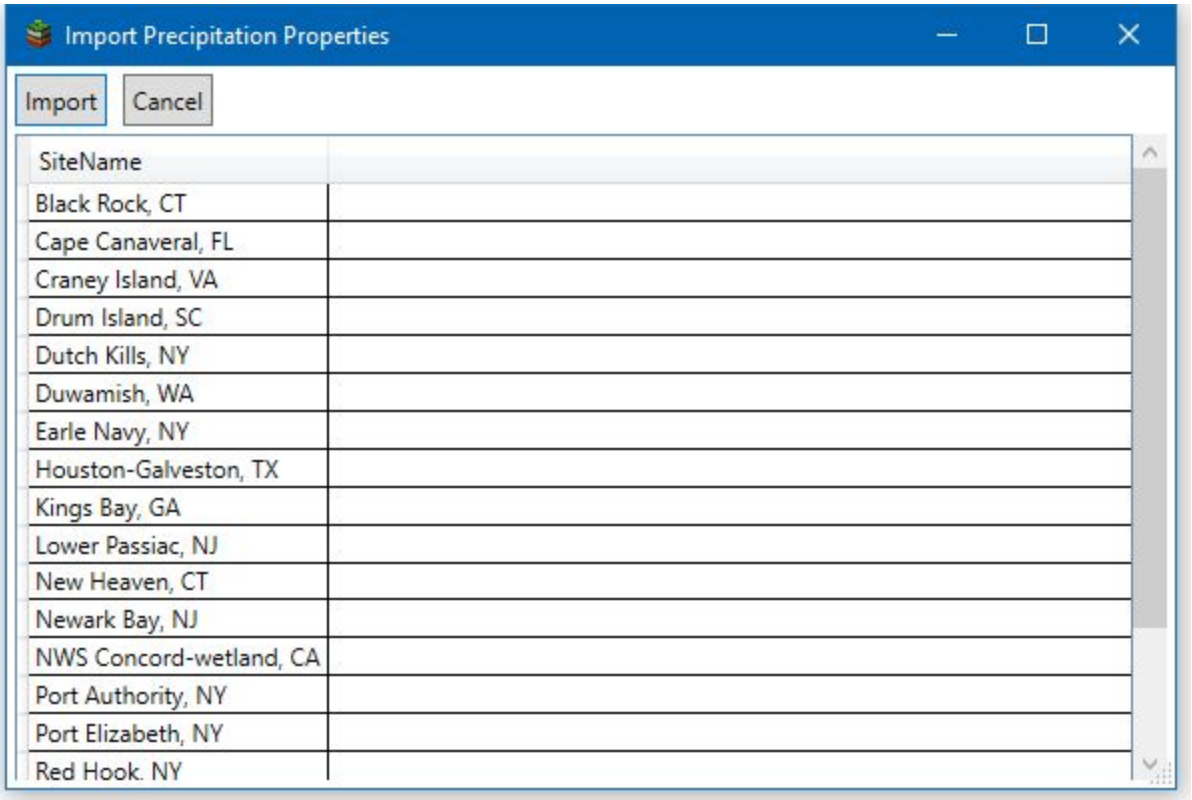


View simulation results in GRAPHS in REAL TIME.

