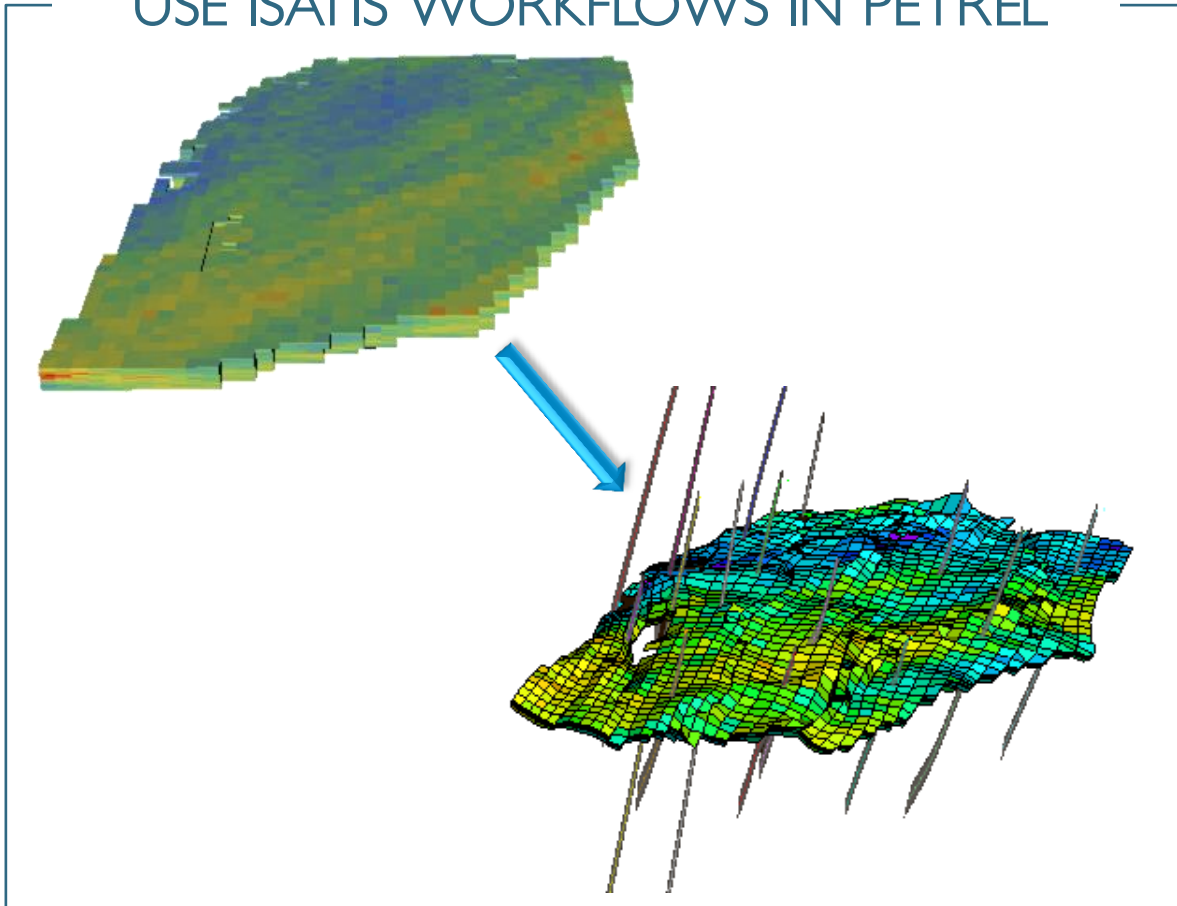




## OIL & GAS / HOW TO...

### USE ISATIS WORKFLOWS IN PETREL

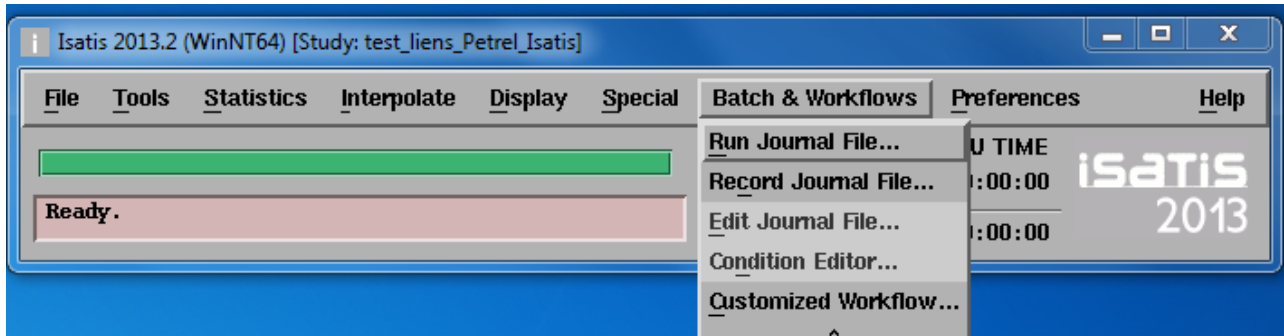


The Petrel-Isatis link proves to be essential to the Petrel™ user who wishes to fully benefit from Isatis powerful geostatistics for:

- Accurate data analysis and quality control with Isatis one-of-a-kind Exploratory Data Analysis tool.
- Structural modeling and uncertainty assessment guided by seismic.
- Facies modeling using simple or advanced stochastic simulations (including the Plurigaussian, multiple-point-statistics and process-based method as Flumy) to model complex geology.
- Petrophysical modeling and uncertainty assessment guided by the seismic and the geology.
- Uncertainty quantification: Isatis provides a unique range of stochastic simulation algorithms and post-processing tools to compute risk curves, P10-P50-P90 scenarios, as well as probability and quantile maps on volumes.

In Petrel you can find an Isatis link but you can also use all the processes of Isatis in Petrel workflows with a system command.

