

OL3-Cesium: 3D for OpenLayers

Guillaume Beraudo

FOSS4G Bonn, August 26th 2016



About me

- ▶ Senior software engineer at Camptocamp
- ▶ OL3-Cesium main developer and release manager
- ▶ OpenLayers 3 and Cesium contributor
- ▶ On github: [@gberaudo](#)

Agenda

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- ▶ OL3-Cesium

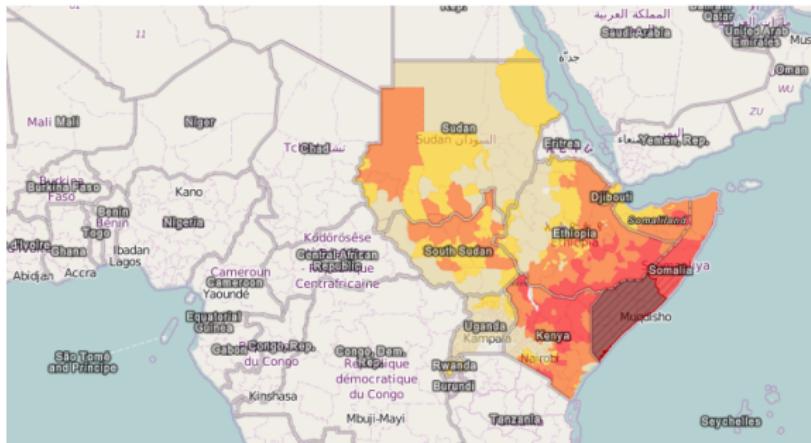
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- ▶ OpenLayers 3
- ▶ Cesium
- ▶ OL3-Cesium
- ▶ Now is prime time - showcases

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- ▶ Now is prime time - showcases
- ▶ Future

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- ▶ WebGL, custom optimized renderer

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- ▶ Raster on steep terrain
- ▶ Large datasets: trees, planes, bridges, buildings ([3D-tiles](#))
- ▶ Needs (lots of) CPU, GPU, bandwidth

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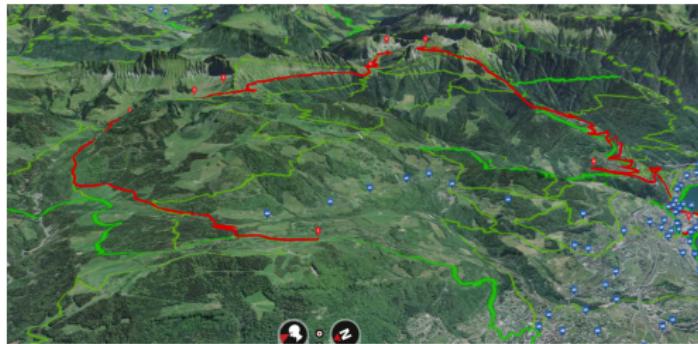
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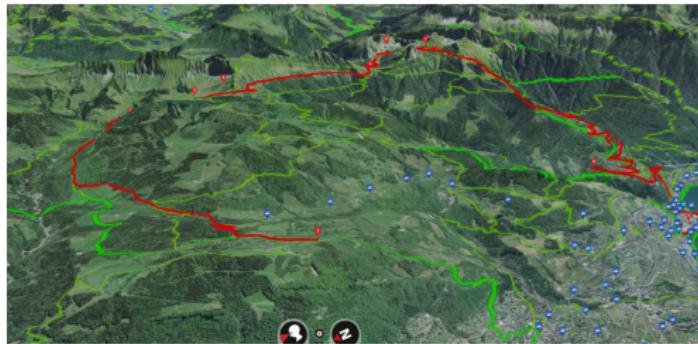
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- ▶ In a nutshell **it makes a great application awesome**

