IPG 2020/21 – Pyrenees VFT

Software Instructions

Due to the current travel restrictions we will be doing a Virtual Field Trip (VFT). The VFT will be run through LIME – a virtual outcrop software and GoogleEarth. You can either download these softwares and install them locally on your computer, or you can use your computer to log onto a machine in the University and run the trip over the VDI.

We appreciate that everyone would rather be in the Pyrenees, we would rather be in the Pyrenees! However, we are lucky enough to have worked there for years and consequently we have collected a lot of data which we can use to bring you a really good substitute. Much of what we will do it based around virtual outcrops that were collected with drones. If you want a quick overview of the technology, John recently gave a plenary talk at a conference. It's a useful introduction. It can be found here (the main part starts at 11 minutes in).

Local vs Remote Desktop (VDI)

The first decision is whether you want to run the software locally, from G15/16 in Meston (make sure you have access to LIME on these machines though) or whether you want to run it off the remote desk top (VDI) in the University. This decision will be based on the graphics capability of your computer and also the quality of your internet connect. To run locally you should have a computer running the 64bit Windows operating system. It will not work on macs. The software is graphics intense and we recommend a dedicated GPU for running the 3D graphics (e.g. NVIDIA Quadro series >2GB). Also >4GB RAM (recommended 16GB or more) is needed to load some of the larger 3D model data.

If you don't have access to computers with these spec then you will need to work on the VDI, which runs very well, but there can be slight lag depending on your internet speed. If you are working on your own computer then you need to Install the software (see following section).

Before you start…

1. You will need

- Laptop/Desktop
- Mouse
- Speaker (or ear/headphones) and microphone
- A second screen can help (e.g. computer monitor or tv) but not necessary
  (no student should buy an additional screen for this assessment)

2. Register for SAFARI

Regardless of whether you are working on your own computer or on the VDI, you will need to register for SAFARI.

SafariDB is a research project at UoA which collects and disseminates analogue data for oil companies. The site hosts several hundred virtual outcrops which you can view in SafariDB over the web or download to run on LIME.

1. To register go to https://safaridb.com/
2. Click on log in
3. Then register here
4. Select University of Aberdeen as your company
5. Then enter your name and email address.

Once you have registered you can explore the database. Click on Sponsor. On the next page there is about information which includes a series of short videos about how to use SAFARI. This is not necessary for the field course, but you might find it useful.

You will need your Safari log in when we run the VFT

3. Download © Google Earth Pro

If you are accessing © Google Earth Pro through the VDI it will be pre-installed, search or find it under 'G' in start bar. IT will also automatically open when .kmz files are selected.

If you wish to use directly on your own laptop/pc go to:
https://www.google.com/earth/versions/#download-pro and download the version compatible to your device.

4. LIME

If you are accessing LIME through the VDI it will be pre-installed, search or find it under 'L' in start bar. IT will also automatically open when .lime files are selected.

If you want to install the software and locally download LIME (30-day free trial) http://virtualoutcrop.com/lime/download and install it.

Using LIME

We are going to run part of this virtual fieldtrip (VFT) using specialist software called LIME. Don't panic - the following provides step-by step instructions on getting started.

Getting started on the VDI
1. Open a virtual desktop environment, to do this go to a web browsers and type vdi.abdn.ac.uk
2. Log in with blackboard/computer login
3. Click vClassroom

Once you have desktop up, open google and navigate to:
1. MyAberdeen ——>> Courses ——>> Professional Skills Incorporating International Field Trip ——>> Course Materials ——>> Pyrenees Virtual Field Trip ——>> Select the current day of field trip
2. Download zipped Lime file, save to our user space on the virtual machine (H:)
3. In H: drive unzip folder
4. Open unzipped folder and double click to launch the Lime file (additional folder labeled data, will also be present, ignore this folder)
5. If you get a dialogue box that says update invalid file paths, click Update and Load. This might take a few moments depending on how fast your internet is. Once the project is loaded you are ready to start work.
6. In some case we have used Google Streetview scenes – these will always come up as red links. In that case click continue and ignore the error messages. The link will look something like @37.4531601,-122.1214985,3a,75y,100t/data

