

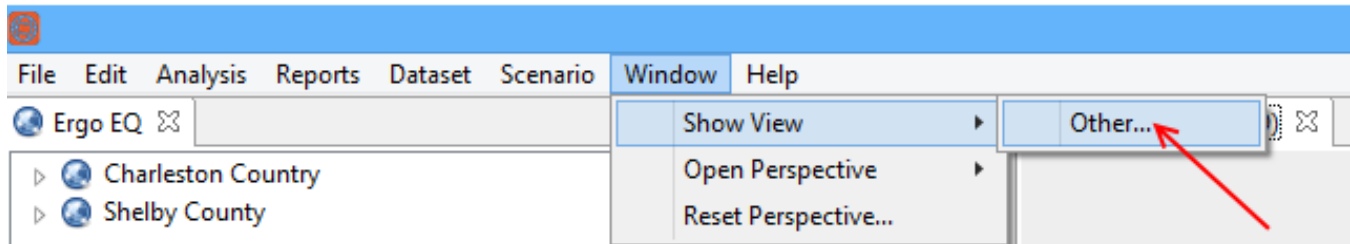
How to explore the fragility curves on Ergo repository

Find fragility dataset

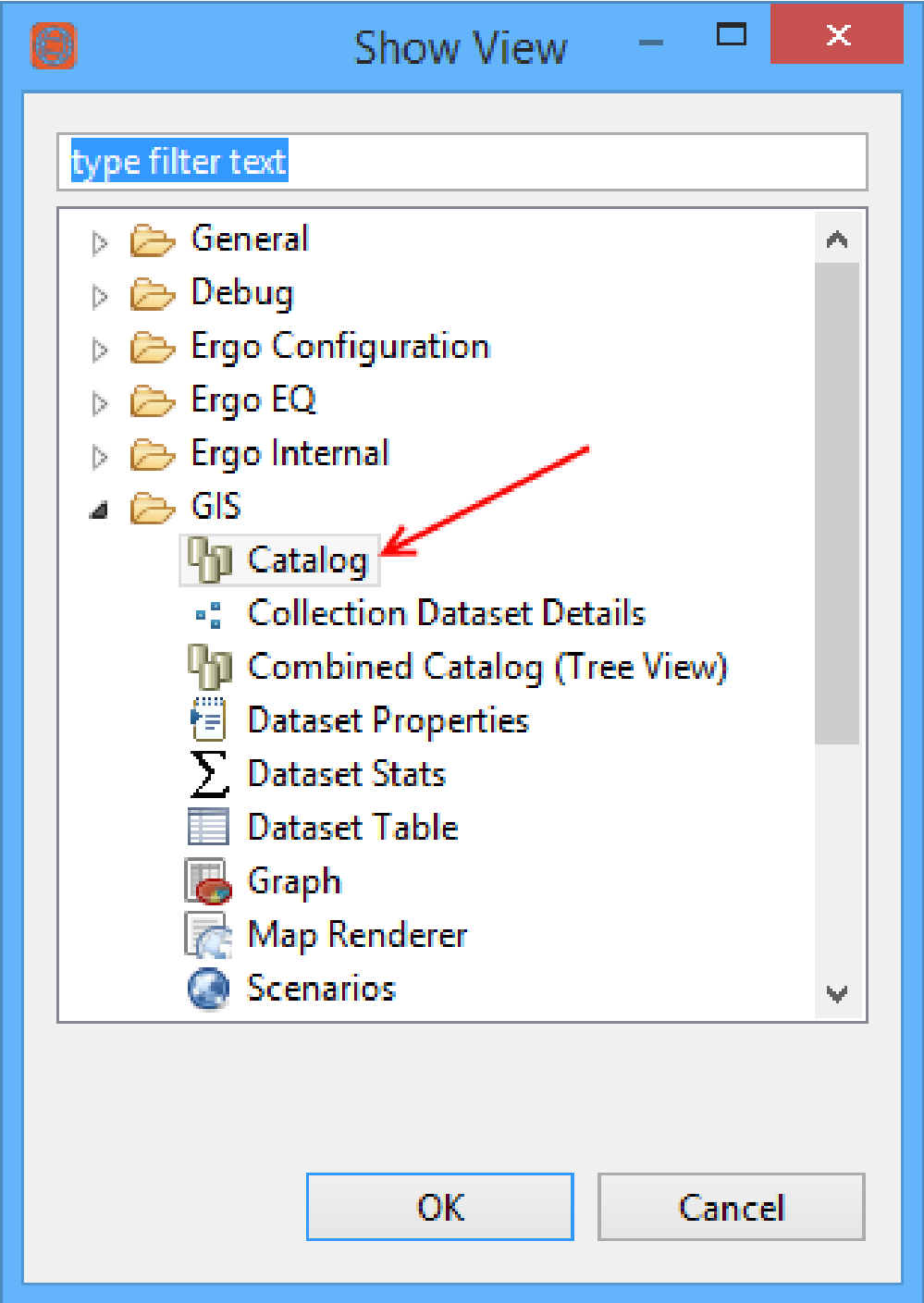
Setup Catalog View if not Visible

Fragility datasets (as well as all datasets) are accessed via the Catalog window. If the Catalog window is not visible inside of Ergo, please follow the following instructions to add the Catalog window to your ergo active windows.

