

V3Geo

A cloud-based platform for sharing virtual 3D models in geoscience

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The image displays the V3Geo web application interface. On the left, a banner for 'Virtual 3D Geoscience' features a 'FIND MODELS' button. The central panel, titled 'Find a 3D Model', includes a search bar, a category filter (listing 160 Clastic Sedimentology models, 34 Carbonate and Evaporite Sedimentology models, etc.), and a world map with numbered markers. Below the map is a table of model entries:

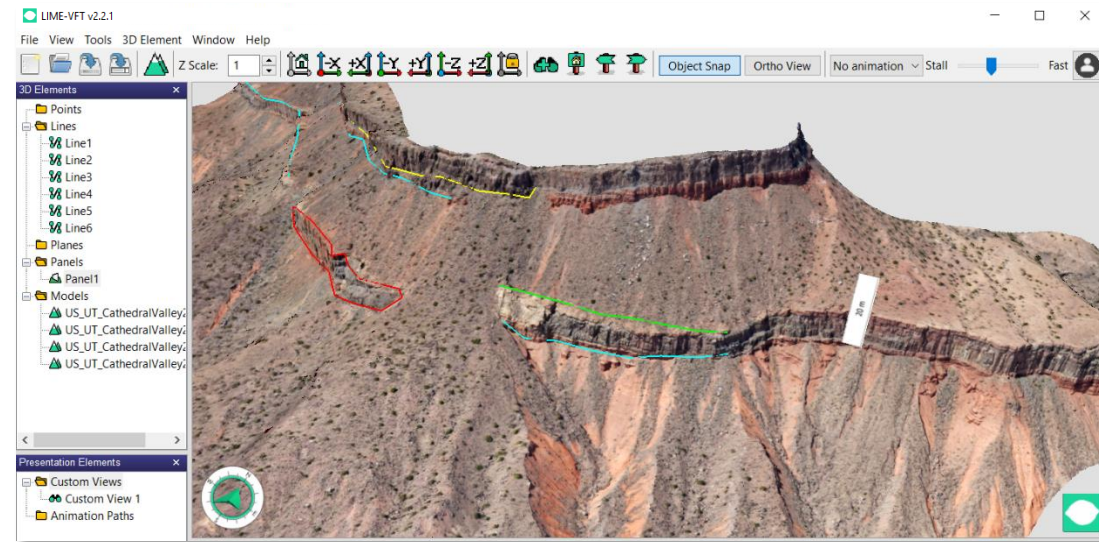
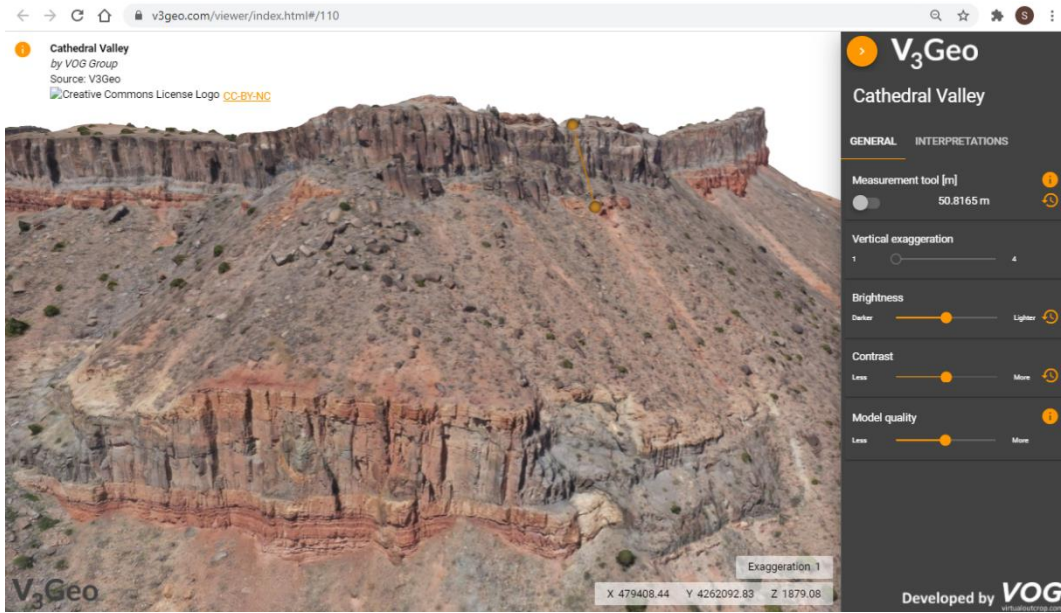
NAME	COUNTRY	AUTHOR	LICENSE
Agüero Gorge	Spain	VOG Group	CC BY-NC
Aínsa Quarry	Spain	VOG Group	CC BY-NC
Aínsa Quarry (2013)	Spain	VOG Group	CC BY-NC
Aínsa Quarry (Quaternary)	Spain	VOG Group	CC BY-NC