No files should be red, if everything is red, ensure you have unzipped folder
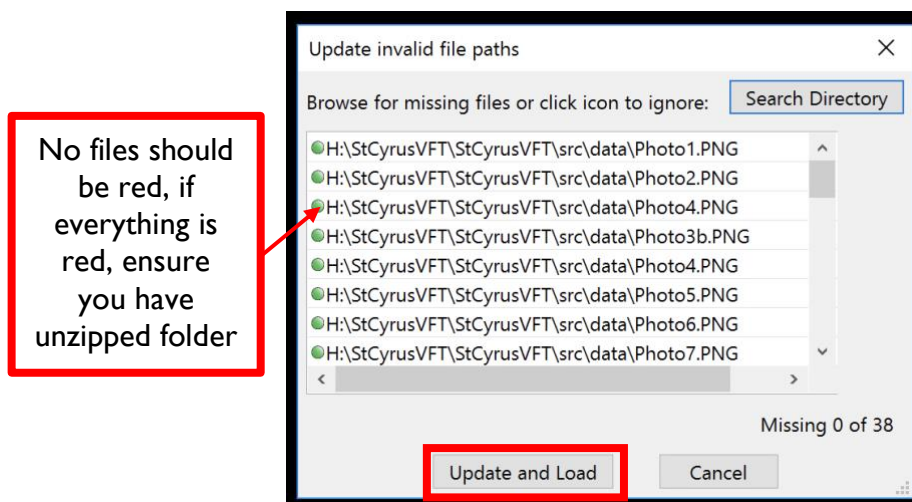
Getting started when running locally
1. Open google and navigate to: MyAberdeen ——>> Courses ——>> Professional Skills Incorporating International Field Trip ——>> Course Materials ——>> Pyrenees Virtual Field Trip ——>> Select the current day of field trip
1. Download zipped Lime file, save to our user space on to your computer
2. Unzip the folder
3. Open unzipped folder and double click to launch the Lime file (additional folder labeled data, will also be present, ignore this folder)

4. If you get a dialogue box that says update invalid file paths, click Update and Load. This might take a few moments depending on how fast your internet is. Once the project is loaded you are ready to start work.
5. In some case we have used Google Streetview scenes – these will always come up as red links. In that case click continue and ignore the error messages. The link will look something like @37.4531601,-122.1214985,3a,75y,100t/data
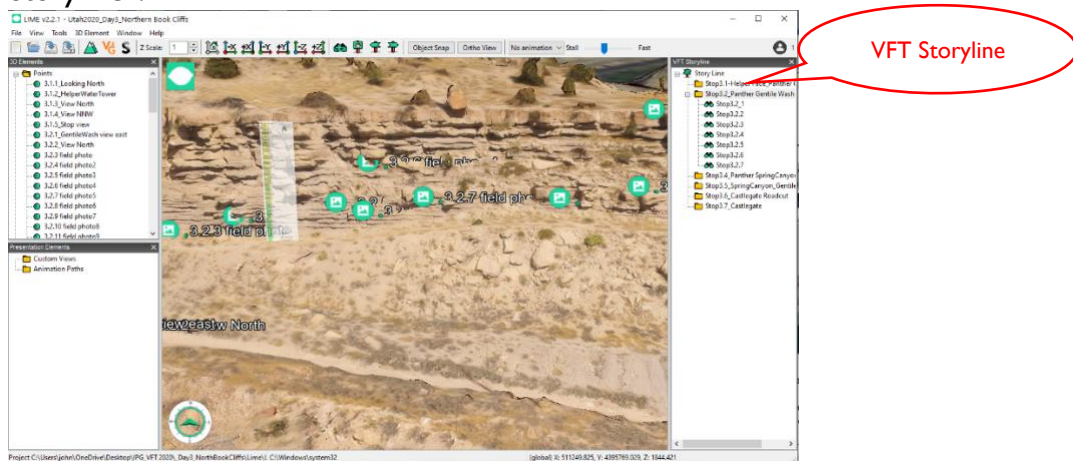
In the LIME Virtual Fieldtrip - Outcrop example for 1 and 3 found at Helper: Panther Tongue Mbr, VOG Group, https://v3geo.com/model/42

