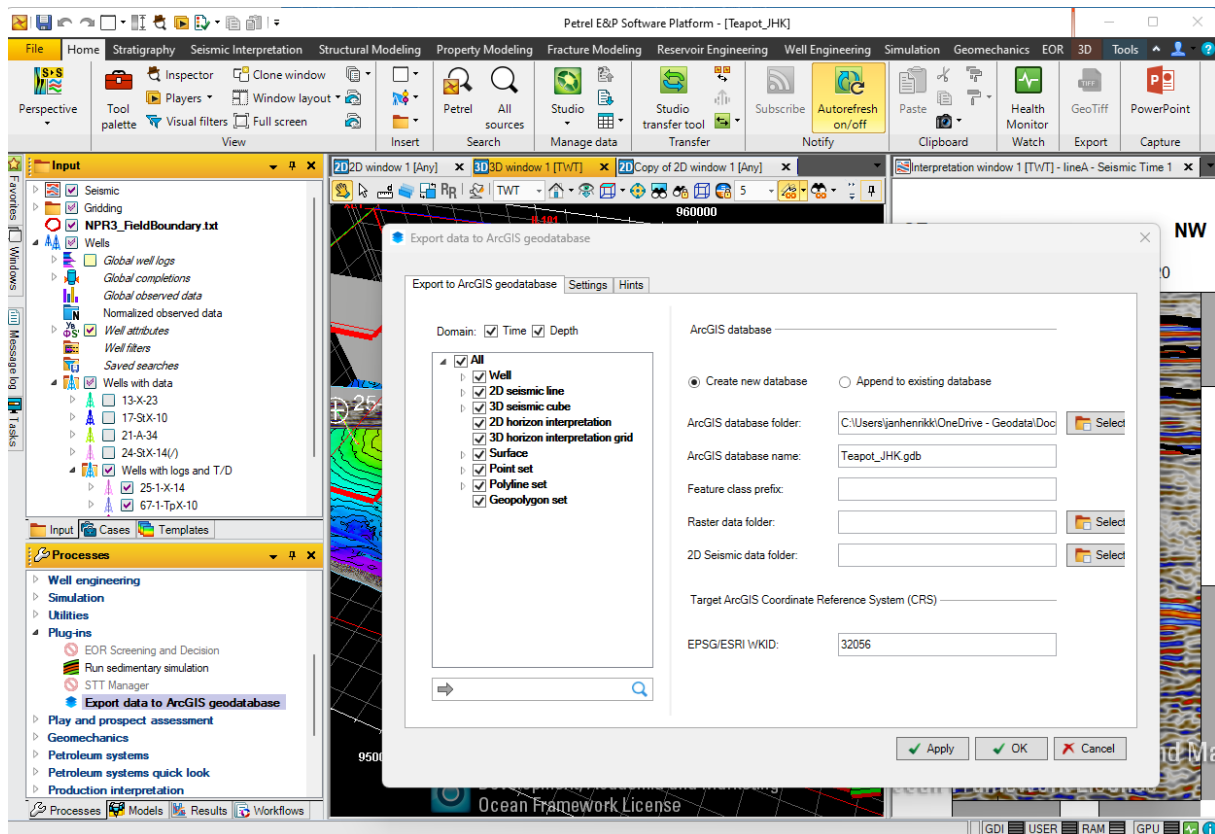


GIS® Data Link for Petrel® 2023

Users' Guide

Geocap AS



ArcGIS® is a mark of ESRI.

Petrel® is a mark of Schlumberger.

GIS DATA LINK is a mark of Geocap AS.

COPYRIGHT NOTICES AND DISCLAIMERS

GIS Data Link® for Petrel® for Petrel 2023, Copyright © 2024 Geocap AS. All rights reserved. No part of this user documentation may be reproduced, stored in a retrieval system, or translated in any form or by any means, electronic or mechanical, including photocopying and recording, without prior written permission of Geocap AS, Grev Wedels Plass 9, OSLO, Norway.

This user guide refers to GIS Datalink plug-in version 2023.1.0.16.

INSTALLATION

To install GIS DATA LINK, launch Petrel 2023, File -> Options, click on **Plug-in Manager**. Click the Install plug-in button and select the GIS.Data.Link.pip file. The plug-in will be installed, but before you can use it you must exit and then restart Petrel.

Once the plug-in has been installed it will appear in the list of features available in Petrel's license selection dialog (Figure 1). If no favorite package has been selected then the license package dialog will be shown when Petrel is launched, or it may be displayed by selecting "License packages" from Petrel's Help menu. If you select the license from within Petrel you must exit and restart Petrel for the change to take effect. When Petrel is launched, GIS DATA LINK will appear in Petrel's process pane under the plug-ins, and as a function work step in Petrel's Workflow editor under processes\ Well Engineering.