On the right, a 3D model viewer shows a detailed view of a rock outcrop. The control panel on the far right allows for adjustments: 'Measurement tool [m]' (0 m), 'Vertical exaggeration' (1 to 4), 'Brightness' (Dark to Light), 'Contrast' (Less to More), and 'Model quality' (Less to More). The viewer shows coordinates (X 482631.83, Y 8714831.70, Z 769.94) and 'Exaggeration 1'. The interface is developed by VOG (virtualoutcrop.com).

<https://v3geo.com>

- A purpose-built public repository for virtual 3D models in geoscience (acquired e.g. by photogrammetry/lidar)
 - Scientific and professional usage – themed to geology and geoscience
 - Database standard with search tools for finding data (with metadata)
- Aim to facilitate teaching, sharing and publication, avoid duplication of acquisition & processing effort
 - Used worldwide to complement field teaching during the COVID-19 pandemic and beyond
- 3D web viewer for exploring massive 3D models in the browser (*hand sample to outcrops 10s kms in size*)

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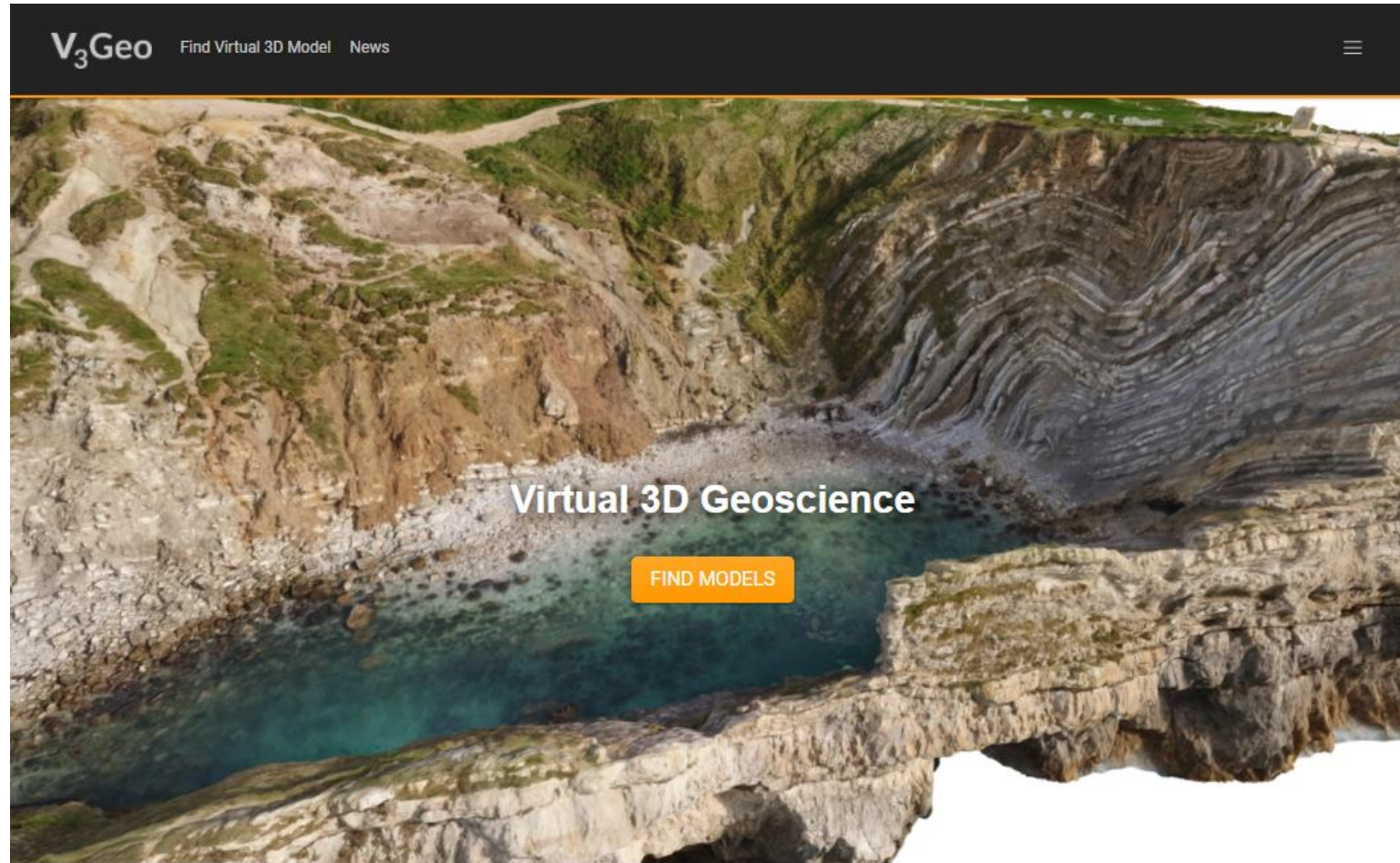