1. The main navigation tool is the menu on the right side of the screen called "VFT Storyline".

2. In the VFT Storyline there is a series of folders for each of the Stops of the day. Click on the + to expand a folder
3. Double click on the first "scene" on the list, this will bring up various elements within the view. Explore the view and open the various green points (Left Mouse +Alt).
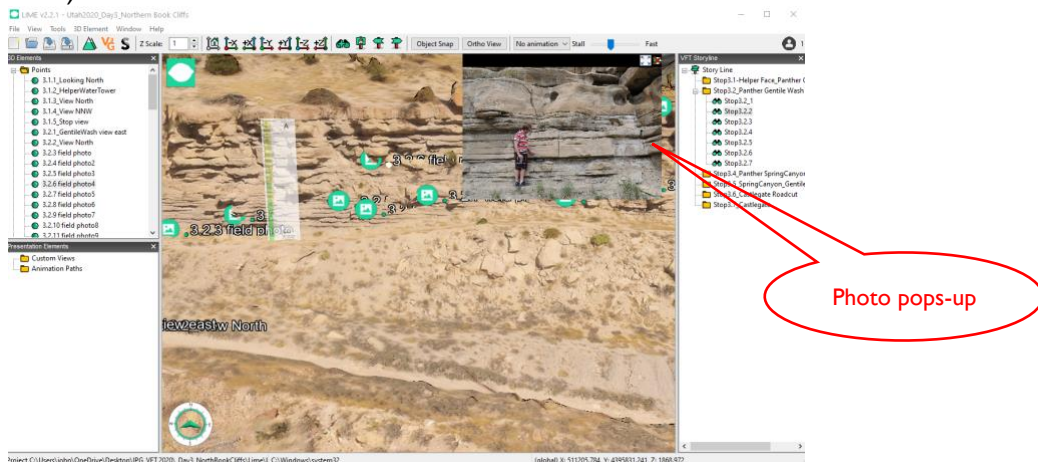
4. This brings up a photo (or streetview or gigapan etc). Explore this and then click on the top right of the pop up window to close. Note you need to close one, before you can open the next.
5. The VFT Storyline is designed to take you through the exercise. Work your way down the list, following the instructions and doing the exercises. You can break-

away and explore the models at any point. This is best done once the 3D model is loaded. The system is getting the model from the cloud, so it sometimes takes a few seconds to load to full resolution. You can get back to any point by clicking in the Storyline

Navigation/tool	Windows		Mac
Rotate Model	Left Mouse		Same
Move View Laterally	Middle Mouse	Left and Right mouse together	No option with apple mouse, or same with other brand mouse.
Specific *Move/Set Rotation Point*	Double click (left mouse)		Same
Zoom in and out	Right Mouse		Same
Open point attachment (e.g. photo)	Alt+left		Option+left
Close point attachment (e.g. photo)	[x] top right of photo		Same
To measure a distance between 2 points on the model	Ctrl L and then shift click on the two points. The box will give the true distance and the vertical distance between the points		Same
To measure a strike and dip	Ctrl T and then shift click on the three points. This will give a small plane and a dialogue box with strike and dip info		Same

Using © Google Earth Pro

We are going to run part of this virtual fieldtrip (VFT) using © Google Earth Pro. It is installed on the University Machines and you are going to run it through a remote desktop (VDI) or locally on your own pc if you have decided to do so.

Getting started in VDI
1. Open a virtual desktop environment, to do this go to a web browsers and type vdi.abdn.ac.uk
2. Log in with blackboard login
3. Click virtual Classroom

Once you have desktop up, open google and navigate to:
7. MyAberdeen ——>> Courses ——>> Professional Skills Incorporating International Field Trip ——>> Course Materials ——>> Pyrenees Virtual Field Trip ——>> Select the current day of field trip
8. Download the kmz. file, save to our user space on the virtual machine (H:)
9. Double click the kmz. File to launch google earth
10. Each element may take a moment to load, you will see two grey arrows, this may take a few seconds. No red [x] should appear.

Getting started when running locally
1. Open google and navigate to: MyAberdeen ——>> Courses ——>> Professional Skills Incorporating International Field Trip ——>> Course Materials ——>> Pyrenees Virtual Field Trip ——>> Select the current day of field trip
6. Download the kmz. file, save to our computer
7. Double click the kmz. File to launch google earth
8. Each element may take a moment to load, you will see two grey arrows, this may take a few seconds. No red [x] should appear.

Supplement 2

Models on V3Geo.com

Utah

https://v3geo.com/model/98	Arches Road Cut
https://v3geo.com/model/96	Argyll Lake
https://v3geo.com/model/100	Argyll Ridge
https://v3geo.com/model/101	Beckwith Plateau
https://v3geo.com/model/8	Blaze Canyon
https://v3geo.com/model/97	Blue Castle Canyon
https://v3geo.com/model/89	Bullfrog
https://v3geo.com/model/88	Cainville Wash
https://v3geo.com/model/86	Castlegate
https://v3geo.com/model/85	Castlegate Road Cut
https://v3geo.com/model/110	Cathedral Valley
https://v3geo.com/model/111	Courthouse Wash
https://v3geo.com/model/79	Haddon Holes
https://v3geo.com/model/78	Hatch Mesa
https://v3geo.com/model/42	Panther Tongue
https://v3geo.com/model/109	Henry Mtn Sill
https://v3geo.com/model/52	Ivie Creek
https://v3geo.com/model/102	Shiurup
https://v3geo.com/model/9	Thompson
https://v3geo.com/model/28	Woodside Canyon
https://v3geo.com/model/21	Woodside Channel