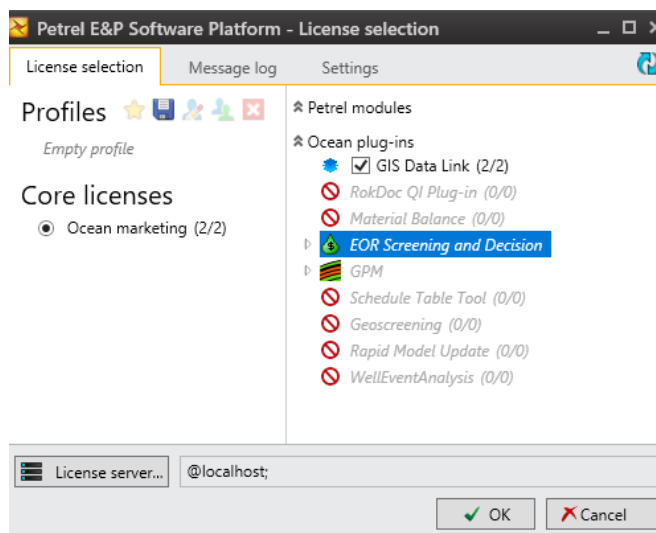


Figure 1 License selection dialog

About exporting seismic data

The extension lets you export navigation for seismic 2d lines and live trace outline from seismic 3D cubes. These are exported as feature classes in a geodatabase. It is also possible to export the amplitudes which will enable you to visualize the seismic data itself in ArcGIS.

Geocap provides several extensions and solutions for ArcGIS which let you visualize 2D and 3D seismic amplitudes in 2D and 3D, both on desktop and web.

Should you want to utilize these solutions and extensions with seismic 2D data from Petrel you need to make an active choice to export seismic amplitudes. Since 2D seismic in Petrel is stored as .sgy files the amplitudes need to be stored as rasters.

For 3D seismic you do not have to do anything since these extensions and solutions can read and visualize Petrels native 3D seismic format. zgy directly, without duplicating data.

More information about Seismic Explorer for ArcGIS and Subsurface Portal for ArcGIS can be found on www.geocap.no.

GETTING STARTED: Exporting your first datasets

To export datasets in Petrel to a new ArcGIS file geodatabase, open the plug-in from the Petrel Process pane (Figure 2).