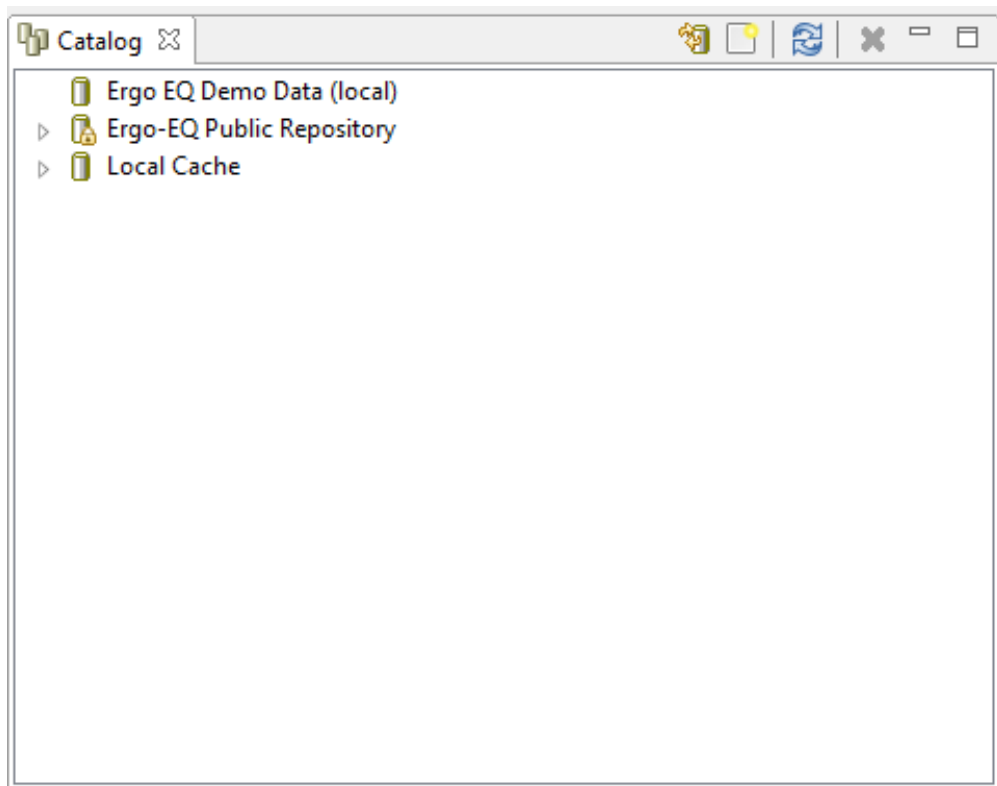
Select the "Window" option on your top toolbar, then select the "Show View" submenu and finally the "Other..." menu option. [Window -> Show View -> Other...]



Expand the GIS folder and select "Catalog" option.

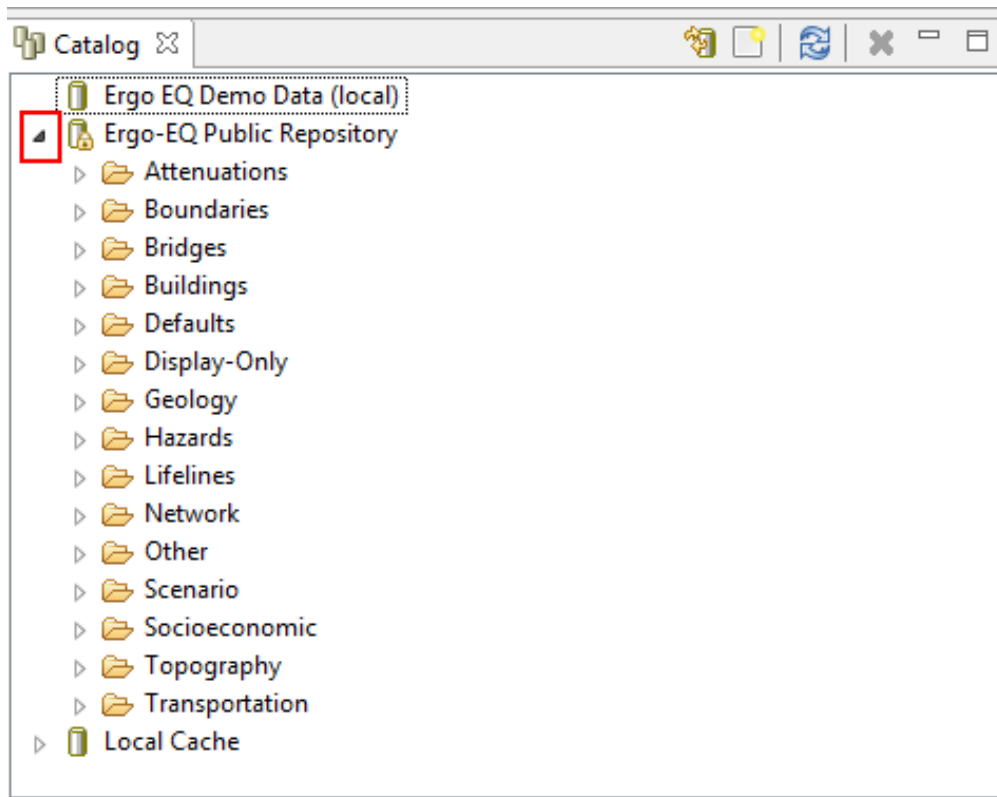


Once selected you should see the following window now visible:

