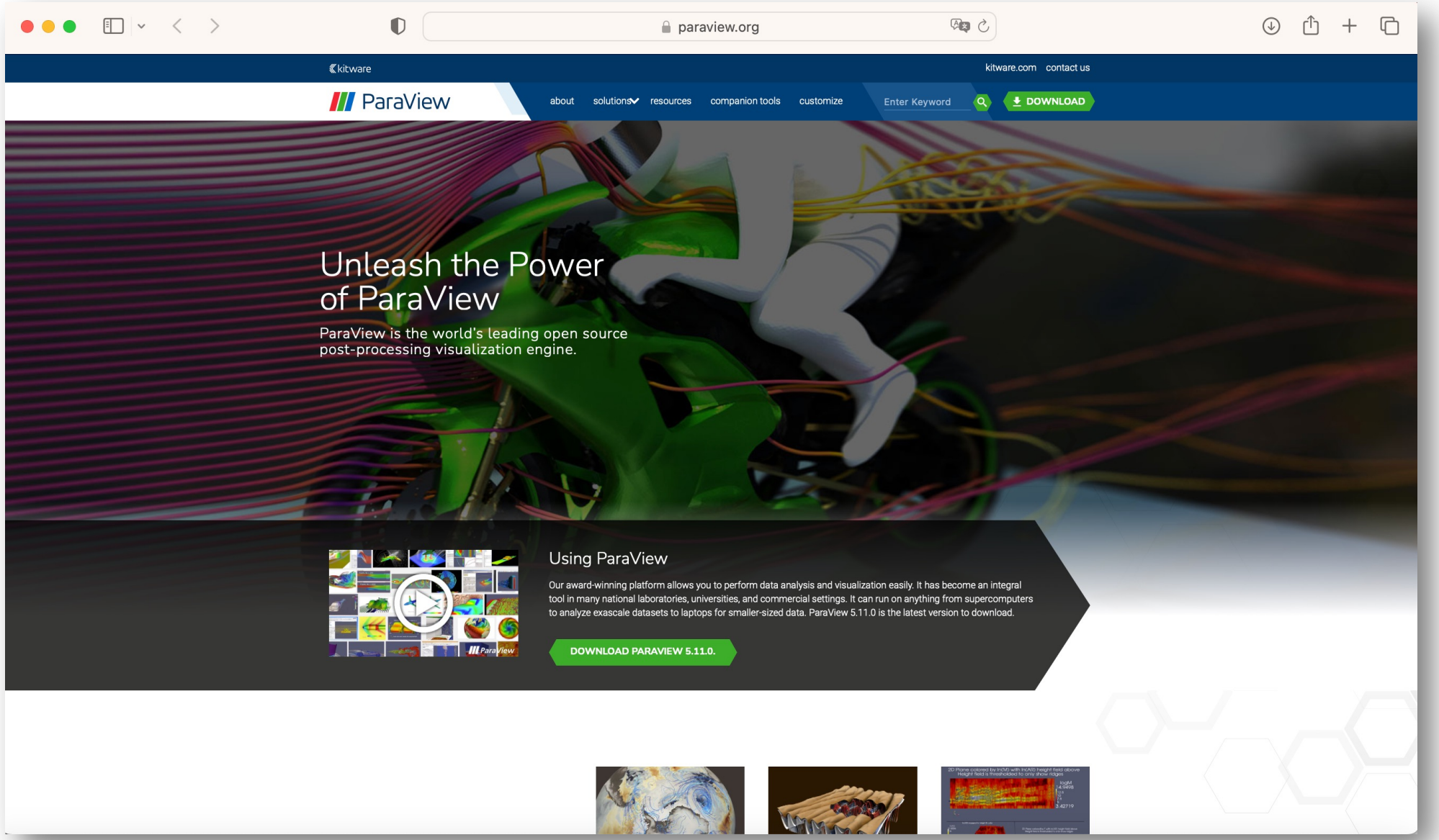
ICTP Workshop, Kigali - July 2023

INTRODUCING PARAVIEW

Guillaume Duclaux