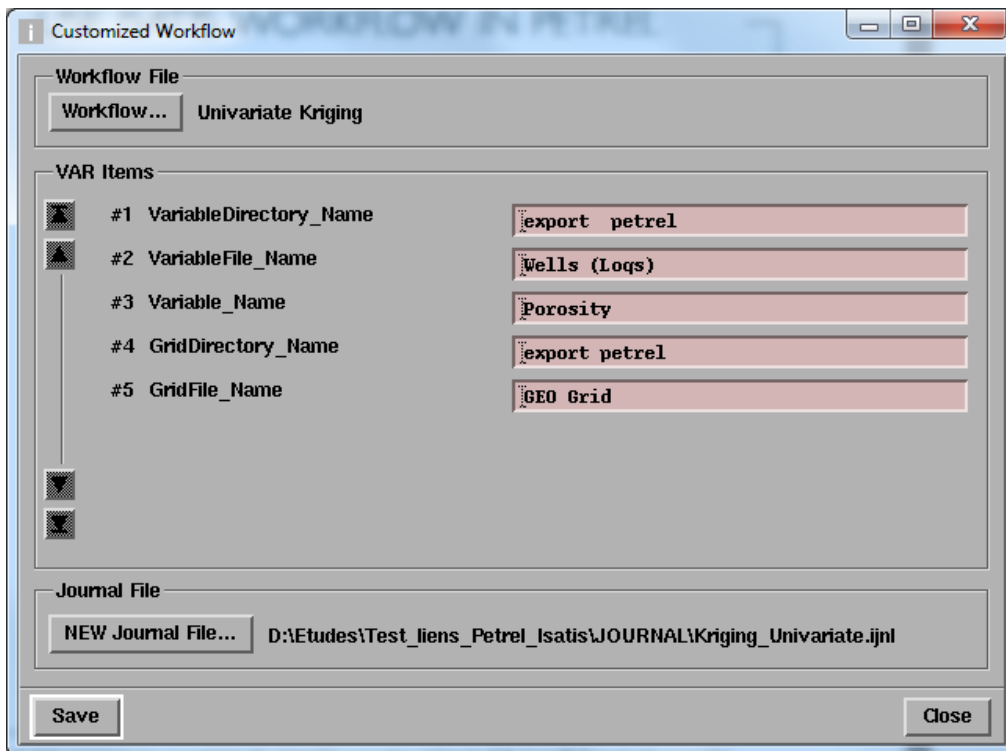
## 1. Isatis workflow



### A. Customized workflow

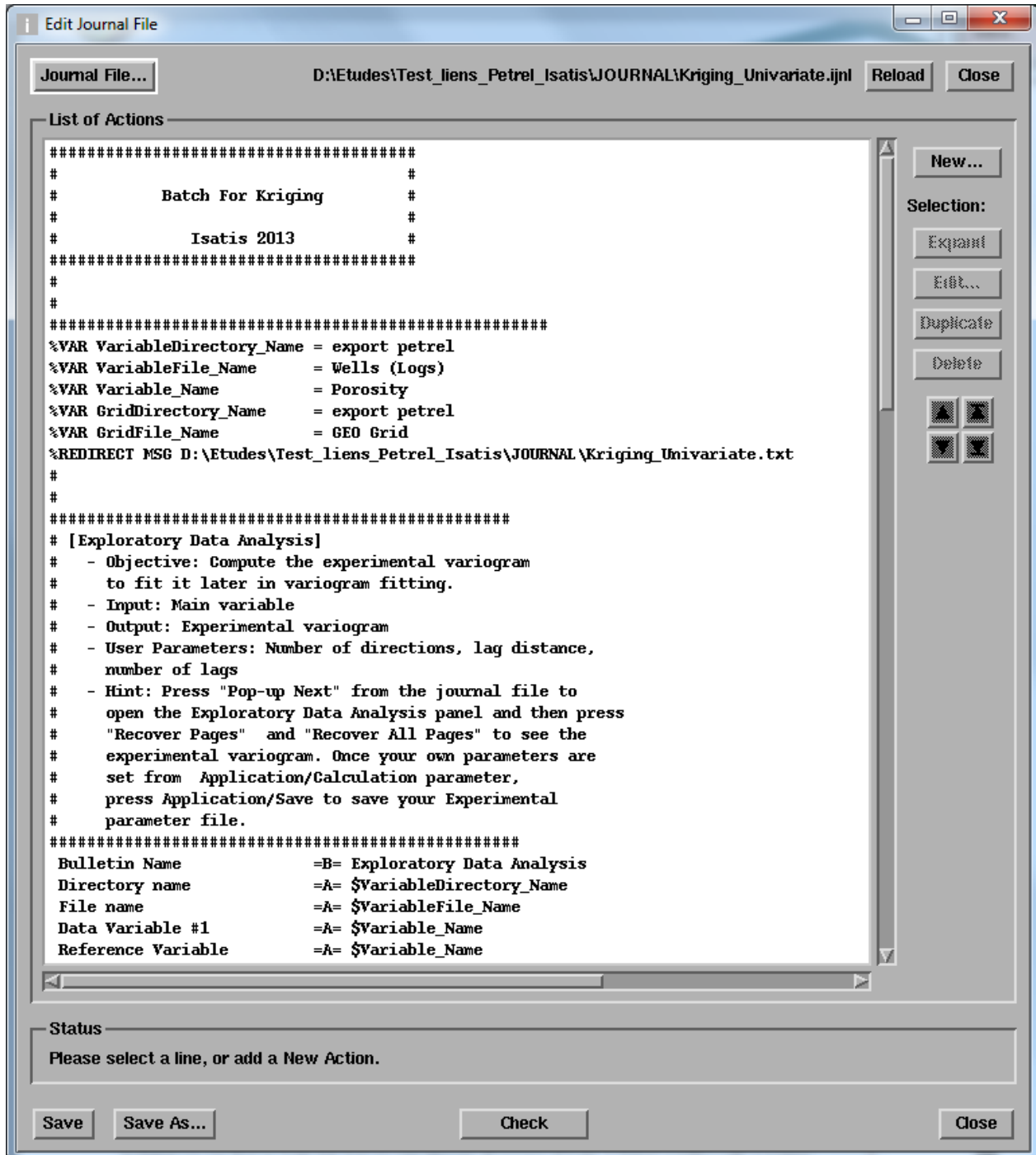
→ Isatis → Batch & Workflows → Customized Workflow... → Workflow... → Univariate Kriging

Choose and write correct name of variable from Petrel and new variable. In this example variable 2, 3 and 5 have the same name in Petrel and Isatis.



## B. Edit Journal File (optional step)

➔ Isatis → Edit Journal File... → Journal File... → Kriging\_Univariate.ijnl



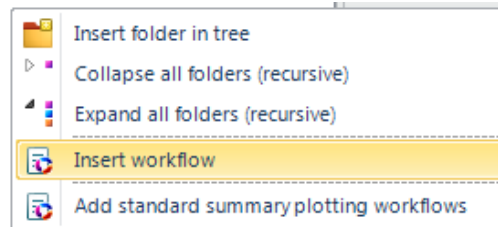
The editor displays the different tasks and processes made in Isatis. If you like, you can change here variable names or parameter values.

Note that the Petrel Isatis link will work with any Journal File created by the workflow editor or by hand.