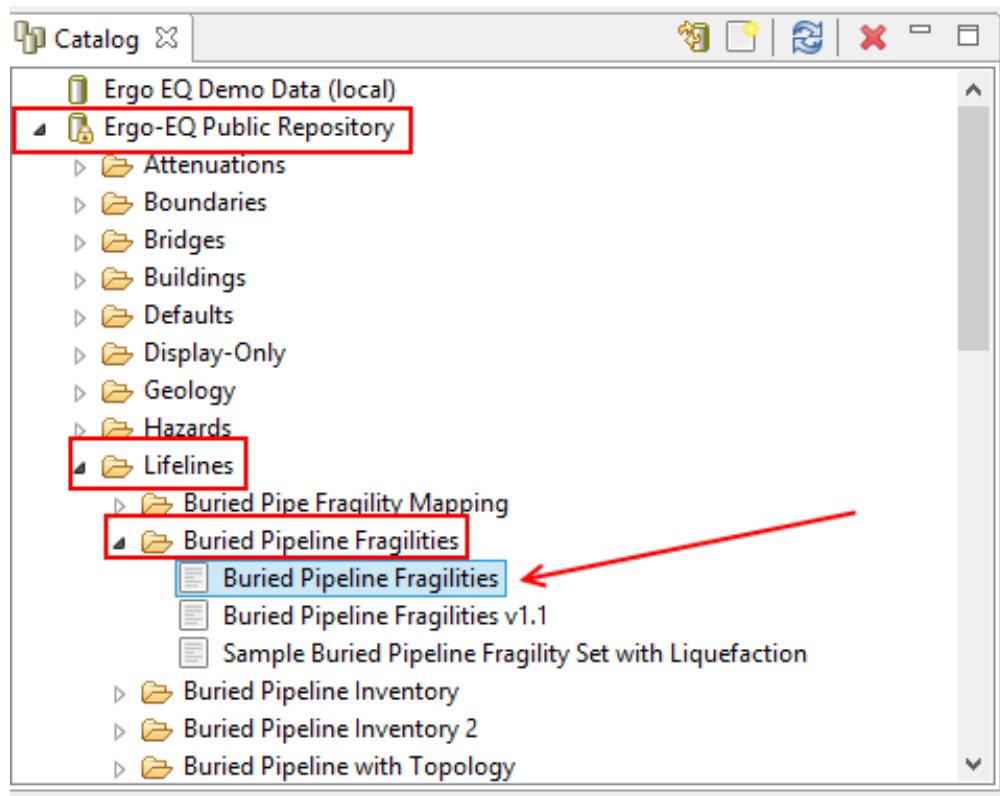


Exploring the Ergo-EQ Public Repository

In the Catalog View expand the Ergo-EQ Public Repository

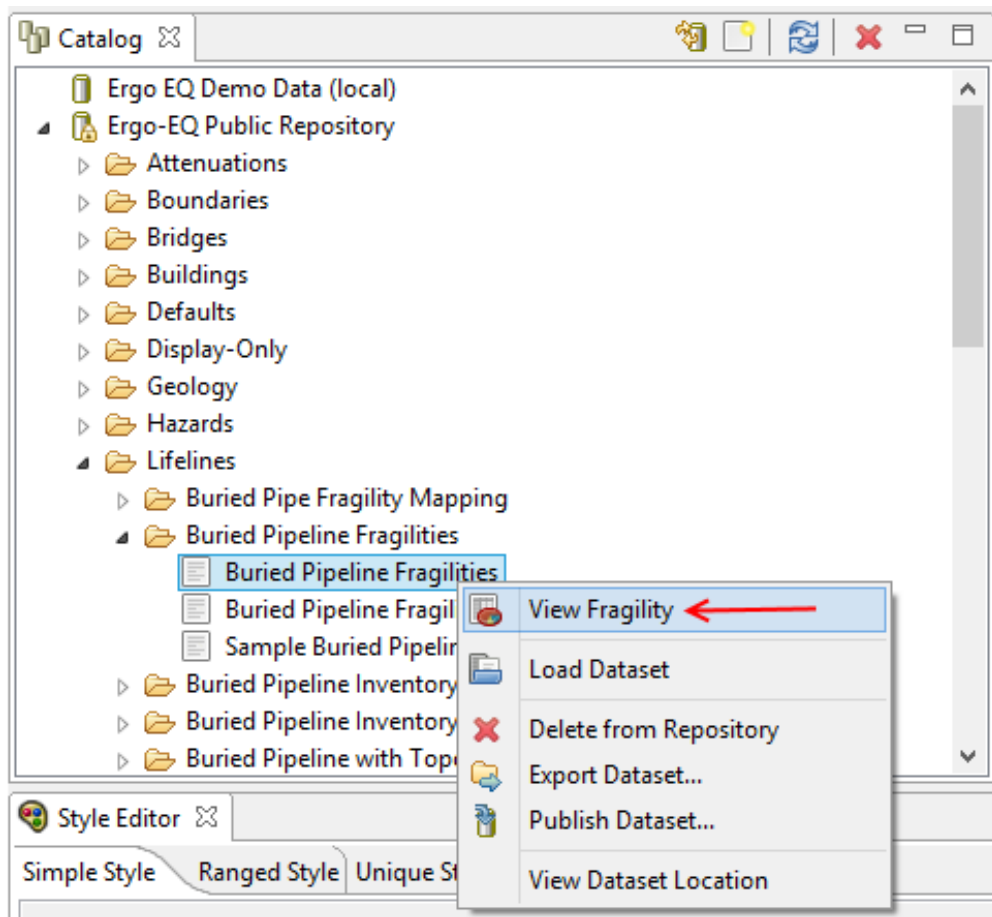


Expanding the Ergo-EQ Public Repository reveals a folders containing Datasets. Expand the folders until the desired dataset is revealed. In this example we will use the fragility dataset under "Lifelines" -> "Buried Pipeline Fragilities" -> "Buried Pipeline Fragilities"

