

Acoustic Emission at SKB's Prototype Experiment

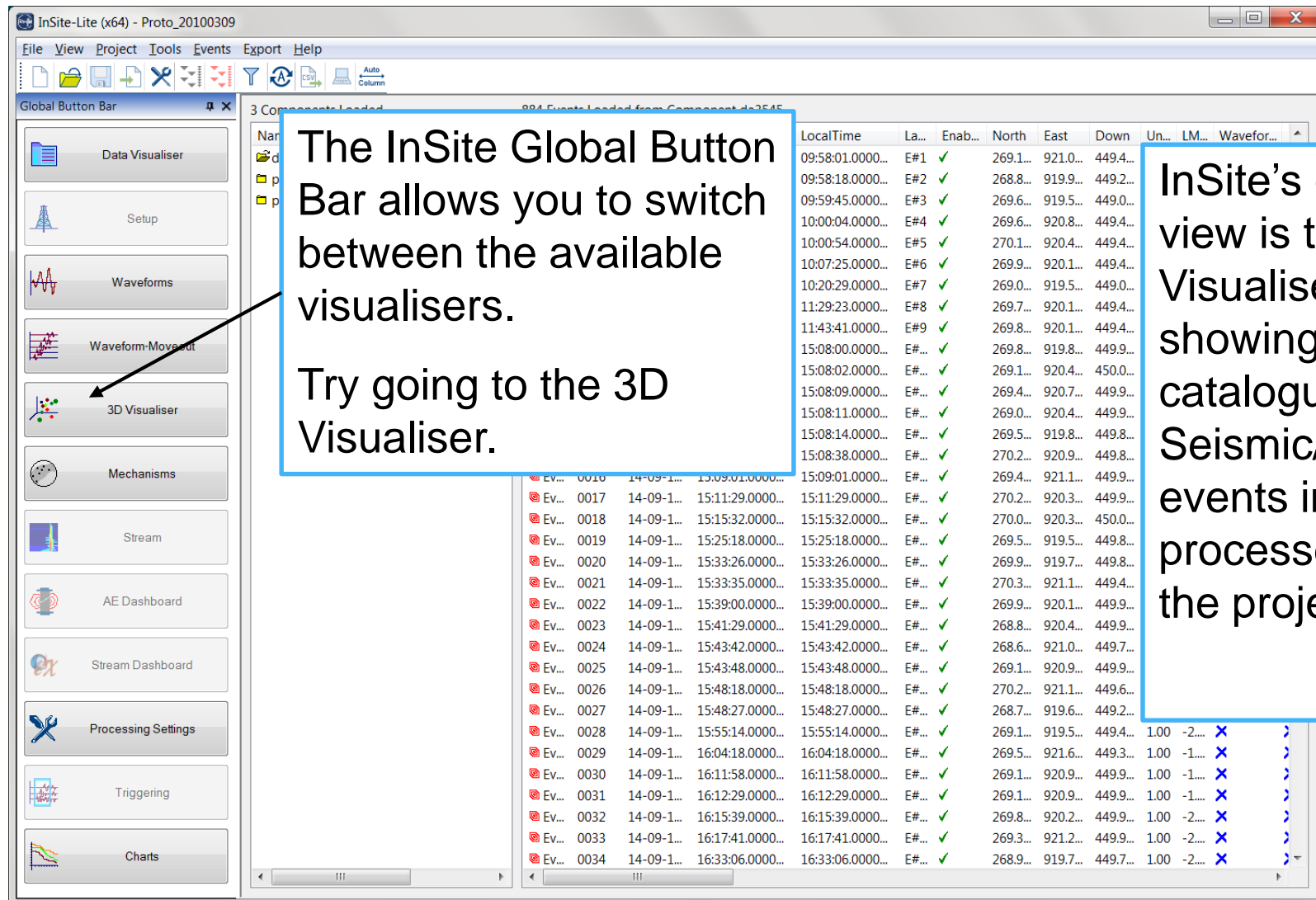


Microseismic Geomechanics: Increased understanding; reduced risk

- InSite™ Lite is the free version of Itasca Consulting Ltd.'s InSite Seismic Processing software suite, provided with limited functionality and features.
- The examples shown here are taken from ICL and its partners projects.
- InSite's proprietary project (*.pcf) files contain all the configuration, event information and links to waveforms necessary to run a project in InSite. Double-clicking on the .pcf project file launches the InSite software application.
- The InSite project waveform data (*.esf) files include the results from the data processing. These files are imported for the project (.pcf file) through the data import management tool in InSite. Please note that not all of the available example projects are provided with example waveform data.
- For information on the operation of the InSite software, please refer to the product help files.
- For information on purchasing the full version of the InSite software, please contact us at support@itasca.co.uk

- This example uses Acoustic Emission (AE) location data recorded during the pressurisation, heating and cooling of SKB's Prototype test at the Äspö Hard rock Laboratory (Sweden)
- This example is designed to give an overview of the features and functionalities of InSite's 3D Visualiser.
- The following slides give you some options to try in the software.

Navigation: Data Visualiser



The InSite Global Button Bar allows you to switch between the available visualisers.

Try going to the 3D Visualiser.

LocalTime	La...	Enab...	North	East	Down	Un...	LM...	Wavefor...
09:58:01.0000...	E#1	✓	269.1...	921.0...	449.4...			
09:58:18.0000...	E#2	✓	268.8...	919.9...	449.2...			
09:59:45.0000...	E#3	✓	269.6...	919.5...	449.0...			
10:00:04.0000...	E#4	✓	269.6...	920.8...	449.4...			
10:00:54.0000...	E#5	✓	270.1...	920.4...	449.4...			
10:07:25.0000...	E#6	✓	269.9...	920.1...	449.4...			
10:20:29.0000...	E#7	✓	269.0...	919.5...	449.0...			
