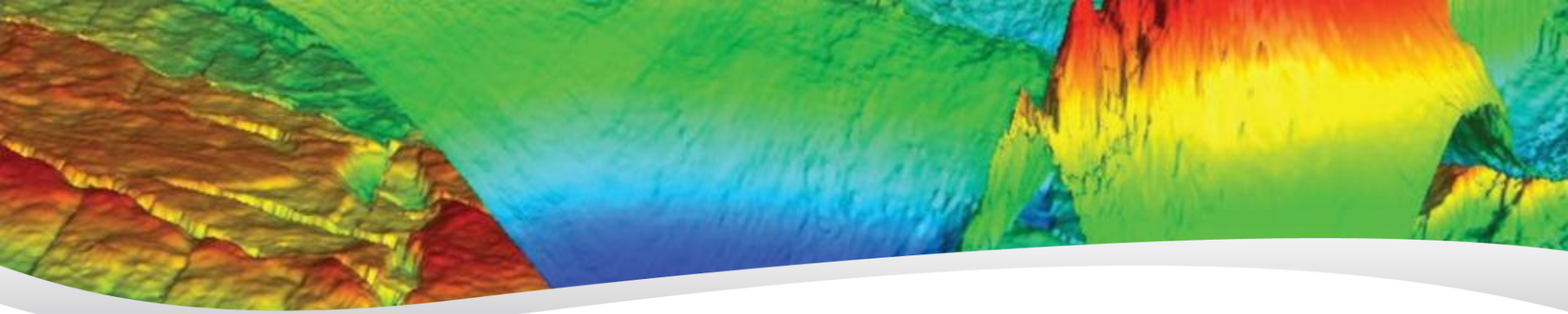

Tornado – script image capture

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Passion for Geoscience

Introduction

- Goal
  - Use a script (python) to capture images
  - Create images from different windows for the same data/location
- What is available
  - Data Selection
    - As a toggle list
      - Allow to capture a combination (i.e:seismic,attribute,well …)
  - Position
    - As a set of Inline/crossline
    - From well location
  - Output file settings
    - Path, image format, prefix ..
    - Naming
      - Select the tokens (i.e: SeismicName, AttrName, GridPosition …)
      - Order the tokens
  - Available Windows
    - Attribute profile
    - Main View
    - Gather (1D Tomo analysis)

Use case

Line/crosslines from main window

GUI

1. Open the Python scripting window
   - Tornado > Utils > Python Script…
2. Write the script
3. Setup the display of the main view
   1. Palette settings
   2. Zoom
   3. (display settings …)
4. Run the script

Aim

- Capture images for 2 combinations of seismic&attributes
  - Set A
    - Seismic1: xp_M_aa.fdm Attr
    - Attribute1: xp_M_a3.fdm
  - Set B
    - Seismic2: xp_M_a.fdm
    - Attribute2: xp_M_a2.fdm
- Capture inline and crosslines
  - Inline: 20200
  - Crossline from: 41284 to: 41684 with a step of 64
- Capture (just) the main window
- File
  - Image format: png
  - Path /tmp
  - Name:
    - Tokens (ordered) as : Prefix,SeismicName,AttrName,GridNum

Set the output images

- ######## Create the global parameters for the snapshot
- param = CaptureParameters()

- ######## File settings
- fileParameters = CaptureFileParameters()
- fileParameters.setPrefix(“xxxx")
- # Output directory
- fileParameters.setPath("/tmp")
- # Image format: png, jpg, png
- fileParameters.setFormat("png")
- fileParameters.setNaming(['Prefix','SeismicName','AttrName','GridNum'])

- ### Set the file parameter
- param.setFileParameters(fileParameters)

Data

- ### in this example the data are already loaded in tornado. Please see the reference documentation if you need to load the data.
- ####### Data to capture (as a toggle list)
- dataParam = CaptureDataParameters()
- # set seismic1 at toggle position 0
- seismic1=vision.getSeismic('xp_M_aa.fdm')
- dataParam.addSeismic(seismic1,**0**)
- # set seismic2 at toggle position 2
- seismic2=vision.getSeismic('xp_M_a.fdm')
- dataParam.addSeismic(seismic2,**1**)

- ## Add Attribute
- attribute1=vision.getAttribute('xp_M_a3.fdm')
- dataParam.addAttribute(attribute1,**0**)
- attribute2=vision.getAttribute('xp_M_a2.fdm')
- dataParam.addAttribute(attribute2,**1**)
- ## set the data parameters
- param.setDataParameters(dataParam)