OL3-Cesium - Ready for prime time



SchweizMobil - outdoor application

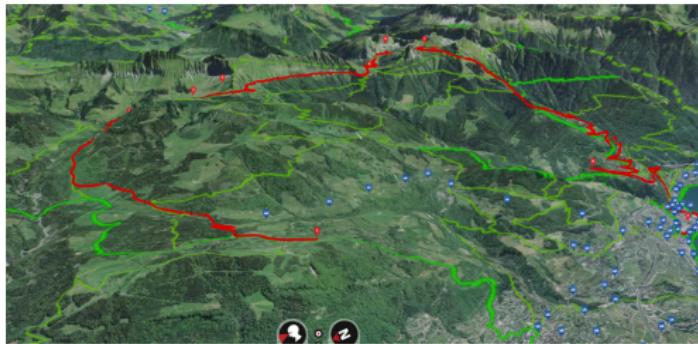
OL3-Cesium - Ready for prime time



SchweizMobil - outdoor application

- ▶ Custom 3D terrain - different projections

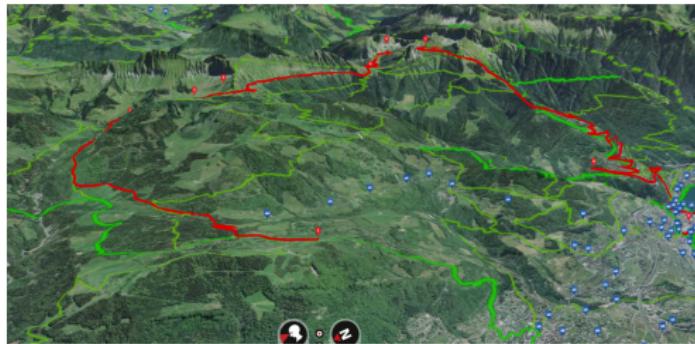
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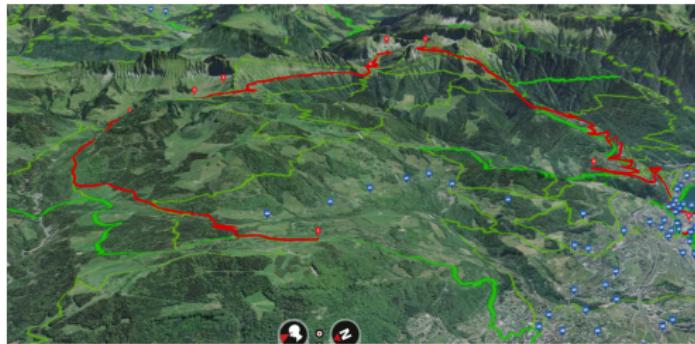
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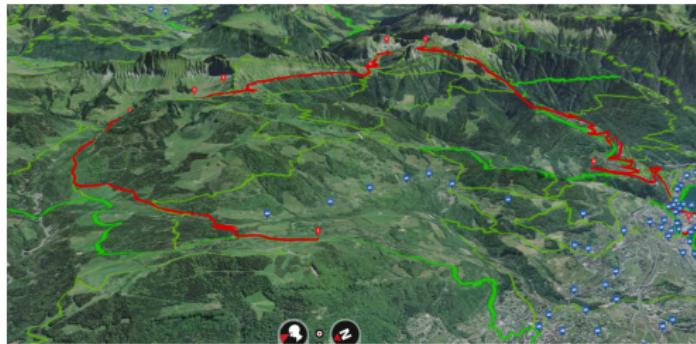
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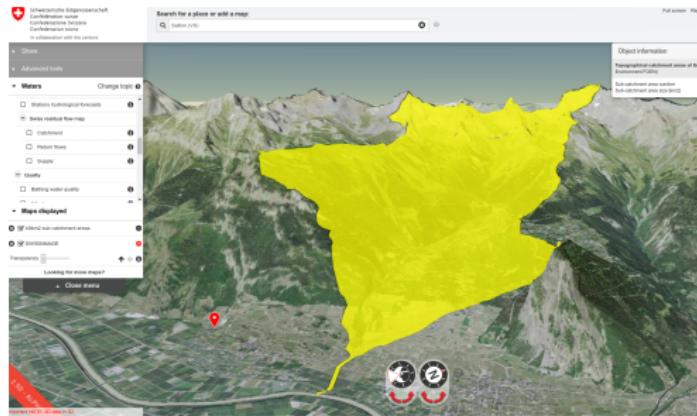
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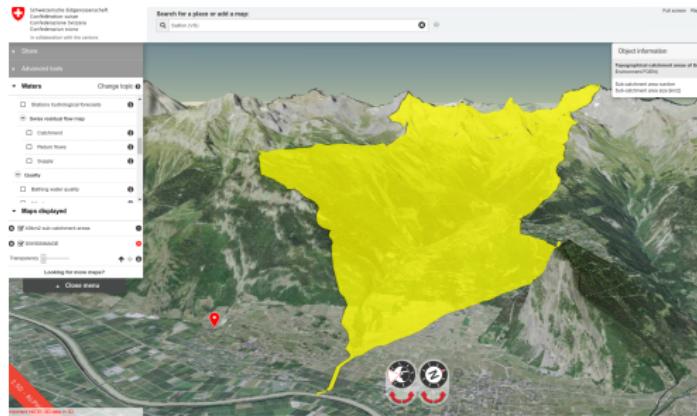
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- ▶ CPU/GPU resource saving by stopping the render loop
- ▶ Workaround for lines on terrain