11:29:23.0000...	E#8	✓	269.7...	920.1...	449.4...			
11:43:41.0000...	E#9	✓	269.8...	920.1...	449.4...			
15:08:00.0000...	E#...	✓	269.8...	919.8...	449.9...			
15:08:02.0000...	E#...	✓	269.1...	920.4...	450.0...			
15:08:09.0000...	E#...	✓	269.4...	920.7...	449.9...			
15:08:11.0000...	E#...	✓	269.0...	920.4...	449.9...			
15:08:14.0000...	E#...	✓	269.5...	919.8...	449.8...			
15:08:38.0000...	E#...	✓	270.2...	920.9...	449.8...			
15:09:01.0000...	E#...	✓	269.4...	921.1...	449.9...			
Ev... 0016	14-09-1...	15:09:01.0000...	15:11:29.0000...	270.2...	920.3...	449.9...		
Ev... 0017	14-09-1...	15:11:29.0000...	15:15:32.0000...	270.0...	920.3...	450.0...		
Ev... 0018	14-09-1...	15:15:32.0000...	15:25:18.0000...	269.5...	919.5...	449.8...		
Ev... 0019	14-09-1...	15:25:18.0000...	15:33:26.0000...	269.9...	919.7...	449.8...		
Ev... 0020	14-09-1...	15:33:26.0000...	15:33:35.0000...	270.3...	921.1...	449.4...		
Ev... 0021	14-09-1...	15:33:35.0000...	15:39:00.0000...	269.9...	920.1...	449.9...		
Ev... 0022	14-09-1...	15:39:00.0000...	15:41:29.0000...	268.8...	920.4...	449.9...		
Ev... 0023	14-09-1...	15:41:29.0000...	15:43:42.0000...	268.6...	921.0...	449.7...		
Ev... 0024	14-09-1...	15:43:42.0000...	15:43:48.0000...	269.1...	920.9...	449.9...		
Ev... 0025	14-09-1...	15:43:48.0000...	15:48:18.0000...	270.2...	921.1...	449.6...		
Ev... 0026	14-09-1...	15:48:18.0000...	15:48:27.0000...	268.7...	919.6...	449.2...		
Ev... 0027	14-09-1...	15:48:27.0000...	15:55:14.0000...	269.1...	919.5...	449.4...	1.00	-2...
Ev... 0028	14-09-1...	15:55:14.0000...	16:04:18.0000...	269.5...	921.6...	449.3...	1.00	-1...
Ev... 0029	14-09-1...	16:04:18.0000...	16:11:58.0000...	269.1...	920.9...	449.9...	1.00	-1...
Ev... 0030	14-09-1...	16:11:58.0000...	16:12:29.0000...	269.1...	920.9...	449.9...	1.00	-1...
Ev... 0031	14-09-1...	16:12:29.0000...	16:15:39.0000...	269.8...	920.2...	449.9...	1.00	-2...
Ev... 0032	14-09-1...	16:15:39.0000...	16:17:41.0000...	269.3...	921.2...	449.9...	1.00	-2...
Ev... 0033	14-09-1...	16:17:41.0000...	16:33:06.0000...	268.9...	919.7...	449.7...	1.00	-2...
Ev... 0034	14-09-1...	16:33:06.0000...						