Location

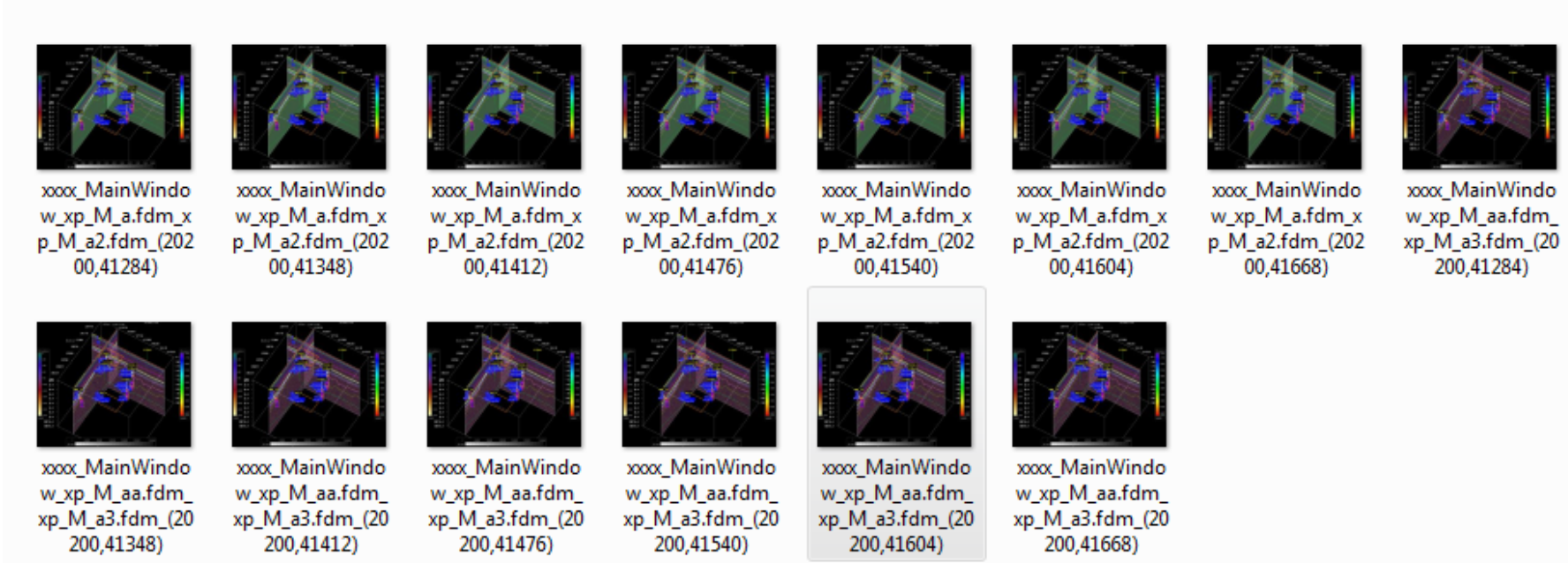
- # Location from IL,XL
- volLocation=VolumeLocation()
- volLocation.setIL(20200)
- volLocation.setXL(41284, 41684, 64)
- param.setLocations(volLocation)

Capture the main window

- # Capture the main window with the parameters
- captureImage(Window.MAIN_VIEW).capture(param)

Results

- 7 images (diff il/xl) for each couple seismic/attribute
- The file names
  - Prefix
  - Name of the window
  - SeismicName
  - AttrName
  - GridNum (il,xl)



Full Listing

```
from base import Volume
from vision import *
#######  Create the parameters
param = CaptureParameters()

#######  File settings
fileParameters = CaptureFileParameters()
fileParameters.setPrefix("xxxx")
# Output directory
fileParameters.setPath("/tmp")
# Image format: png, jpg, png
fileParameters.setFormat("png")
# Name of the file according to the data & position
fileParameters.setNaming(['Prefix','SeismicName','AttrName','GridNum'])
param.setFileParameters(fileParameters)

#######  Data to capture (as a toggle list)
dataParam = CaptureDataParameters()
### Add Seismic
seismic1=vision.getSeismic('xp_M_aa.fdm')
# set seismic1 at toggle position 0
dataParam.addSeismic(seismic1,0)
# set seismic1 at toggle position 1
seismic2=vision.getSeismic('xp_M_a.fdm')
dataParam.addSeismic(seismic2,1)

## Add Attribute
attribute1=vision.getAttribute('xp_M_a3.fdm')
dataParam.addAttribute(attribute1,0)

attribute2=vision.getAttribute('xp_M_a2.fdm')
dataParam.addAttribute(attribute2,1)

param.setDataParameters(dataParam)

#######  Location
# Location from IL,XL
volLocation=VolumeLocation()
volLocation.setIL(20200)
volLocation.setXL(41284, 41684, 64)
param.setLocations(volLocation)

# Main window
captureImage(Window.MAIN_VIEW).capture(param)
```

Use case

create image at each well position (Main View+Attribute Profile+Gather)