OL3-Cesium - Ready for prime time



Geoadmin - Swiss geoportal

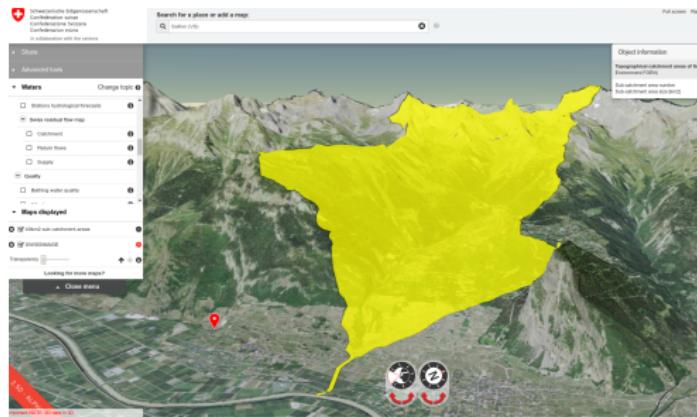
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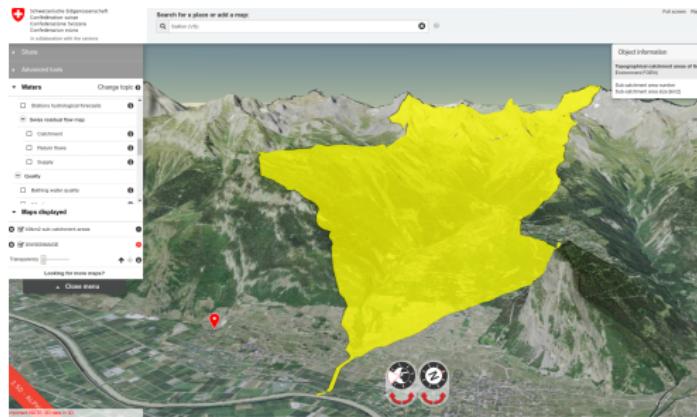
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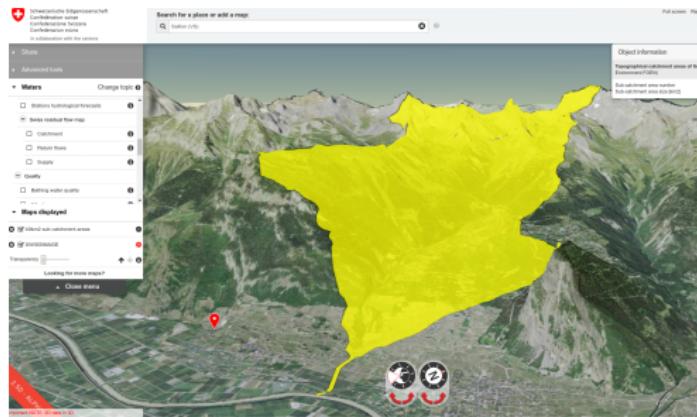
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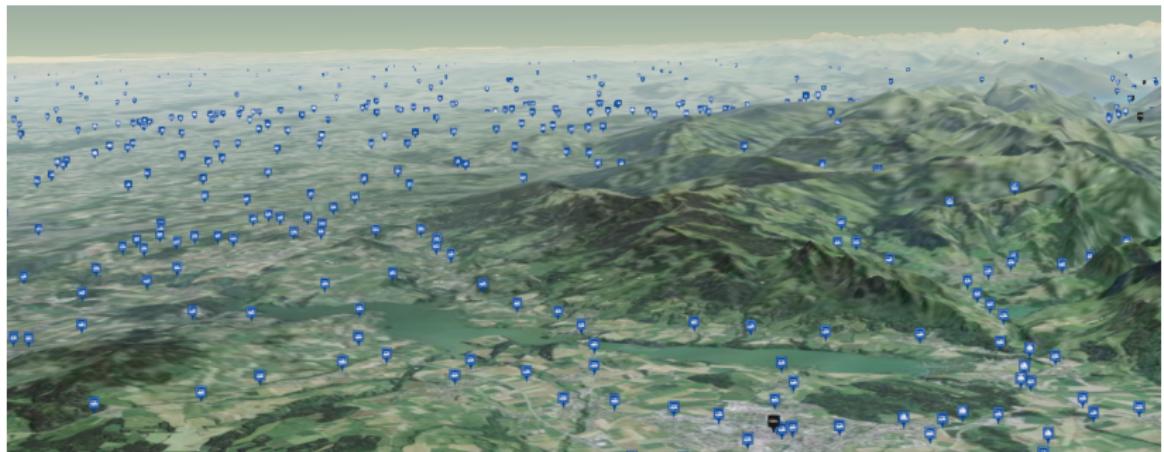
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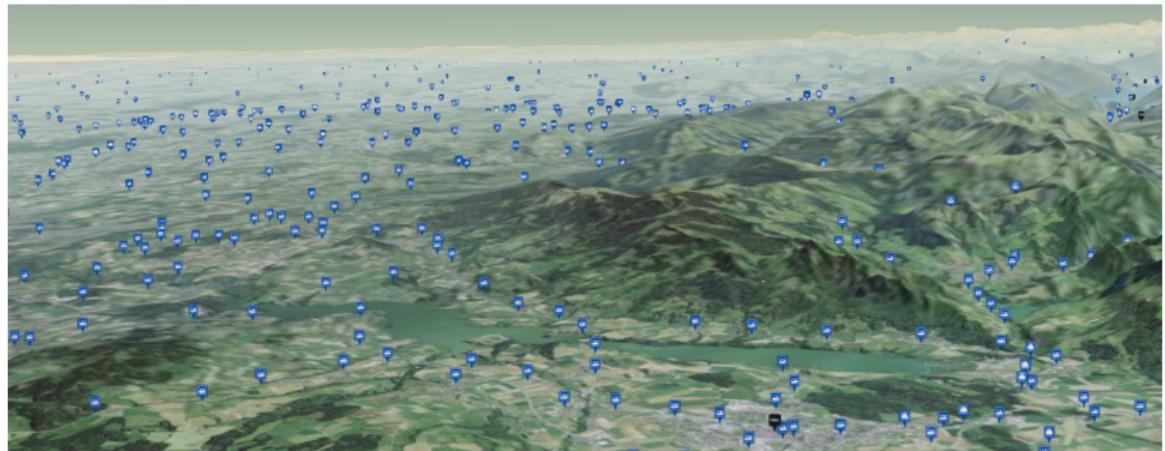
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- ▶ New points of views