InSite's default view is the 'Data Visualiser', showing a catalogue of all Seismic/MS/AE events imported or processed within the project

Scene Pane.

The 3D scene that has been set up for you is displayed.

Scale Pane.

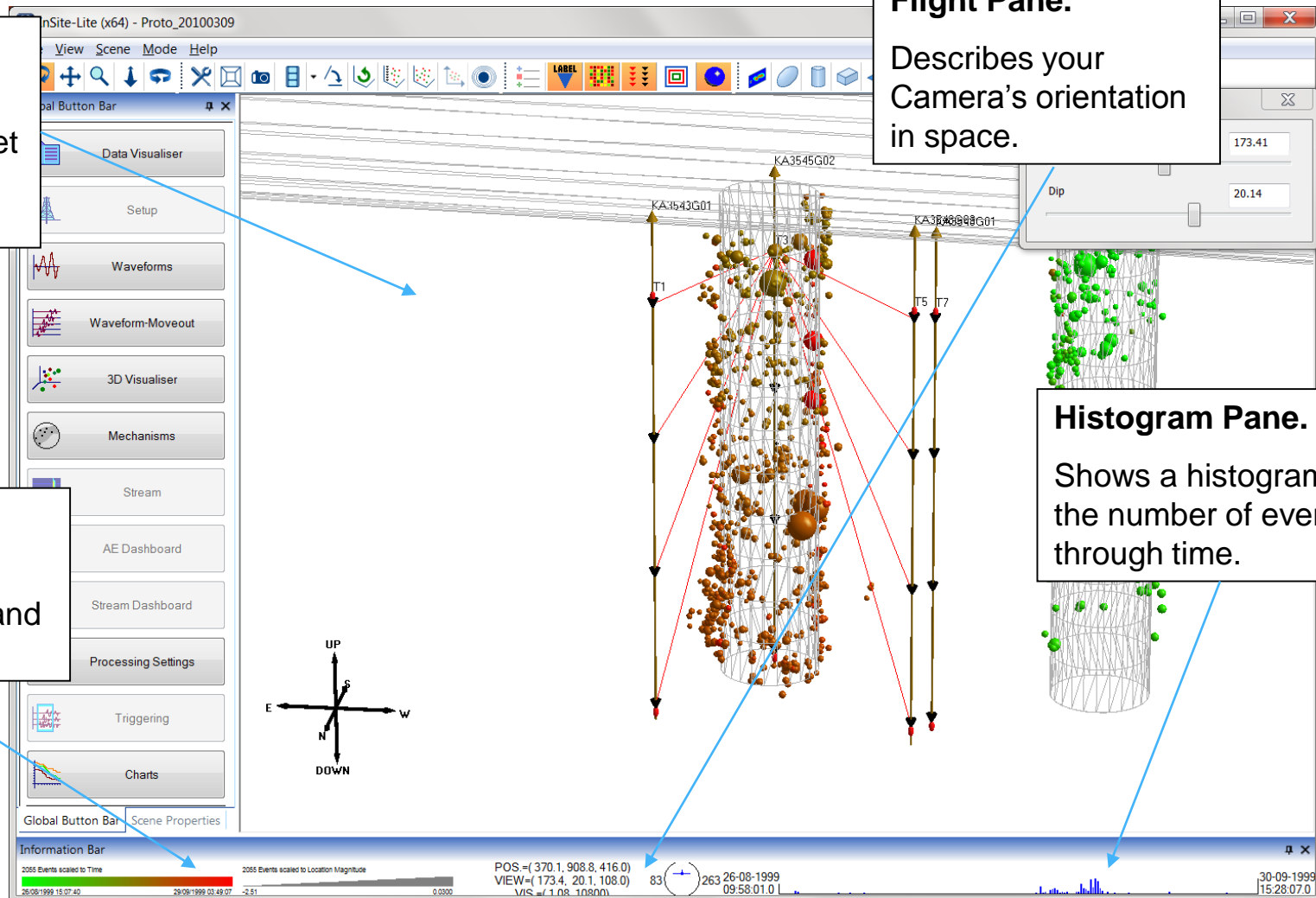
This shows the Selected colour and size scales.