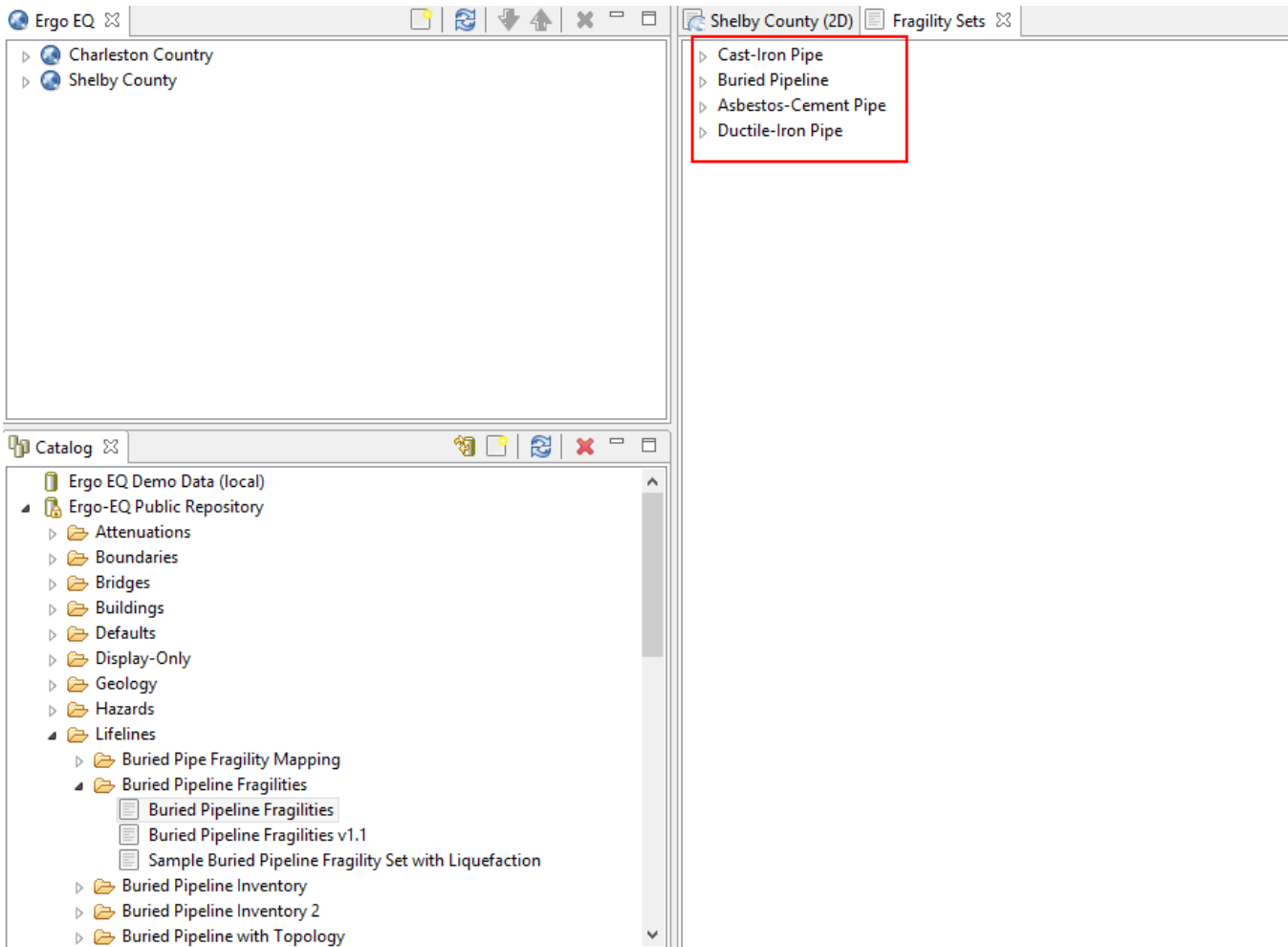


View the fragility curve

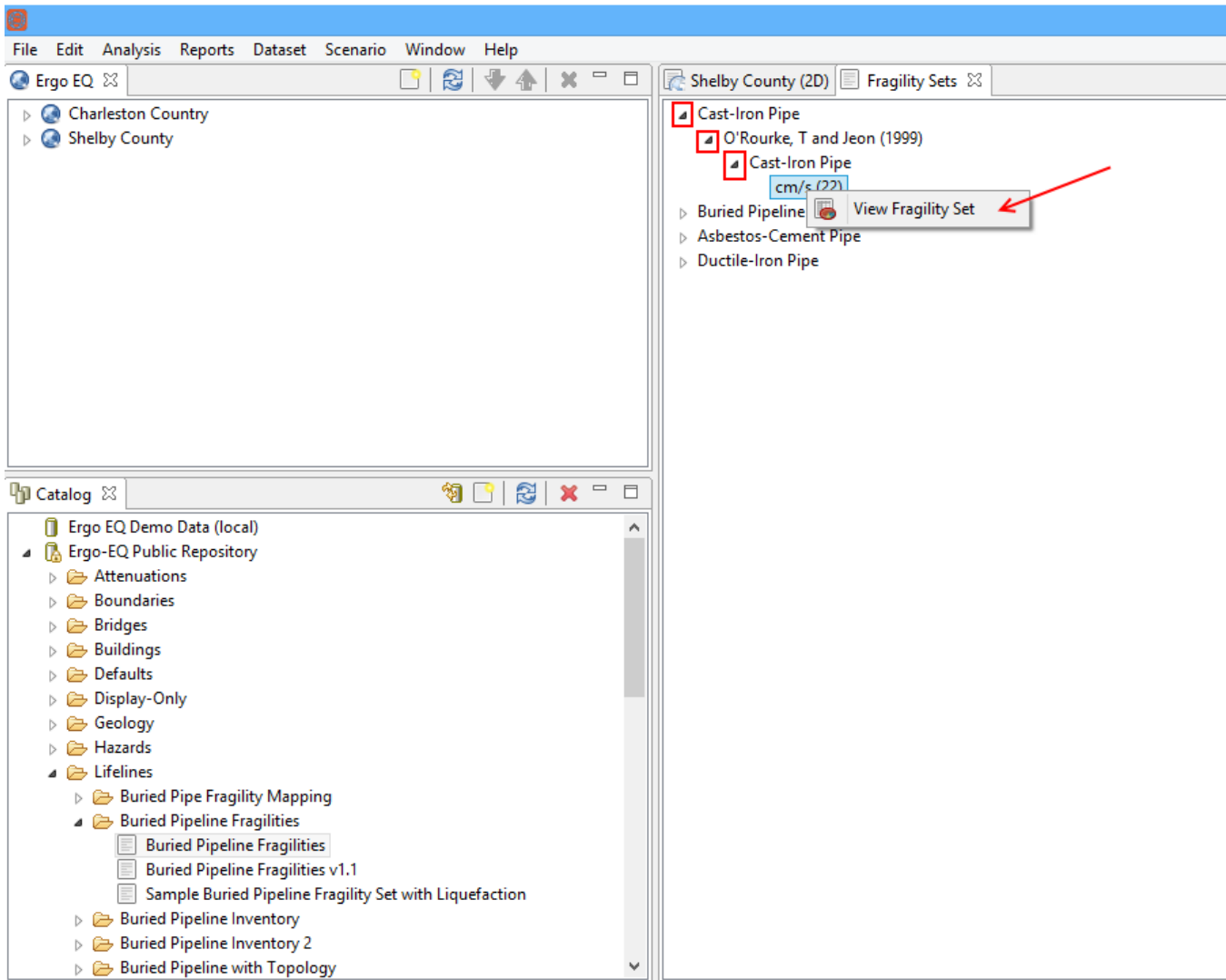
If the selected dataset is a fragility dataset, the fragility sets can be viewed, by right