OL3-Cesium - quality / bandwidth

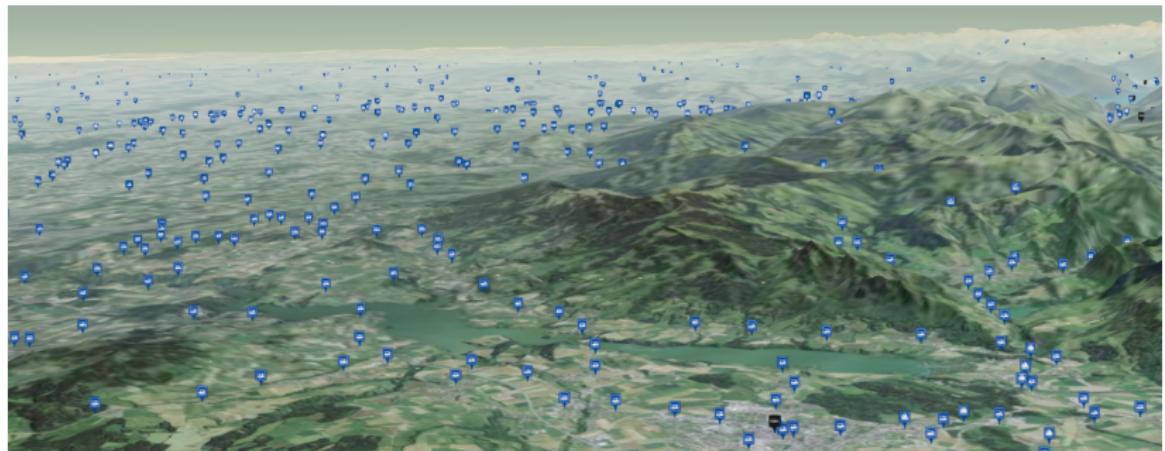


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- ▶ **Vector clustering:** top quality, some geojsons instead of millions of raster tiles