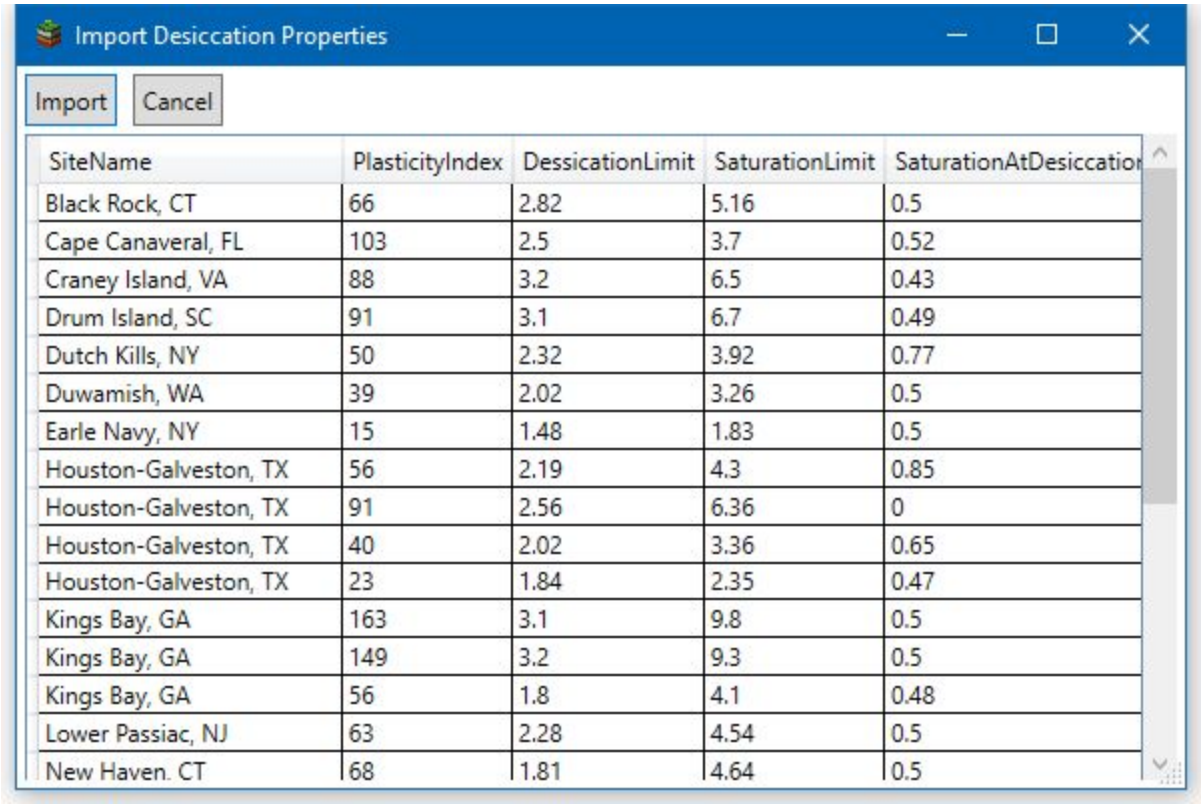
- View detailed graph for elevation changes.
- View graphs for depth-void ratio and depth-pressure relations for compressible foundation layers and dredged fill layers.
- Select time using the slider to inspect depth-void ratio and depth-pressure relations across the simulated time interval.
- All graphs are updated as the simulation proceeds.
- Aborting the simulation will not delete the simulated results.



SiteName	SoilClassification	PlasticityIndex	InitialVoidRatio
Black Rock, CT	OH	66	10.75
Cape Canaveral, FL	CH	103	11.5
Craney Island, VA	CH	88	10.5
Drum Island, SC	CH	91	12.15
Dutch Kills, NY	OH	50	10.7
Duwamish, WA	CH	39	9
Earle Navy, NY	SC	15	11.2
Houston Galveston, TX	CH	56	9.37
Houston Galveston, TX	CH	91	10.07
Houston Galveston, TX	CH	40	9.05
Houston-Galveston, TX	SC	23	9
Kings Bay, GA	CH	163	10.73
Kings Bay, GA	CH	149	10.67
Kings Bay, GA	SC	56	12.62
Lower Passiac, NY	CH	63	8.9
New Haven, CT	CH	68	8.5



SiteName
Black Rock, CT
Cape Canaveral, FL
Craney Island, VA
Drum Island, SC
Dutch Kills, NY
Duwamish, WA
Earle Navy, NY
Houston-Galveston, TX
Kings Bay, GA
Lower Passiac, NJ
New Heaven, CT
Newark Bay, NJ
NWS Concord-wetland, CA
Port Authority, NY
Port Elizabeth, NY
Red Hook, NY



SiteName	PlasticityIndex	DessicationLimit	SaturationLimit	SaturationAtDesiccatio
Black Rock, CT	66	2.82	5.16	0.5
Cape Canaveral, FL	103	2.5	3.7	0.52
Craney Island, VA	88	3.2	6.5	0.43
Drum Island, SC	91	3.1	6.7	0.49
Dutch Kills, NY	50	2.32	3.92	0.77
Duwamish, WA	39	2.02	3.26	0.5
Earle Navy, NY	15	1.48	1.83	0.5
Houston-Galveston, TX	56	2.19	4.3	0.85
Houston-Galveston, TX	91	2.56	6.36	0
Houston-Galveston, TX	40	2.02	3.36	0.65
Houston-Galveston, TX	23	1.84	2.35	0.47
Kings Bay, GA	163	3.1	9.8	0.5
Kings Bay, GA	149	3.2	9.3	0.5
Kings Bay, GA	56	1.8	4.1	0.48
Lower Passiac, NJ	63	2.28	4.54	0.5
New Haven, CT	68	1.81	4.64	0.5

Import from databases, as always.

- Import material properties (e-σ' and e-k relations), desiccation presets, and precipitation properties.