clicking on the dataset and selecting the "View Fragility" from the menu.



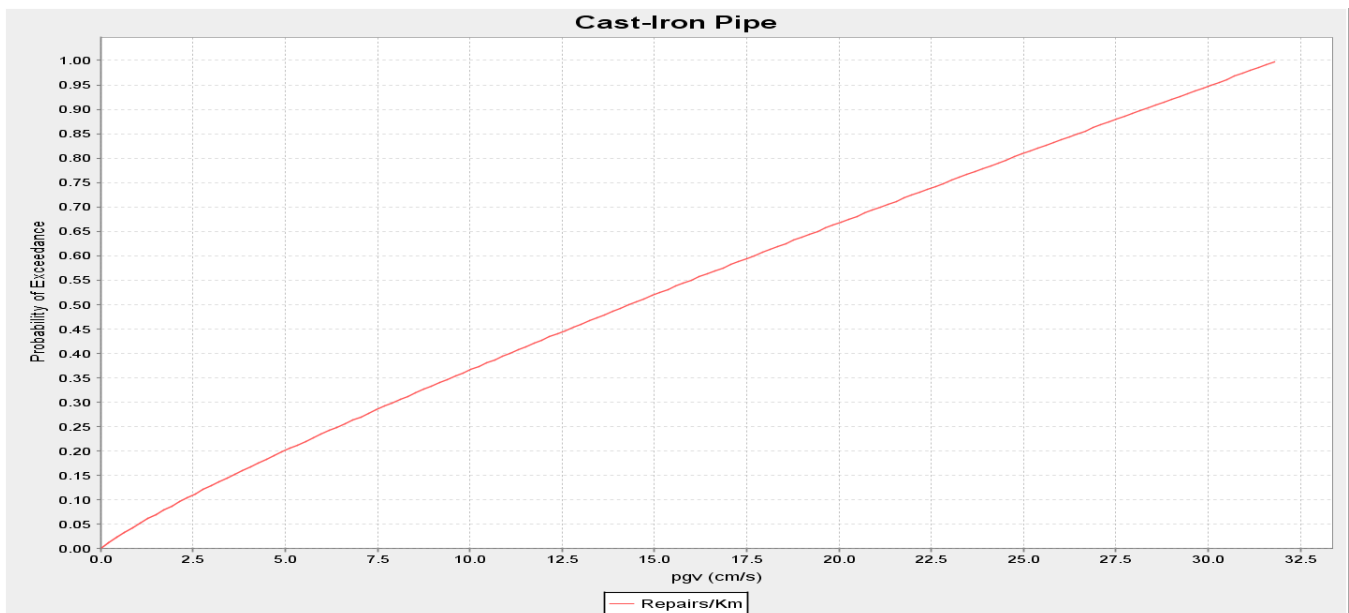
When the "View Fragility" menu option is selected, the fragility curve appears.