guillaume.duclaux@univ-cotedazur.fr

UNIVERSITÉ CÔTE D'AZUR

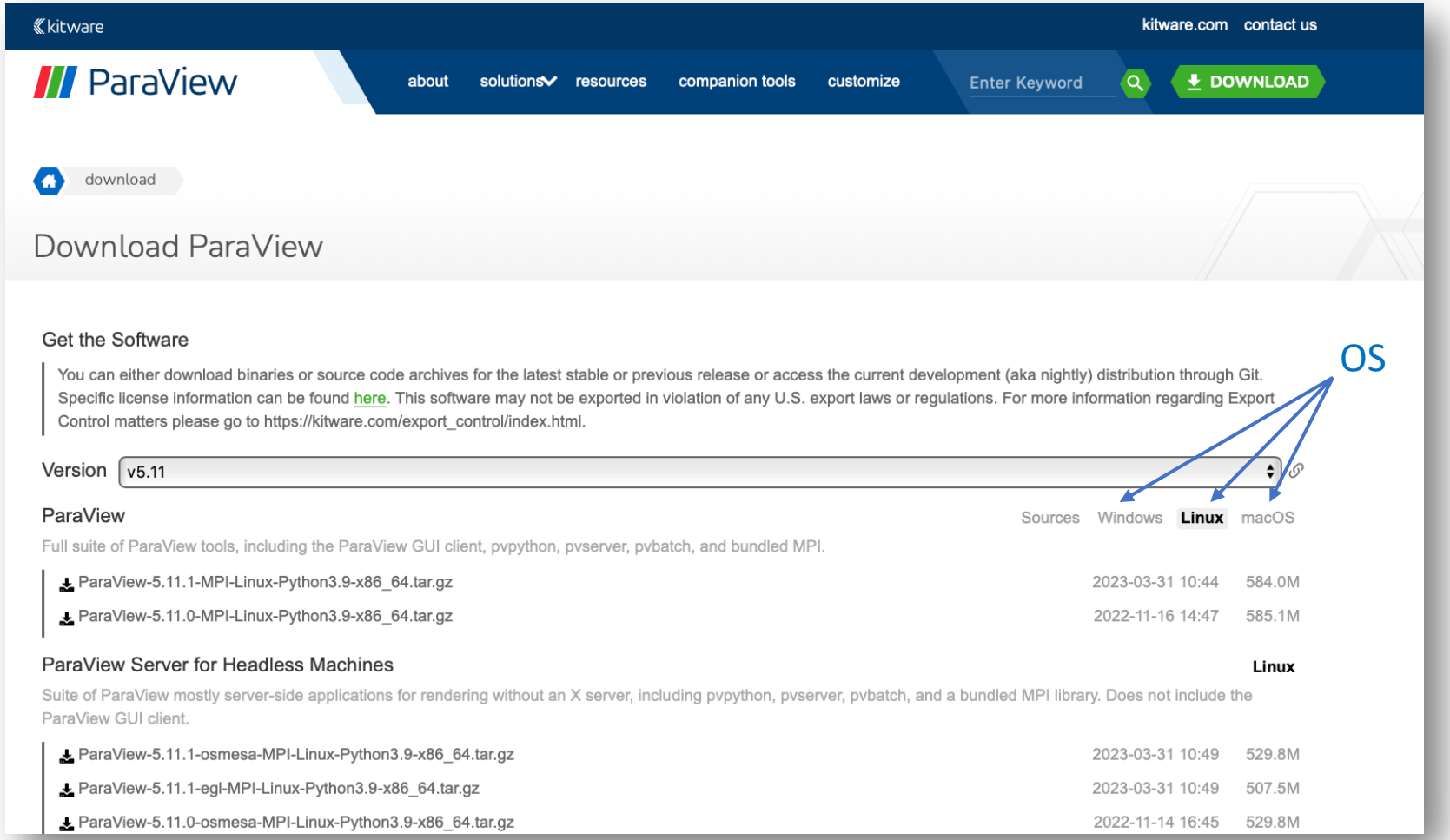
Where to start?