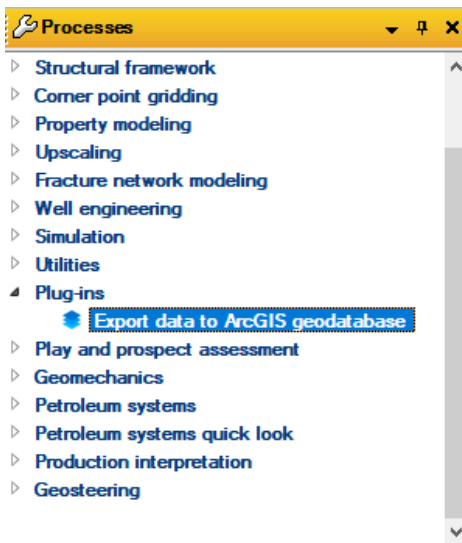


Figure 2 The Petrel Processes Pane

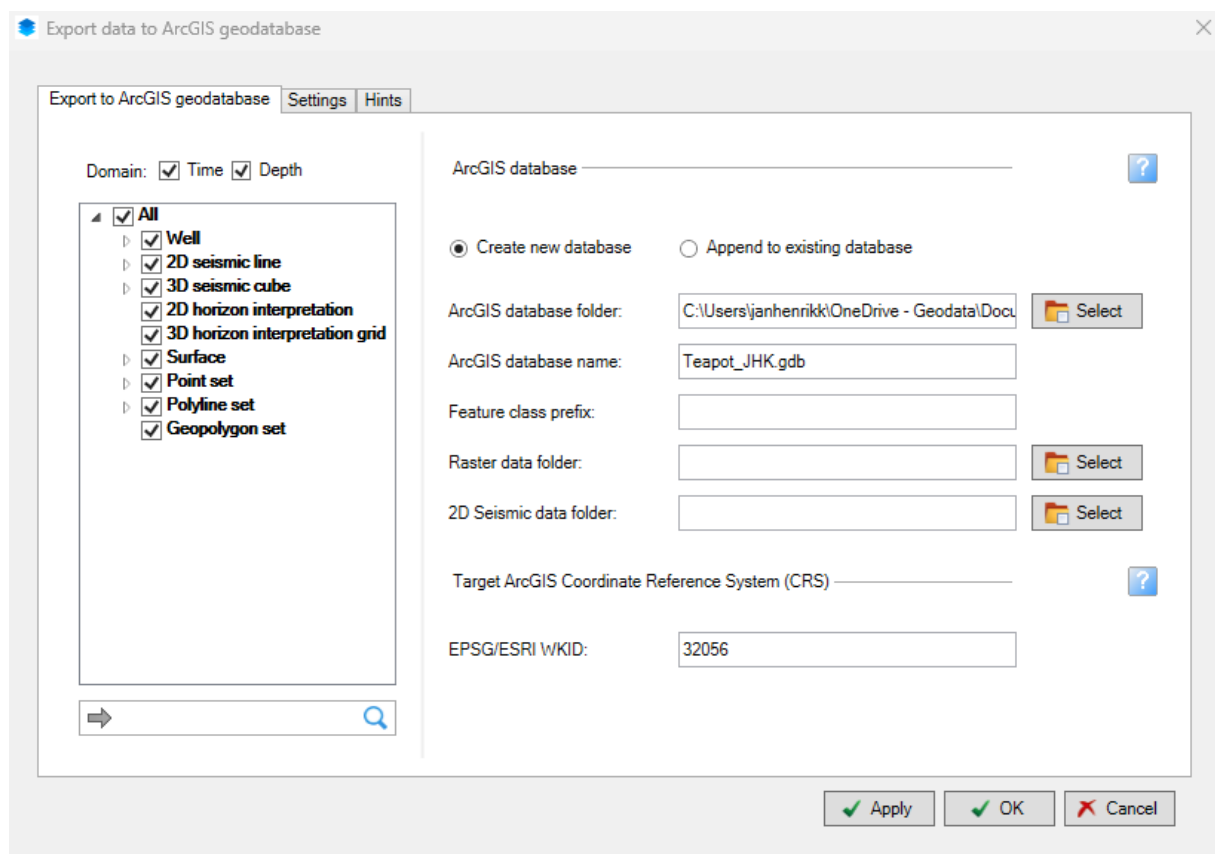

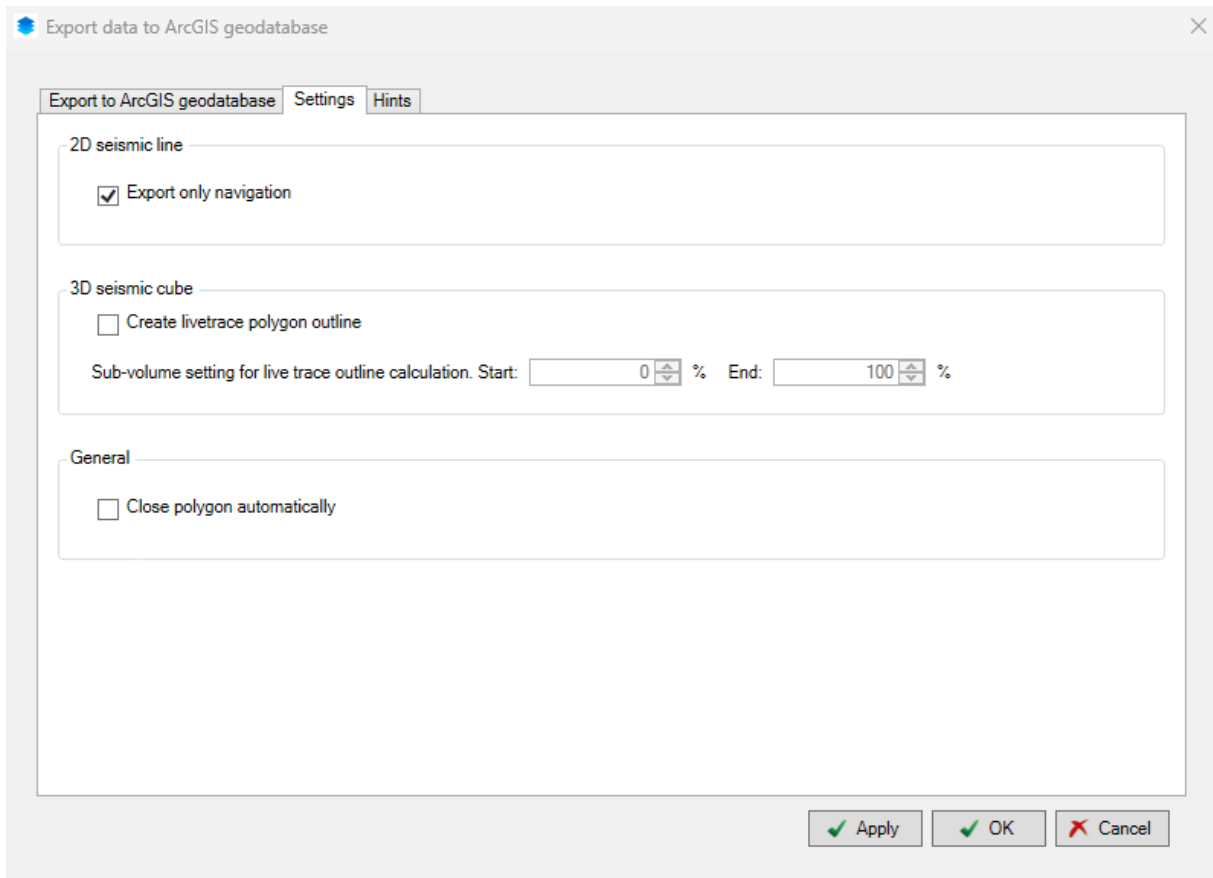


Figure 3 The GIS Datalink Plug-in interface

1. Select the data which you would like to export into ESRI file Geodatabase (Figure 3). This can be done in three different ways:
 - a. Use the checkboxes in the menu tree.
 - b. Select data in the Petrel project tree and click the arrow  in the export menu.
 - c. Type in the data object name to search for and select the data you wish to export
2. Choose **Create new database** or **Append to existing database**
 - a. If you create a new database, choose the folder for storing the database, input the database name, select the raster data folder and seismic data folder (if needed).
 - b. If appending to an existing database, select the correct database and raster and seismic folders (if needed).
3. ESRI/EPG WKID will be automatically read from Petrel project.
4. Click **Apply**, and the data will be converted into ArcGIS format.

Export Options Settings



The screenshot shows a dialog box titled "Export data to ArcGIS geodatabase" with a close button (X) in the top right corner. The dialog has three tabs: "Export to ArcGIS geodatabase", "Settings", and "Hints". The "Settings" tab is active. It contains three sections:

- 2D seismic line**: A checkbox labeled "Export only navigation" is checked.
- 3D seismic cube**: A checkbox labeled "Create livetrace polygon outline" is unchecked. Below it, a sub-volume setting for live trace outline calculation is shown: "Start: 0 %" and "End: 100 %".
- General**: A checkbox labeled "Close polygon automatically" is unchecked.

At the bottom right, there are three buttons: "Apply" (with a green checkmark icon), "OK" (with a green checkmark icon), and "Cancel" (with a red X icon).

Figure 4 The settings tab

The export settings tab is shown in Figure 4.

2D seismic line

If **Export only navigation** is selected, only the navigation geometry will be written to ESRI File Geodatabase. If not, the seismic 2d lines will be exported to the raster folder in tiff format.

3D seismic cube

If **Create livetrace polygon outline** is selected, the live traces outline from seismic cube will be calculated and exported into ESRI File Geodatabase. If not, only cube geometry will be exported. The calculation time for the live traces outline depends on the size of the cube.