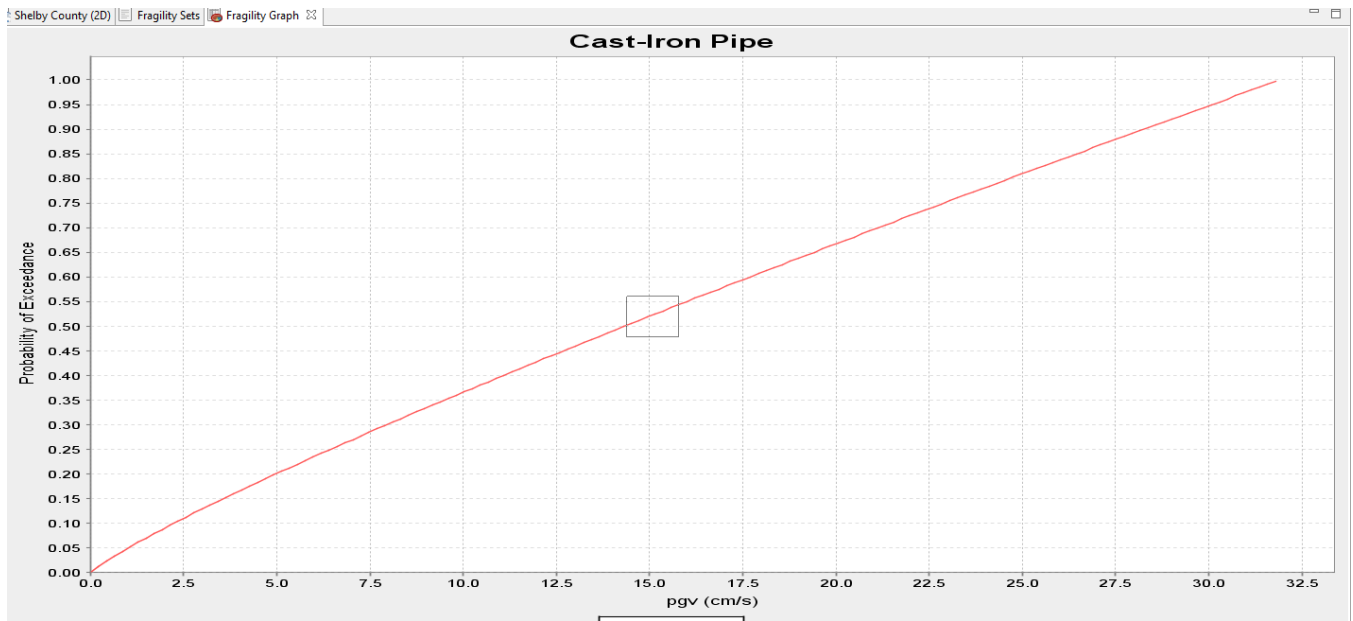
Expand the desired fragility set, right click the node and select "View Fragility Set"



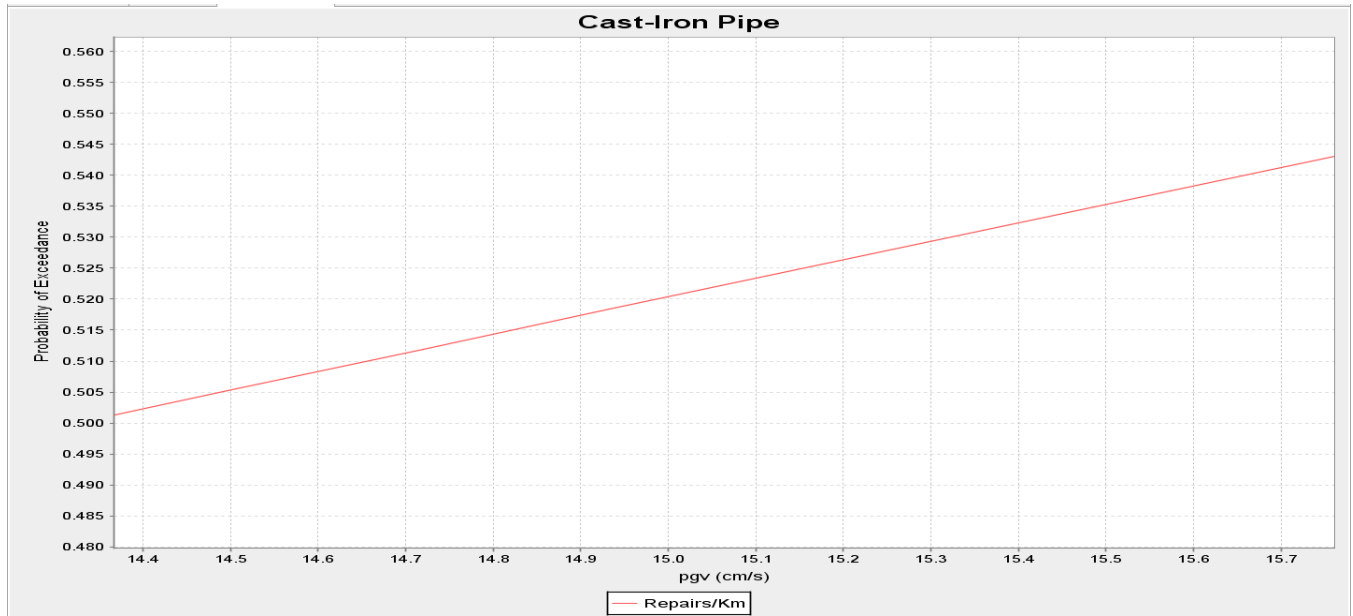
Once the "View Fragility Set" menu option is selected the curve is plotted.