## 2. Petrel Workflow

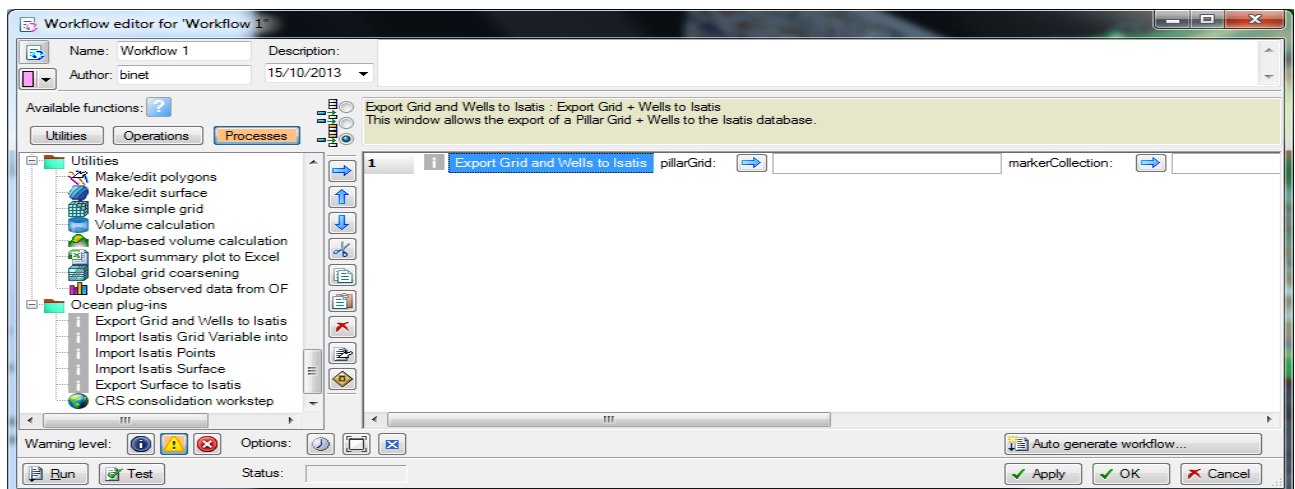
### A. Create a new workflow

➔ Petrel → Right Click in workflow tab → Insert workflow



A new window appears in Petrel: Workflow Editor

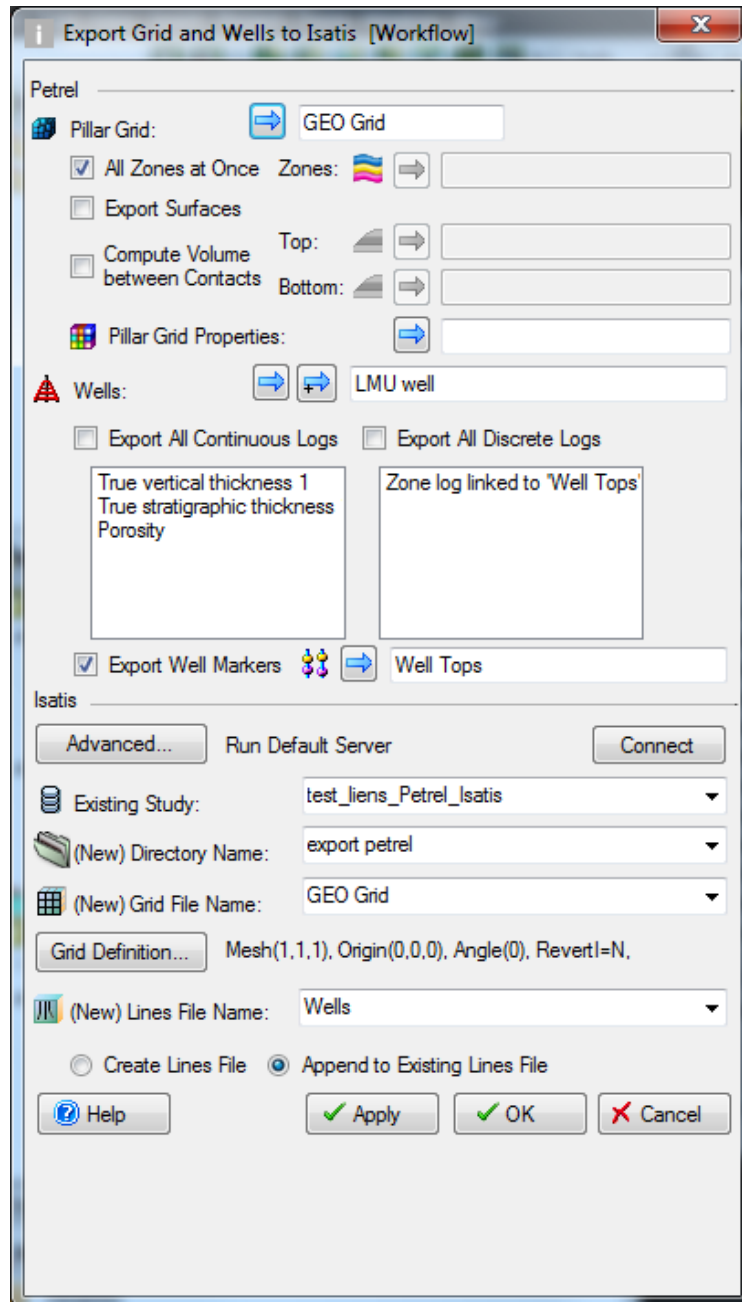
➔ Petrel Workflow Editor → Processes → Export Grid and Wells to Isatis