Hints

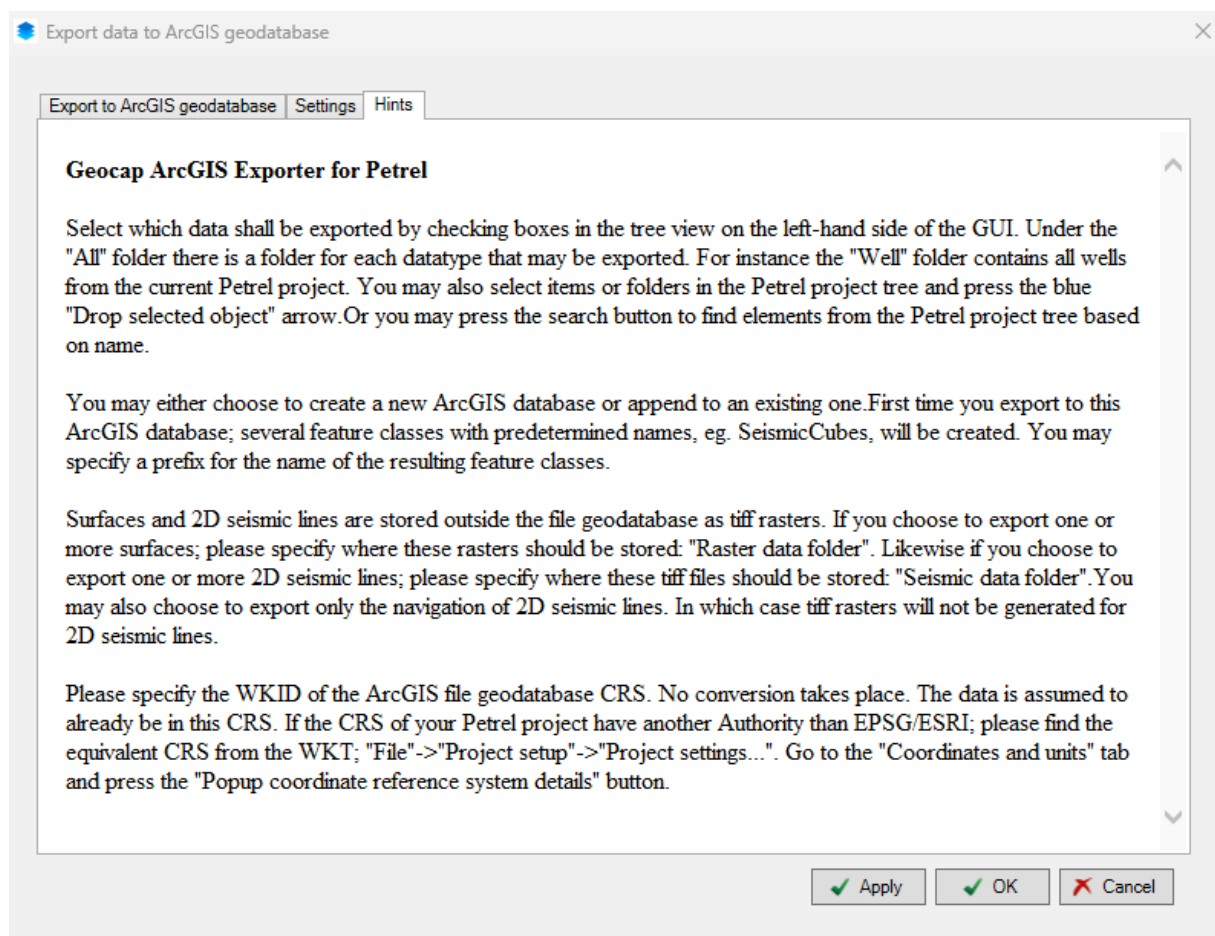


Figure 5 The hints pane

The plug-in hints pane is shown in Figure 5.

USING GIS DATA LINK IN A WORKFLOW

When running in a workflow, all the same options described above are available.

The workflow step only supports creating new ESRI File Geodatabase.

The Petrel workflow editor interface is shown in Figure 6.

Note: Be sure to click the Apply button in the Workflow editor or else Petrel will not save the workflow when saving the project.

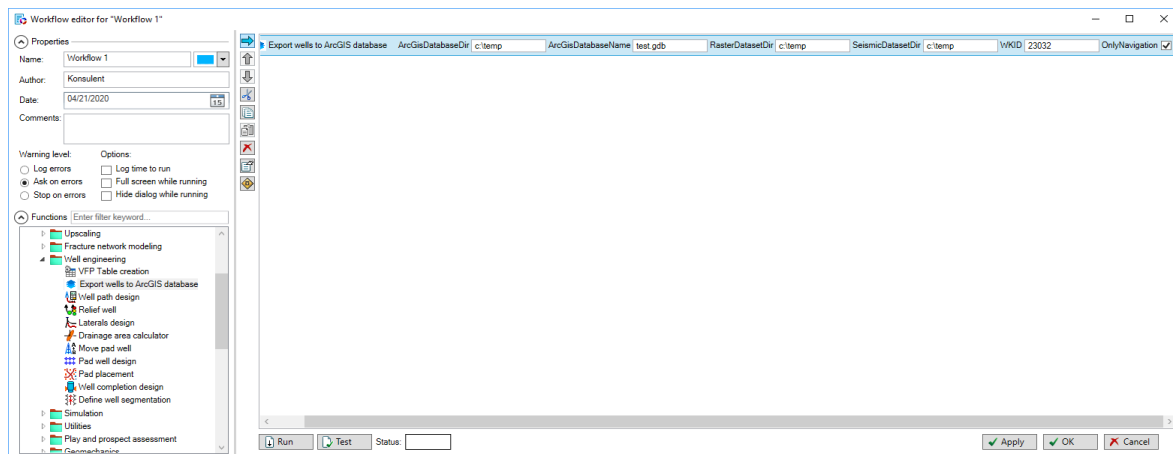


Figure 6 The Petrel workflow editor