You can zoom in on a portion of the graph by clicking and dragging on a portion of the graph

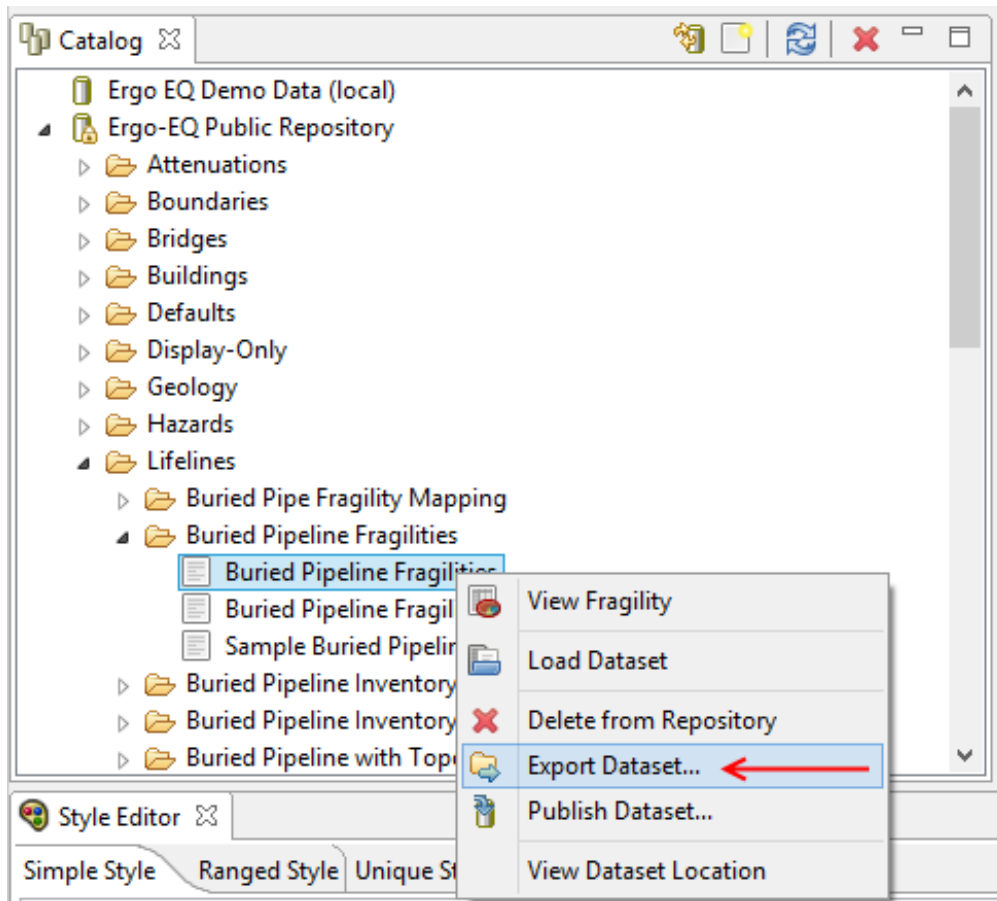


Once the mouse click is release the graph automatically updates with the zoomed portion.

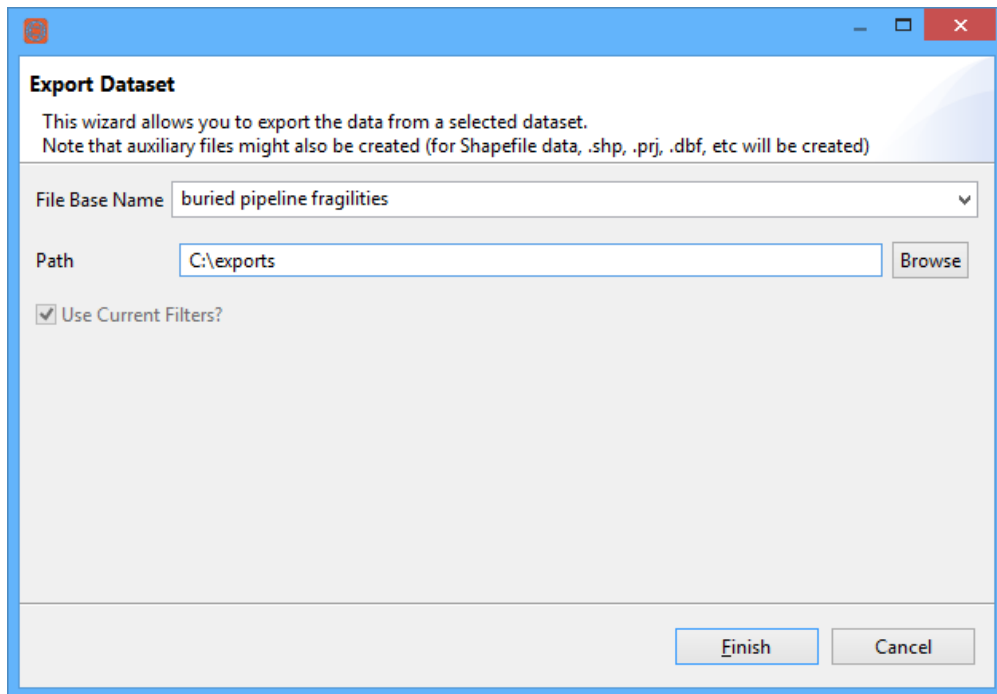


Export the fragility dataset

You can export the fragility dataset to an .xml file by right clicking on the Dataset in the Catalog View, and selecting "Export Dataset".