### B. Choose your data to export to Isatis

➔ Double click on the line "Export Grid and Wells to Isatis"

It opens the plug-in window. By default, the connection starts with the last study used by Isatis (if any).



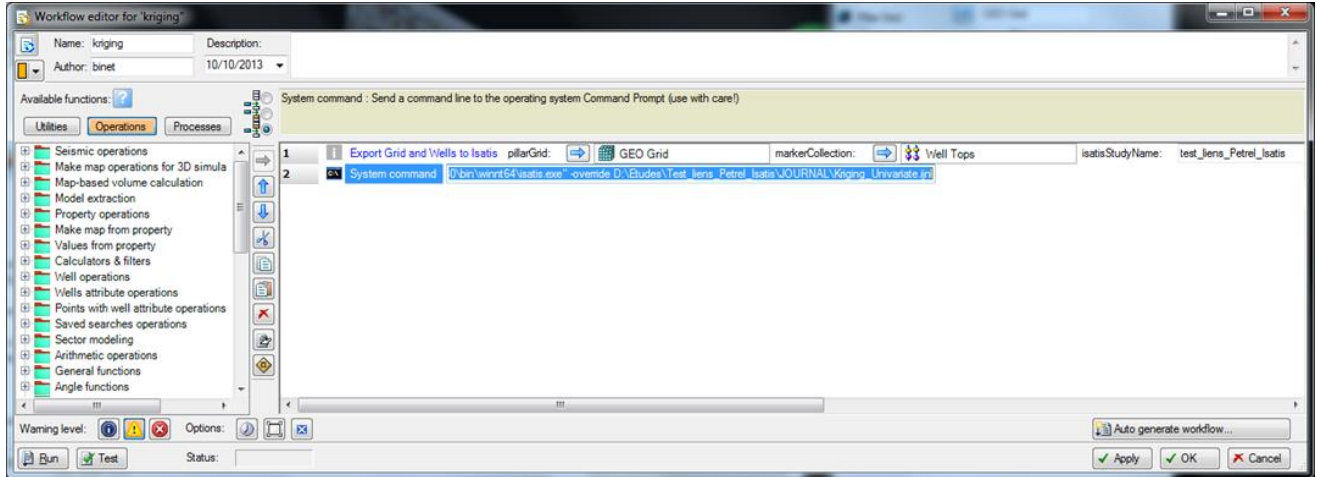
The grids are always exported in the stratigraphic space. If a grid and wells are exported at once, the wells will be in the stratigraphic space, but if wells are exported without a grid, they will be in the structural space. If wells are selected, well markers can be exported as point file (In the same space as the well).

Zone can be exported also as zone code.

If a grid is selected, surfaces can be exported in the stratigraphic space. The cell volume between contacts can be exported (to compute GRV for example).