https://www.paraview.org

Paraview Installation

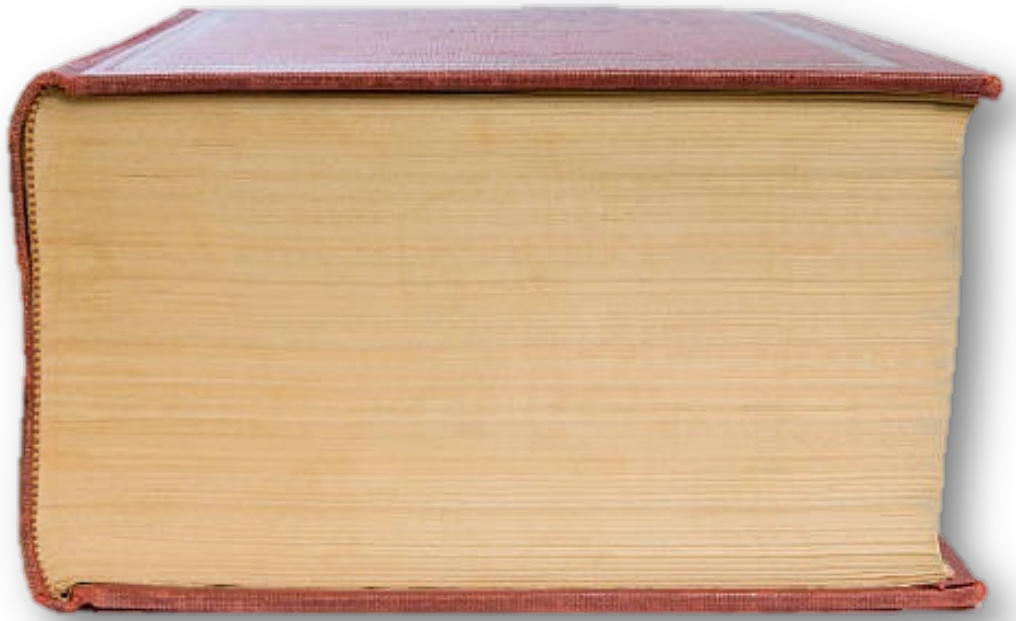
- https://www.paraview.org/download/
- Choose the correct binary bundle (version 5.10 or >) for your OS



Paraview Documentation

- https://docs.paraview.org/en/latest/index.html

This is a great place to learn with a User Guide, a Reference Manual and Tutorials…



ParaView 5.10.1

Time: 86558.3 1 max is 1

Representation

Pipeline Browser

builtin:
XDMF.fields.0000*
Glyph1
Topo_Cart_EastAfrica.vts
Ruler1

Properties Information

Properties

Apply Reset Delete ?

Search ... (use Esc to clear text)