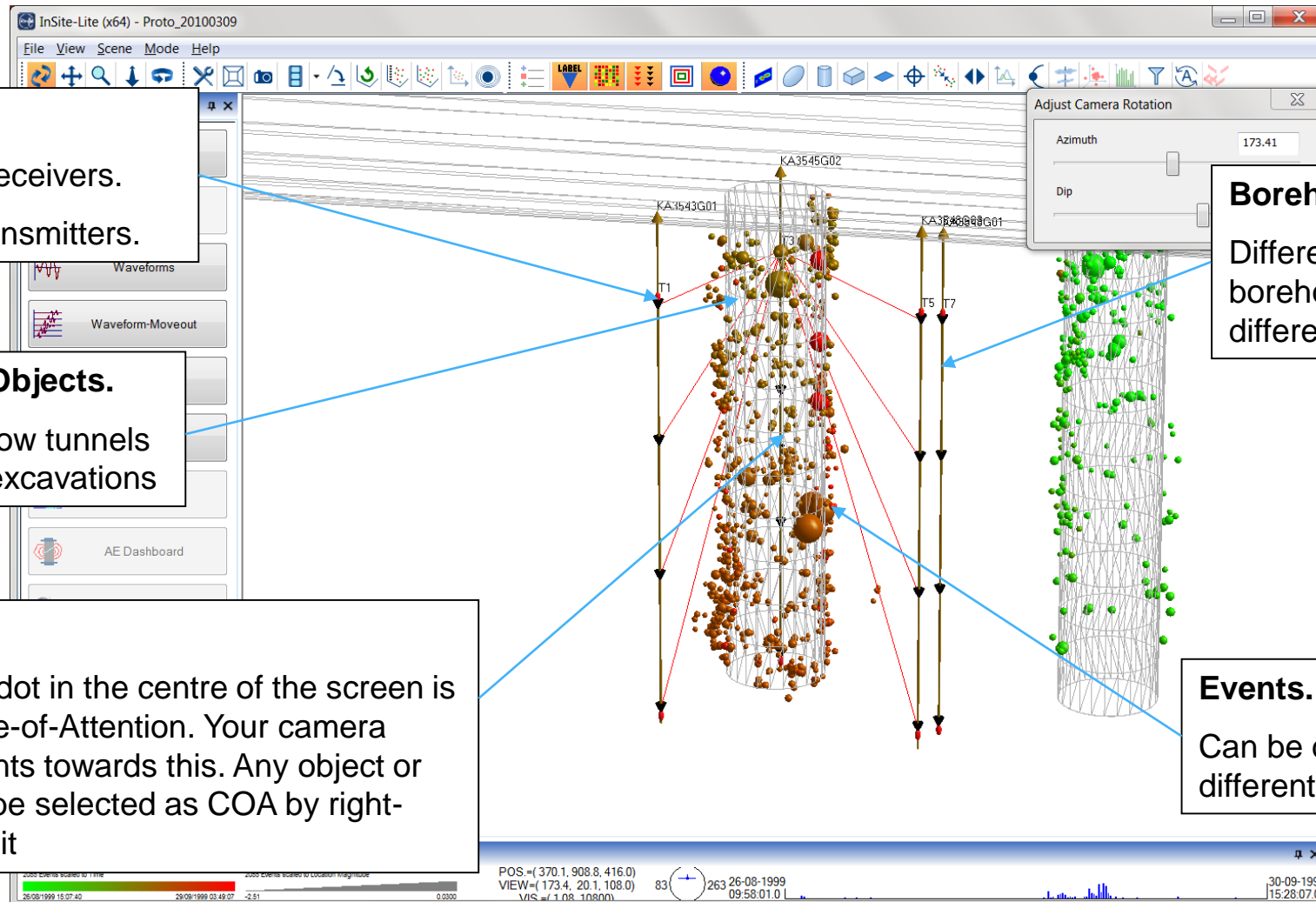
Flight Pane.