Once selected a popup appears prompting you for a save path.



Once you have filled in the information click the "Finish" button to export your file.

Viewing the Exported Xml File

Once you have selected the "Finish" button your file will be generated at the path designated in the previous Export Dataset popup, and will take the name you typed in the "File Base Name", in the current example the exported file is located in the folder "C:\exports" and has a file name of "buried pipeline fragilities.xml".

To view the generated xml file first, navigate to the export path and locate the file. Next you can open the file in your choice of text editor/viewer. If you have Internet Explorer installed on your machine you can click and drag the xml file onto internet explorer and it will display the contents of the xml file. Note this is a view only mode, if you wish to make changes to the file please use a text editor such as [Notepad++](#).

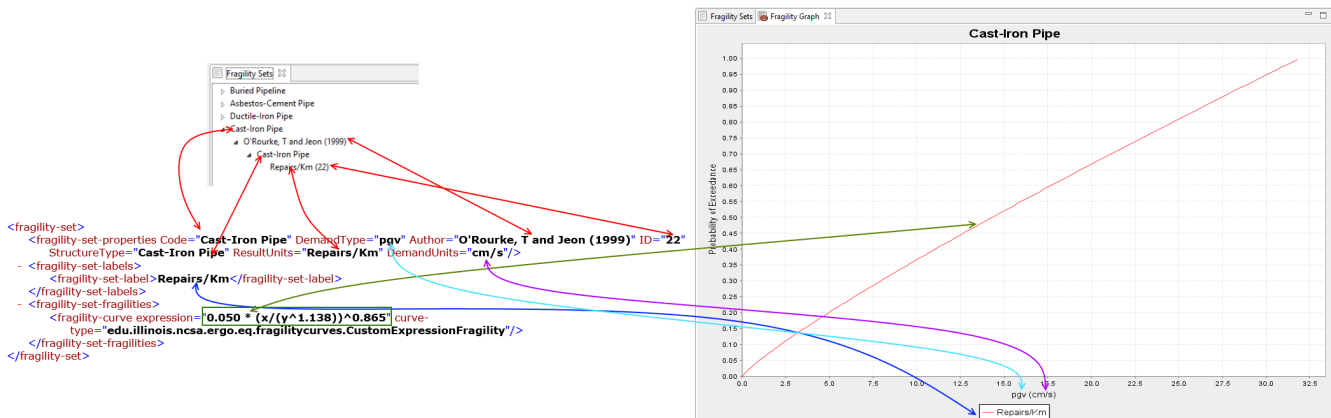
Once you have your file open in the editor/viewer of your choice, you can now explore the xml file corresponding the fragilities. The file should look very similar to this (styles may vary depending on your text editor):

```

<?xml version="1.0" encoding="UTF-16"?>
- <fragility-dataset>
  - <fragility-dataset-sets>
    - <fragility-set>
      <fragility-set-properties Code="Buried Pipeline" DemandType="pgv" Author="Eidinger (2004)" ID="19"
        StructureType="Buried Pipeline (Concrete/Steel-RubberGasket)" ResultUnits="Repairs/1000ft"
        DemandUnits="in/s"/>
    - <fragility-set-labels>
      <fragility-set-label>Repairs/1000ft</fragility-set-label>
    - <fragility-set-fragilities>
      <fragility-curve expression="0.8 * 0.00187 * (x)" curve-
        type="edu.illinois.ncsa.ergo.eq.fragilitycurves.CustomExpressionFragility"/>
    - <fragility-set>
      <fragility-set-properties Code="Cast-Iron Pipe" DemandType="pgv" Author="O'Rourke, T and Jeon (1999)" ID="22"
        StructureType="Cast-Iron Pipe" ResultUnits="Repairs/Km" DemandUnits="cm/s"/>
    - <fragility-set-labels>
      <fragility-set-label>Repairs/Km</fragility-set-label>
    - <fragility-set-fragilities>
      <fragility-curve expression="0.050 * (x/(y^1.138))^0.865" curve-
        type="edu.illinois.ncsa.ergo.eq.fragilitycurves.CustomExpressionFragility"/>
    - <fragility-set>
      <fragility-set-properties Code="Buried Pipeline" DemandType="pgv" Author="Eidinger (2004)" ID="17"
        StructureType="Buried Pipeline (Concrete/Steel-Lap)" ResultUnits="Repairs/1000ft" DemandUnits="in/s"/>
    - <fragility-set-labels>
      <fragility-set-label>Repairs/1000ft</fragility-set-label>
    - <fragility-set-fragilities>
      <fragility-curve expression="0.7 * 0.00187 * (x)" curve-
        type="edu.illinois.ncsa.ergo.eq.fragilitycurves.CustomExpressionFragility"/>
  
```

Xml File Correspondence

Below is an image with the correspondence between the xml file and the dataset explorer within ergo. The arrows identify how the values in the xml file relate to Ergo.



(click to enlarge)