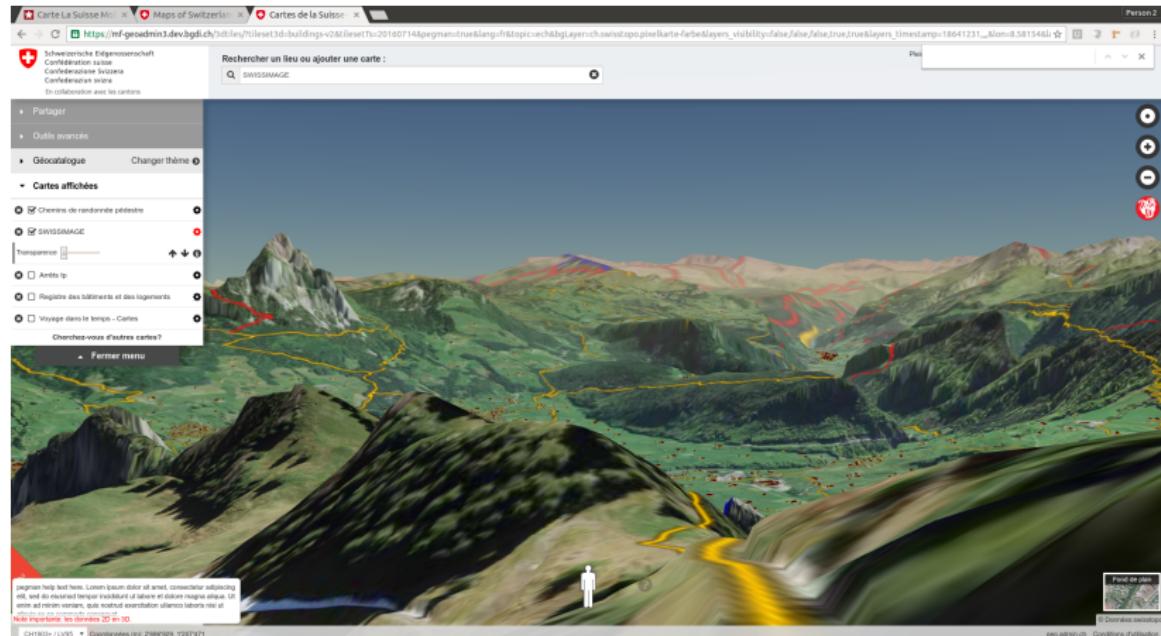
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- ▶ **Fog:** reduce details according to distance from the camera

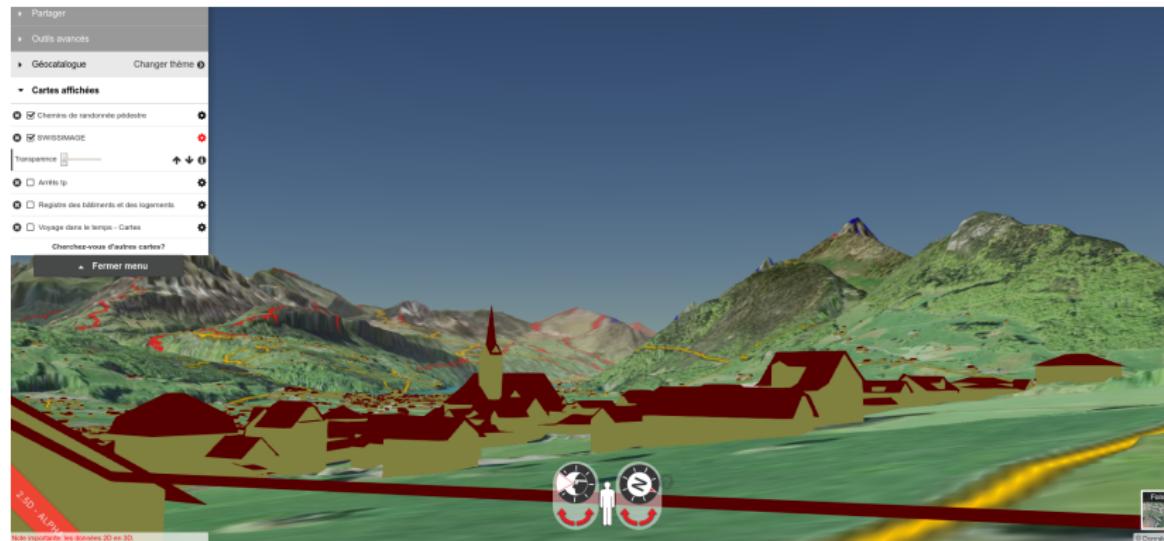
OL3-Cesium - Immersive views

View from a mountain trail



OL3-Cesium - Immersive views

View through a window



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- ▶ Integrate 3D vector clustering
- ▶ Client side raster reprojection
- ▶ Official extruded polygons support

Questions?