Properties (Rule

Distance

Length: *1000*

Show Line

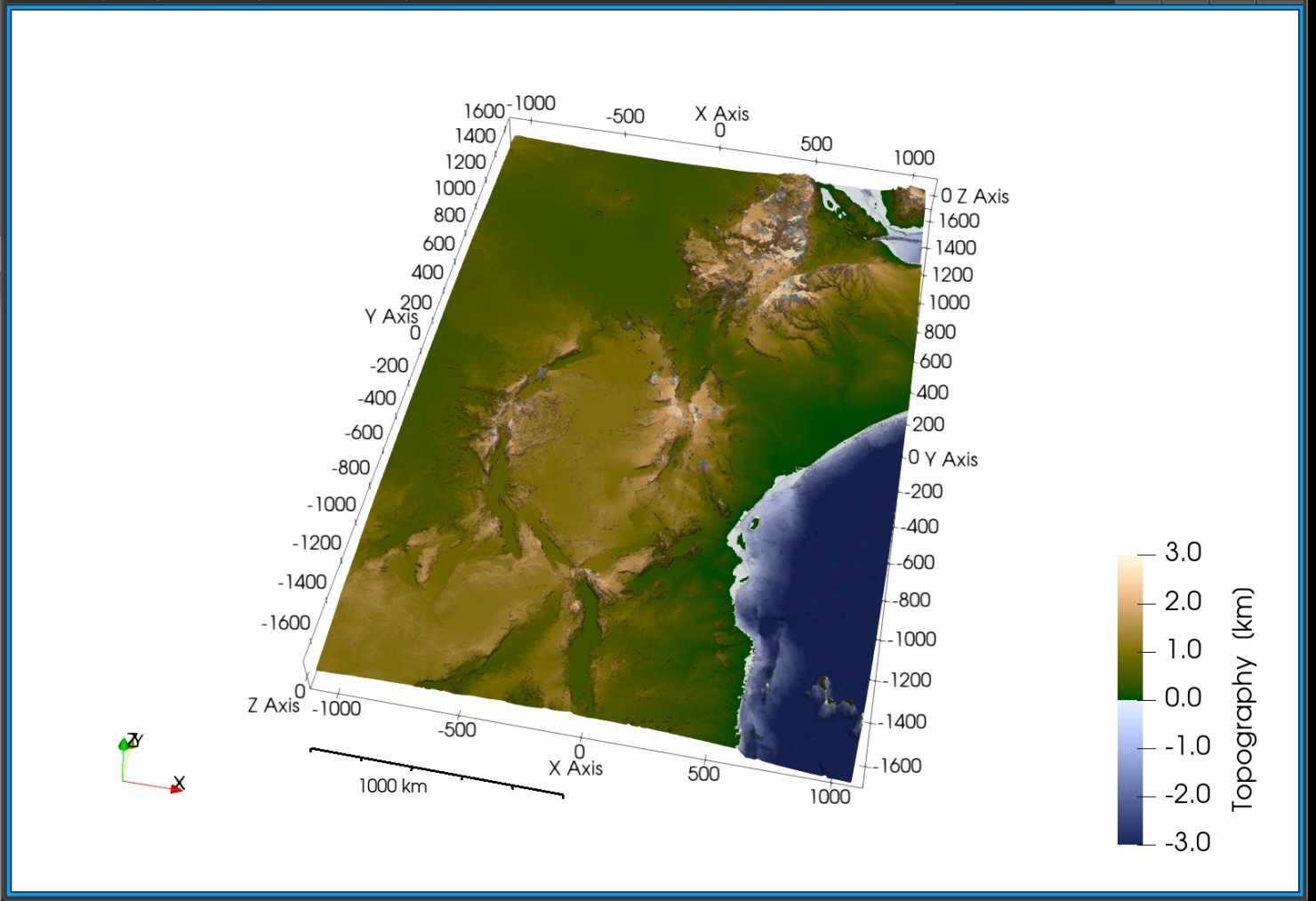
Point1	-1000	-2000	0
Point2	0	-2000	0

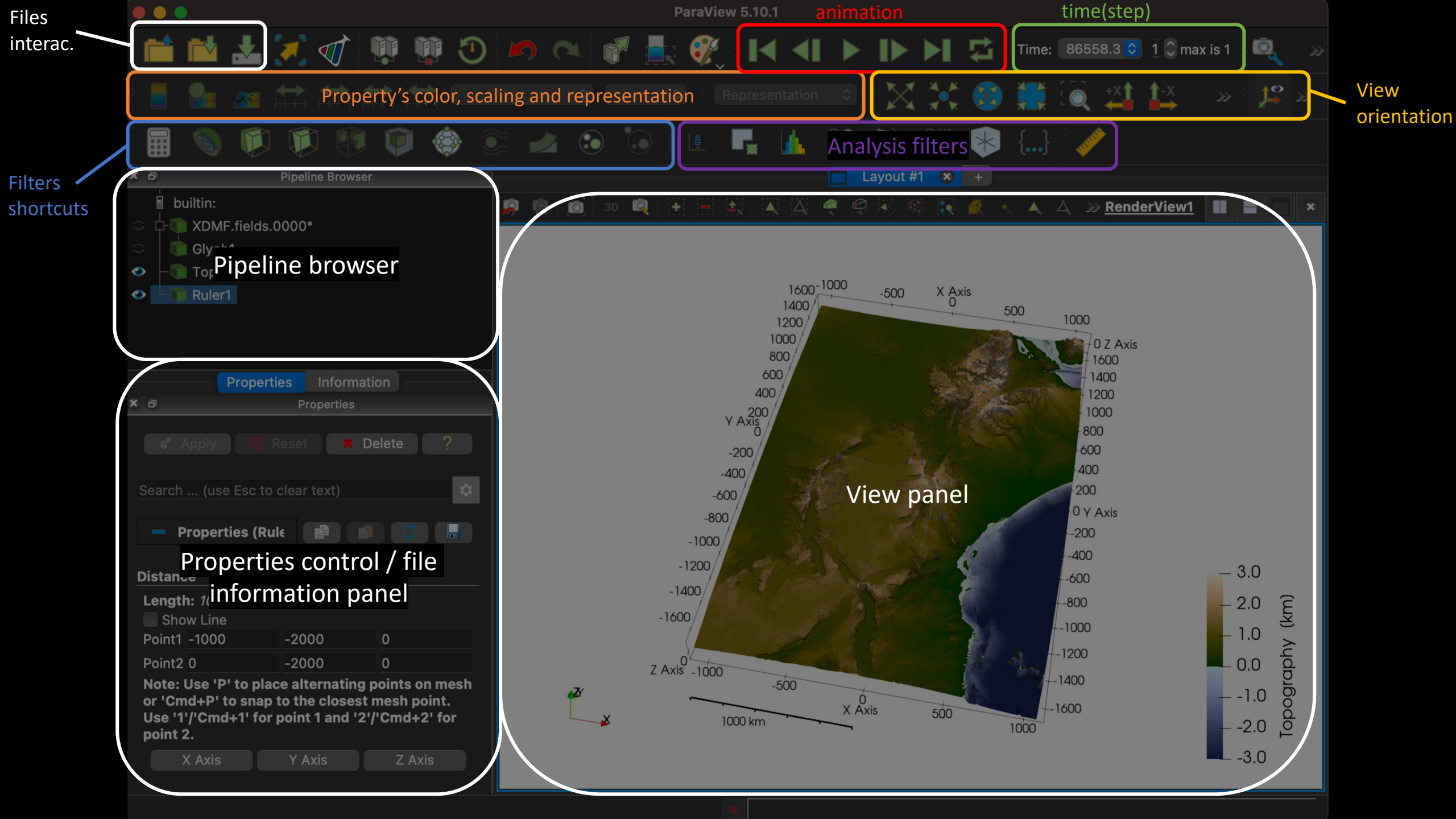
Note: Use 'P' to place alternating points on mesh or 'Cmd+P' to snap to the closest mesh point. Use '1'/'Cmd+1' for point 1 and '2'/'Cmd+2' for point 2.