<http://virtualoutcrop.com/lime>

- Models are subject to technical quality control before publication (*“technical review”*)
 - Available under Creative Commons licences
- Public API and user space work in progress – *V2 coming soon*
- LIME software allows loading of V3Geo models from the cloud:
 - Add measurements, interpretations and creation of virtual field trips
 - Can be used for course exercises based on virtual field datasets

<https://v3geo.com>

Contact us to contribute your 3D models



<https://v3geo.com>

Dr Simon Buckley (simon.buckley@norce-research.no)

Contributions (contact@virtualoutcrop.com)

Publish your virtual geoscience teaching resources, virtual field trips and more

Making a virtual field trip or other teaching resource takes time. That's time you could have spent writing papers. Fortunately, you can still get credit and recognition for that time by publishing your work! Another benefit is that your work will be peer-reviewed, enhancing its quality. You can (and should) submit your work to an open joint SI:

Solid Earth/Geoscience Communication

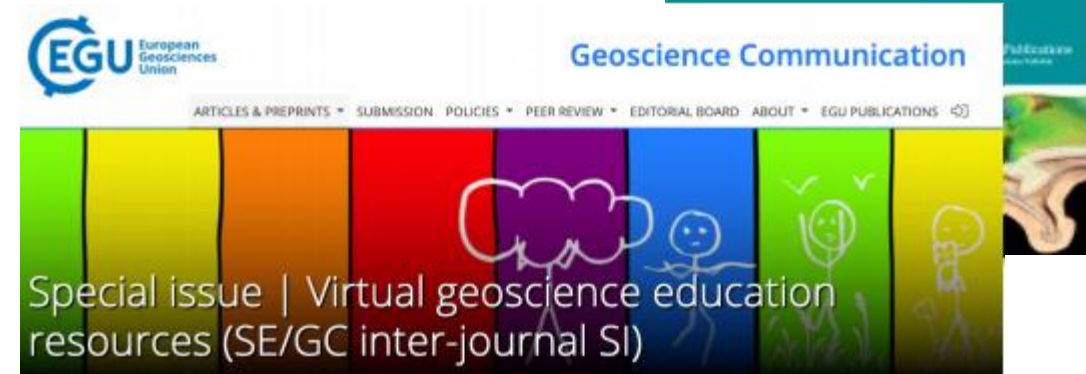
https://se.copernicus.org/articles/special_issue1145.html

We invite contributions that describe, discuss, and evaluate aspects of virtual field experiences, trips, and exercises, including but not limited to:

- Intended learning outcomes,
- Methods employed in exercise design and construction,
- Outreach and communication with wider society,
- How the field excursion enhances relevant previous research on the topic or location.

Supplementary material encouraged, e.g.

- Photographs, movies, links to materials, Google Earth KMZs, V3Geo models...



Editors: Virginia Toy, Marlene Villeneuve, Simon J. Buckley, Steven Whitmeyer, Susanne Buiter