Describes your Camera's orientation in space.

Histogram Pane.

Shows a histogram of the number of events through time.





Sensors.

Black are receivers.
Red are transmitters.

Complex Objects.

Used to show tunnels
and other excavations

COA.

This black dot in the centre of the screen is your Centre-of-Attention. Your camera always points towards this. Any object or event can be selected as COA by right-clicking on it

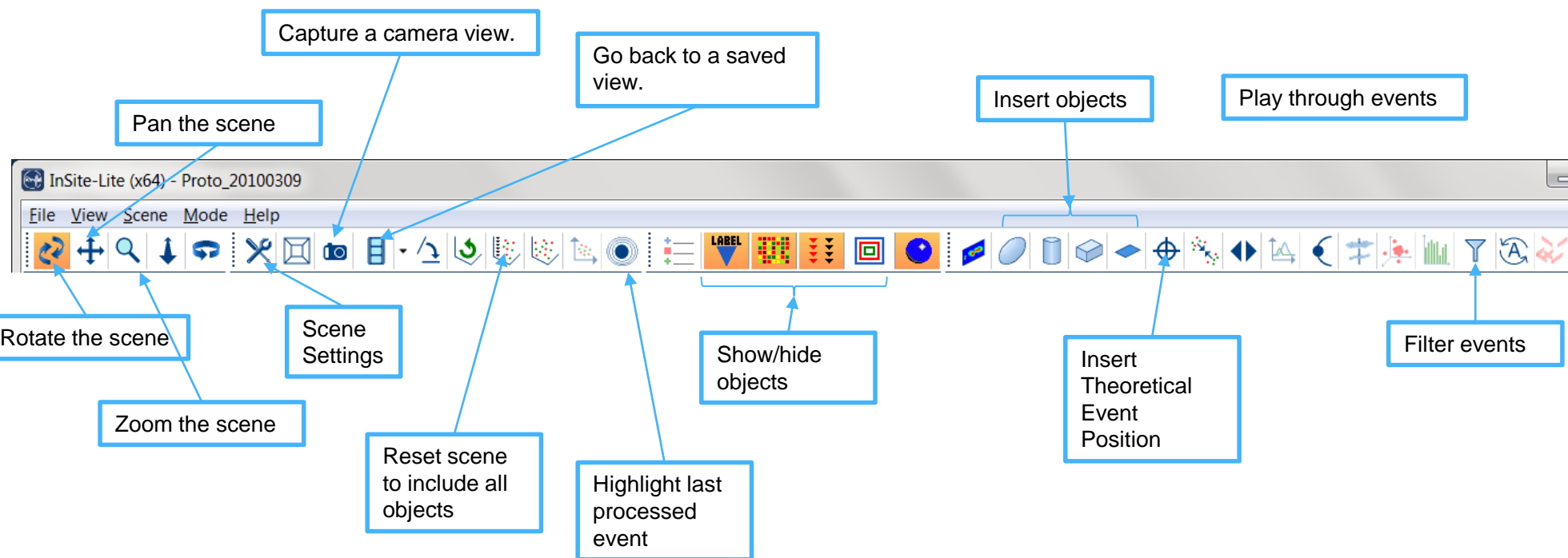
Boreholes.

Different types of boreholes are given different colours.