Aim

- Capture images for 2 combinations of seismic&attributes
  - Set A
    - Seismic1: xp_M_aa.fdm Attr
    - Attribute1: xp_M_a3.fdm
    - Gather:
  - Set B
    - Seismic2: xp_M_a.fdm
    - Attribute2: xp_M_a2.fdm
- Location
  - For each window move to the well position (gather, IL/XL …)
    - W1
    - GB_015_29_01_2_1_2_1
    - GB_015_29_01_2_1
- Capture windows (main window + Attr Profile + Gather)
- File
  - Image format: png
  - Path /tmp
  - Name:
    - Tokens (ordered) as : Prefix,SeismicName,AttrName,GridNum, GatherName,WellName

Set the output images

- ######## Create the global parameters for the snapshot
- param = CaptureParameters()
- ######## File settings
- fileParameters = CaptureFileParameters()
- fileParameters.setPrefix(“xxxx")
- # Output directory
- fileParameters.setPath("/tmp")
- # Image format: png, jpg, png
- fileParameters.setFormat("png")
- ## As we need to differentiate images add the well and gather names
- fileParameters.setNaming(['Prefix','WindowName','SeismicName','AttrName','GatherName','WellName','GridNum'])
- ### Set the file parameter
- param.setFileParameters(fileParameters)

Data

- ### in this example the data are already loaded in tornado. Please see the reference documentation if you need to load the data.
- ## (set the seismic and attribute as in the previous example)
- ### Add Gather
- gather1=vision.getGather('grd14g25_init4a.01')
- dataParam.addGather(gather1,**0**)
- #gather2=vision.getGather('TANGO!cgyv36b:c1075bay/grd14g25_shift2.01')
- gather2=vision.getGather('grd14g25_shift2.01')
- dataParam.addGather(gather2,**1**)

- param.setDataParameters(dataParam)

Location

- ## Now the location are defined from well
- # !!! This is the well IDs and not the well names
- wellList=['w1','GB_015_29_01_2_1_2_1','GB_015_29_01_2_1']
- wellLocation = WellLocation()
- wellLocation.addWell(wellList)
- param.setLocations(wellLocation)

Capture (main window + Attr Profile + Gather)

- # Capture the main window with the parameters
- captureImage(Window.MAIN_VIEW).capture(param)

- # Screenshot for Attribute Profile
- captureImage(Window.ATTR_PROFILE).capture(param)

- # Screenshot for Gathers
- param.getDisplayParameters().setPath('/tmp/gahterSettings.xml');
- captureImage(Window.GATHER).capture(param)

Full Listing

```
#######  Create the parameters
param = CaptureParameters()

#######  File settings
fileParameters = CaptureFileParameters()
fileParameters.setPrefix("zzzzz")
# Output directory
fileParameters.setPath("/tmp")
# Image format: png, jpg, png
fileParameters.setFormat("png")
# Name of the file according to the data & position
# Available parameters:  Prefix, Suffix, GridNum, BookmarkName, SeismicName,
#                        GatherName, WellName, AttrlName, WindowName
fileParameters.setNaming(['Prefix','WindowName','SeismicName','AttrName','GatherName','WellName','GridNum'])

param.setFileParameters(fileParameters)

#######  Data to capture (as a toggle list)
dataParam = CaptureDataParameters()

### Add Seismic
seismic1=vision.getSeismic('xp_M_aa.fdm')
# set seismic1 at toggle position 0
dataParam.addSeismic(seismic1,0)
# set seismic1 at toggle position 1
seismic2=vision.getSeismic('xp_M_a.fdm')
dataParam.addSeismic(seismic2,1)

attribute2=vision.getAttribute('xp_M_a2.fdm')
dataParam.addAttribute(attribute2,1)

#gather1=vision.getGather('grd14g25_init4a.01')
#gather1=vision.getGather('TANGO!cgyv36b:c1075bay/grd14g25_init4a.01')
### Add Gather
gather1=vision.getGather('grd14g25_init4a.01')
dataParam.addGather(gather1,0)
#gather2=vision.getGather('TANGO!cgyv36b:c1075bay/grd14g25_shift2.01')
gather2=vision.getGather('grd14g25_shift2.01')
dataParam.addGather(gather2,1)

param.setDataParameters(dataParam)

# Location from Well
# !!! This is the well IDs and not the well names
wellList=['w1','GB_015_29_01_2_1_2_1','GB_015_29_01_2_1']
wellLocation = WellLocation()
wellLocation.addWell(wellList)
param.setLocations(wellLocation)

# Screenshot for Attribute Profile
paramAP = CaptureParameters(param)
captureImage(Window.ATTR_PROFILE).capture(paramAP)

# Screenshot for Gathers
paramGA = param
paramGA.getDisplayParameters().setPath('/tmp/gahterSettings.xml');
```