### C. Running an Isatis workflow in Petrel

➔ Petrel Workflow Editor → Utilities → housekeeping folder → System Command

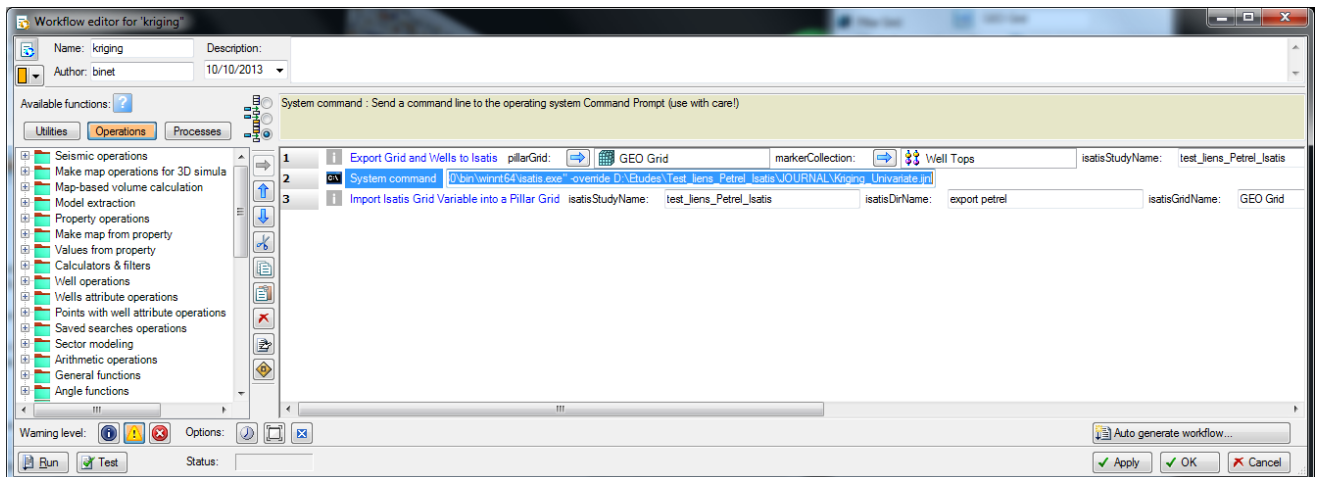


Write this command to use an Isatis Journal File that was saved previously:

D:\Etudes\Test\_liens\_Petrel\_Isatis\JOURNAL\Kriging\_Univariate.ijnl

### D. Export Isatis to Petrel

➔ Petrel Workflow Editor → Processes → Import Isatis Grid Variable into a Pillar Grid

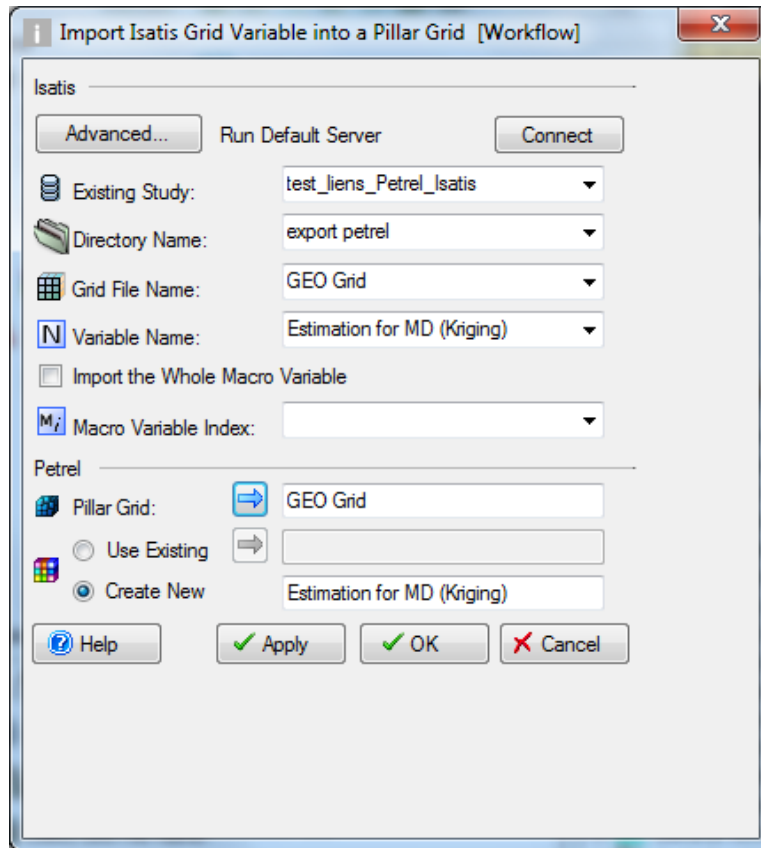


When importing back an Isatis grid variable into a pillar grid, it is compulsory to select the pillar grid that has been exported to Isatis.



→ Double click on the line "Import Isatis Grid Variable into a Pillar Grid"

It opens the plug-in window. By default the command connect with the last study used by Isatis.



For more information, let us help you assessing the quality of your data and implementing this workflow.

Contact our consultants at [consult-oil@geovariances.com](mailto:consult-oil@geovariances.com).