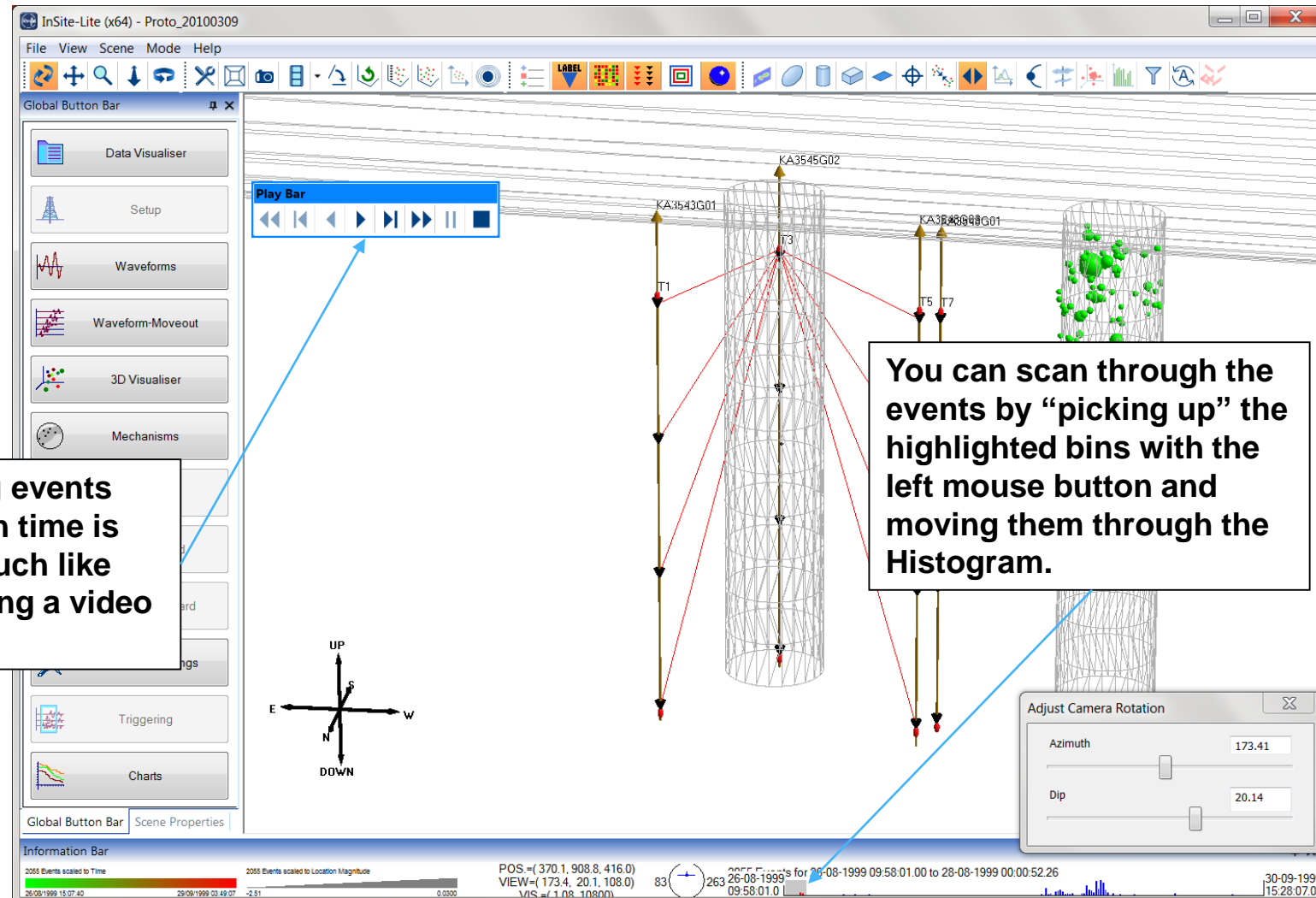
Events.

Can be displayed using different symbols.