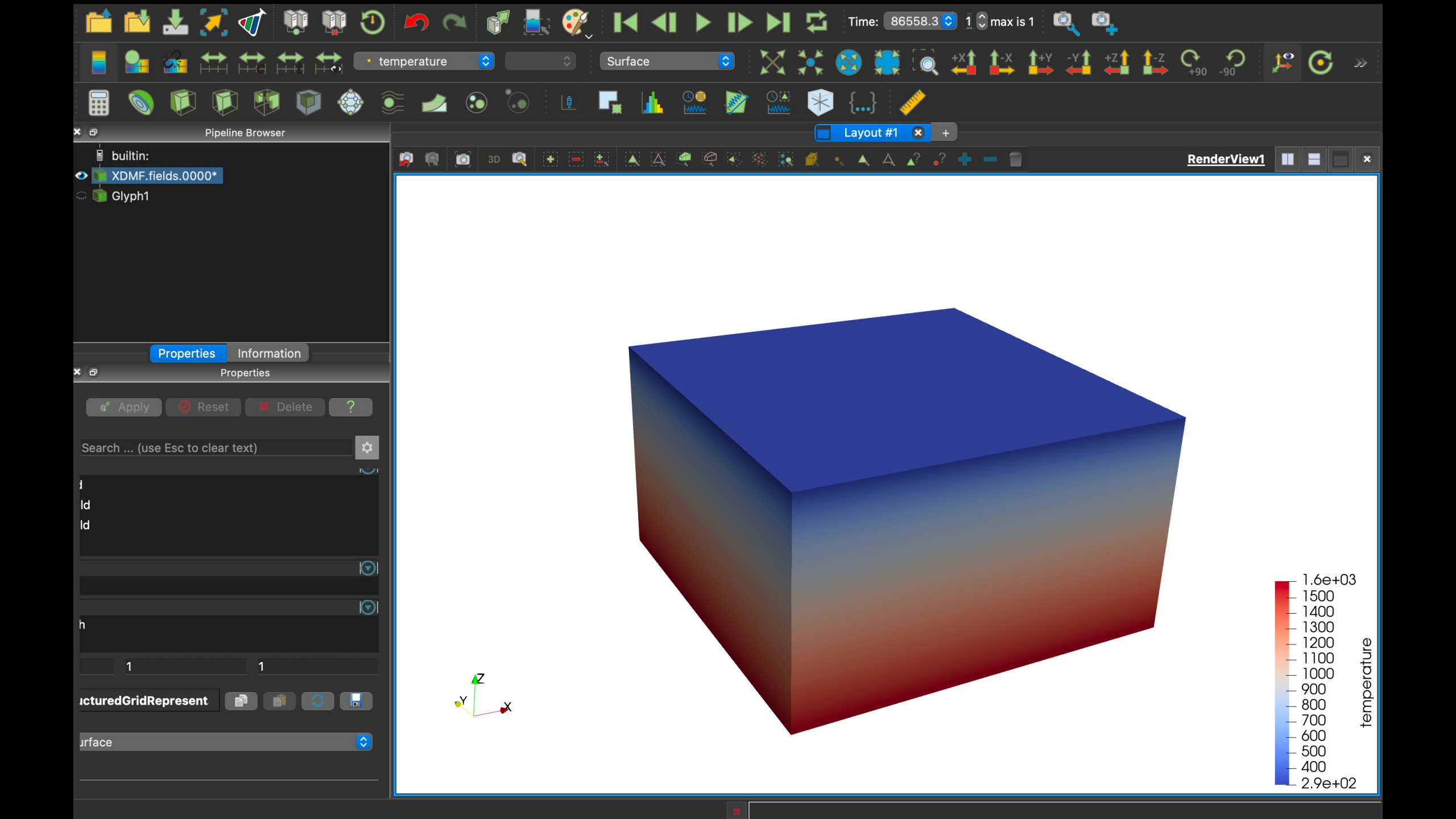
X Axis Y Axis Z Axis

Layout #1

RenderView1




Files interac.
ParaView 5.10.1
animation
time(step)
Time: 86558.3
1
max is 1
Property's color, scaling and representation
Representation
View orientation
Filters shortcuts
Analysis filters
Pipeline Browser
builtin:
XDMF.fields.0000*
Ruler1
Pipeline browser
Layout #1
RenderView1
Properties
Information
Properties
Apply
Reset
Delete
Search ... (use Esc to clear text)
Properties (Rule
Properties control / file information panel
Length:
Show Line
Point1 -1000 -2000 0
Point2 0 -2000 0
Note: Use 'P' to place alternating points on mesh or 'Cmd+P' to snap to the closest mesh point. Use '1'/'Cmd+1' for point 1 and '2'/'Cmd+2' for point 2.
X Axis
Y Axis
Z Axis
View panel
X Axis
Y Axis
Z Axis
1000 km
Topography (km)
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0


Time: 86558.3
1
max is 1
temperature
Surface
Pipeline Browser
builtin:
XDMF.fields.0000*
Glyph1
Properties
Information
Properties
Apply
Reset
Delete
Search ... (use Esc to clear text)
Layout #1
RenderView1
1.6e+03
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
2.9e+02
temperature

Paraview: let's play

- Views (pipeline, properties, information)
- Datatype : unstructured vs. structured datasets
- Data stored on nodes or cells
- Scalar representation → outline, surface, wireframe & colouring (graduated and categories)
- Grid, ruler and measurements
- Contour of structured scalar field
- Vector representations (glyph, streamlines)
- Filters (clips, threshold, etc.)
- Calculator
- Timeseries : dealing with time
- Screenshots, animations and States