The screenshot shows a GitHub repository page for 'openlayers / ol3-ceesium'. The repository has 815 commits, 5 branches, 20 releases, and 14 contributors. The latest commit was made a day ago. There are buttons for creating new files, uploading files, finding files, and cloning or downloading the repository. A pull request from gberaudo is listed, merging pull request #383 from openlayers/update_externs.

openlayers / ol3-ceesium

Code Issues 59 Pull requests 2 Wiki Pulse Graphs Settings

Unwatch - 55 Star 133 Fork 49

OpenLayers - Cesium integration <http://openlayers.org/ol3-ceesium/> — Edit

815 commits 5 branches 20 releases 14 contributors

Branch: master New pull request Create new file Upload files Find file Clone or download

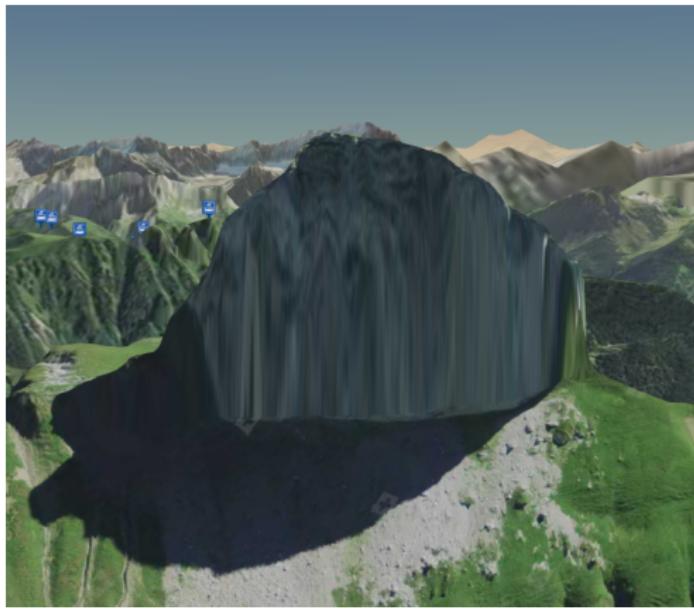
gberaudo committed on GitHub Merge pull request #383 from openlayers/update_externs ... Latest commit faada2d a day ago

build Port to OL 3.17.1 (typedefs, renamed symbols) a month ago

cesium @ 9b20bee Port to Cesium 1.24 11 days ago

- ▶ Thank you for listening
- ▶ Danke - Questions?

Future: 3D imagery

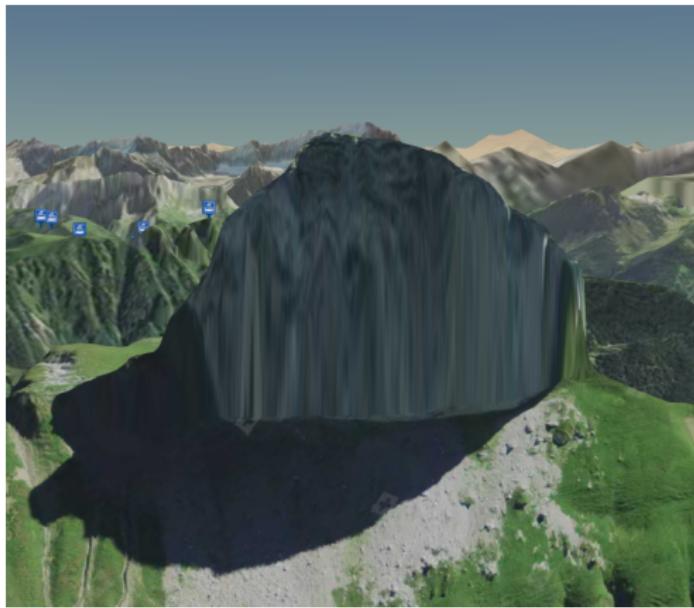


Future: 3D imagery



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- ▶ We need multi-view capture of imagery (not just top-down)

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