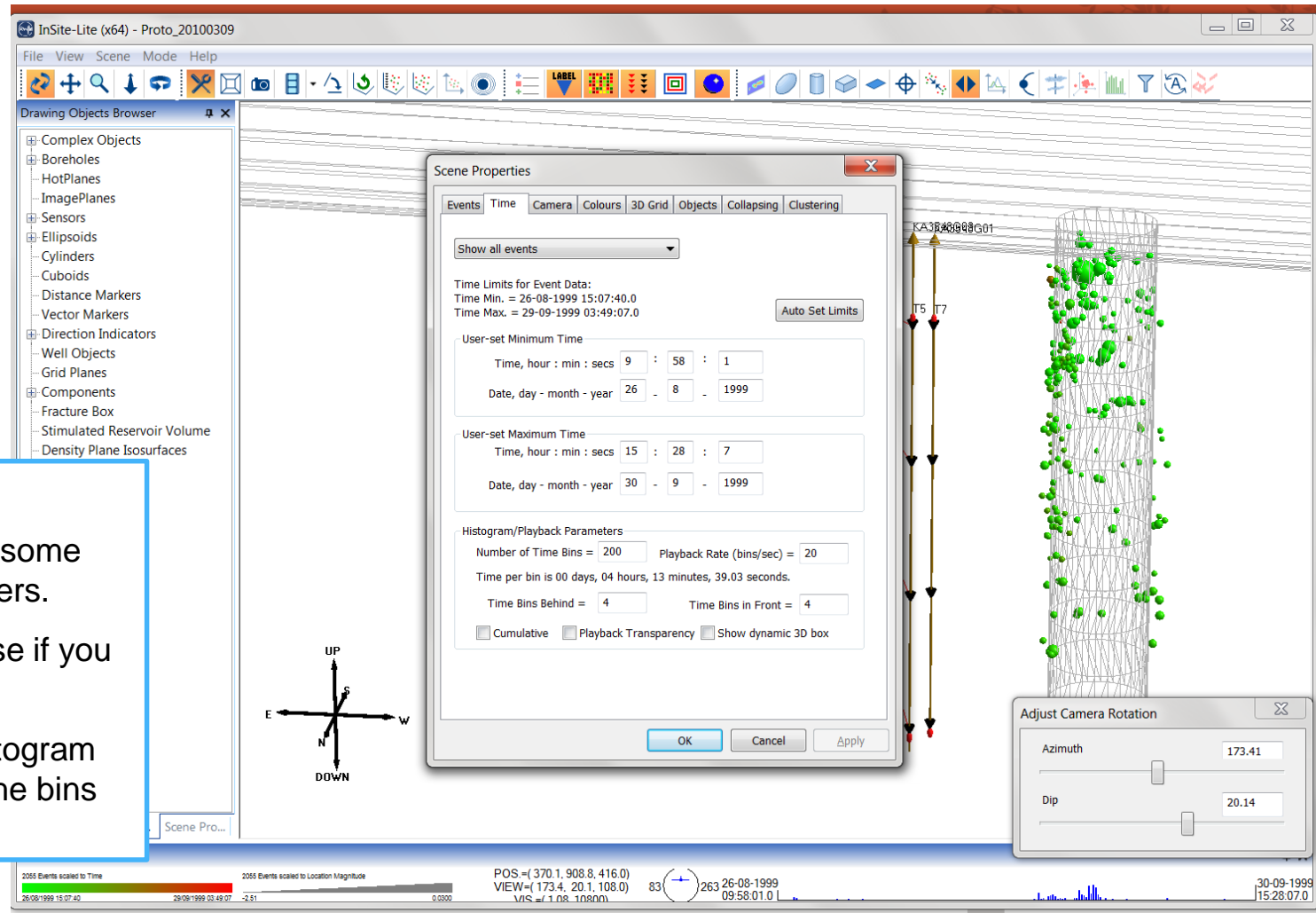
3D visualiser III: button bar



3D Visualiser IV: Playing events in time



3D Visualiser V: Scene properties



Scene Properties:

This allows you to set some configuration parameters.

Play with some of these if you like.

For example, your histogram functions depend on the bins set up here.

3D Visualiser VI: editing objects