Spain

https://v3geo.com/model/14	Aguero
https://v3geo.com/model/1	Ainsa
https://v3geo.com/model/30	Ainsa2
https://v3geo.com/model/17	Serrata
https://v3geo.com/model/22	Bolea
https://v3geo.com/model/12	Cinca Canal
https://v3geo.com/model/26	Lascorz
https://v3geo.com/model/2	Riglos

Supplement 3

Example Questionnaire

		YES	NO
I	**confirm that I have read and understood the above statement**		

II	Gender	
III	Nationality	

All the following questions are rated 1-5 (one disagree, five agree)

Learning Outcomes

1	I feel like I have learnt new things during the course of this VFT
2	I have a better understanding of exploration process
3	I have a better understanding of the process involved in field development
4	I have improved my understanding of extensional tectonics
5	I understand depositional systems in arid rift basins
6	I am familiar with different types of shallow marine systems and why it is important
7	Sequence stratigraphy is no longer a total mystery to me
8	I understand the DFS concept and its implications to exploration and production
9	I have a better understanding of the impact of igneous rocks in basins
10	I have a better salt tectonics and the impact of halokinetics on sedimentation
11	I feel like I learnt things that I would not have learnt on normal trip

Tell us what else you have learnt and what you feel we have missed

Trip Timing and delivery

We had a choice between running the trip in a fixed time slot (as we did) or just making the material available and letting you work through it in your own time. This was a trade off between convenince and you working in teams and getting feedback

12	I liked having the fieldtrip at a fixed time, like on a conventional trip
13	Team work was really important
14	I would liked more flexibility with the delivery times
15	I really valued the sessions where we discussed with the tutors
16	The demonstrators were useful?
17	There should have been more demonstrators/staff
18	Having groups was better than working alone
19	I agree with how the groups were allocated each day

Any other comments on the timing and delivery

IT and delivery Mechanisms

We used a variety of technologies to deliver the VFT which were designed to allow students in a wide variety of locations with different computer and internet capacity to join the trip. We would like to understand what worked and what didn't.

20	Did you work on your own computer or via the VDI?
21	What is you average internet speed? (use www.speedtest.net)

22	PC or Mac

23	Overall the IT solution worked for me
24	I was able to download the material without problems

Any other comments on the IT set up

Software and content

During the course of this trip we have used three main softwares, Lime, GoogleEarth and Blackboard. We used a range of technologies to deliver the VFT which were designed to allow students in a wide variety of locations with different computer and internet capacity to join the trip. We would like to understand what worked and what didn't.

25	Training in Lime and/or GoogleEarth should be given before the trip (would mean an extra day)
26	I understand how to use GoogleEarth for geology
27	Lime is a good tool for VFTs
28	Once I got the hang of it, I enjoyed using Lime
29	I am surprised at how much you can do with GoogleEarth
30	Blackboard worked well for distributing the material
31	The fieldguide was a great resource with lots of useful info.

Any other comments on the software. Suggestions for improvements to Lime are especially welcome as that will help us improve the software for the future

The Individual Days

Days 1 and 2 Rift basins and exploration

32	I learnt a lot from these days
33	I enjoyed these days
34	The exercise worked well

Days 3-5 Shallow marine systems and sequence stratigraphy

35	I learnt a lot from these days
36	I enjoyed these days
37	The production exercise worked well

Days 6 Transgressive systems

38	I learnt a lot from this day
39	I enjoyed this day

Day 7 Fluvial systems

40	I learnt a lot from this day
41	I enjoyed this day

Days 8 Igneous systems in a petroleum context

42	I learnt a lot from this day
43	I enjoyed this day

Days 9-10 Canyonlands and Salt related systems

44	I learnt a lot from these days
45	I enjoyed these days
46	The salt basin exploration exercise worked well

Day 11 Structure

47	I learnt a lot from this day
48	I enjoyed this day

Use this space for any additional comments about specific days

And Finally

Thanks for bearing with us. We have enjoyed the trip and have been very impressed by your enthusiasm and efforts!

49	I think virtual fieldtrips are actually better than real ones
50	I'd rather be in Utah

Is there anything else you would like to comment on?