

# State of TerriaJS

Nick Forbes-Smith | FOSS4G 2022 Firenze

Australia's National Science Agency





# Australia's national science agency



One of the world's largest multidisciplinary science and technology organisations



5,200+ dedicated people working across 58 sites globally



State-of-the-art national research infrastructure



We delivered \$7.6 billion of benefit to the nation in FY21



# TerriaJS

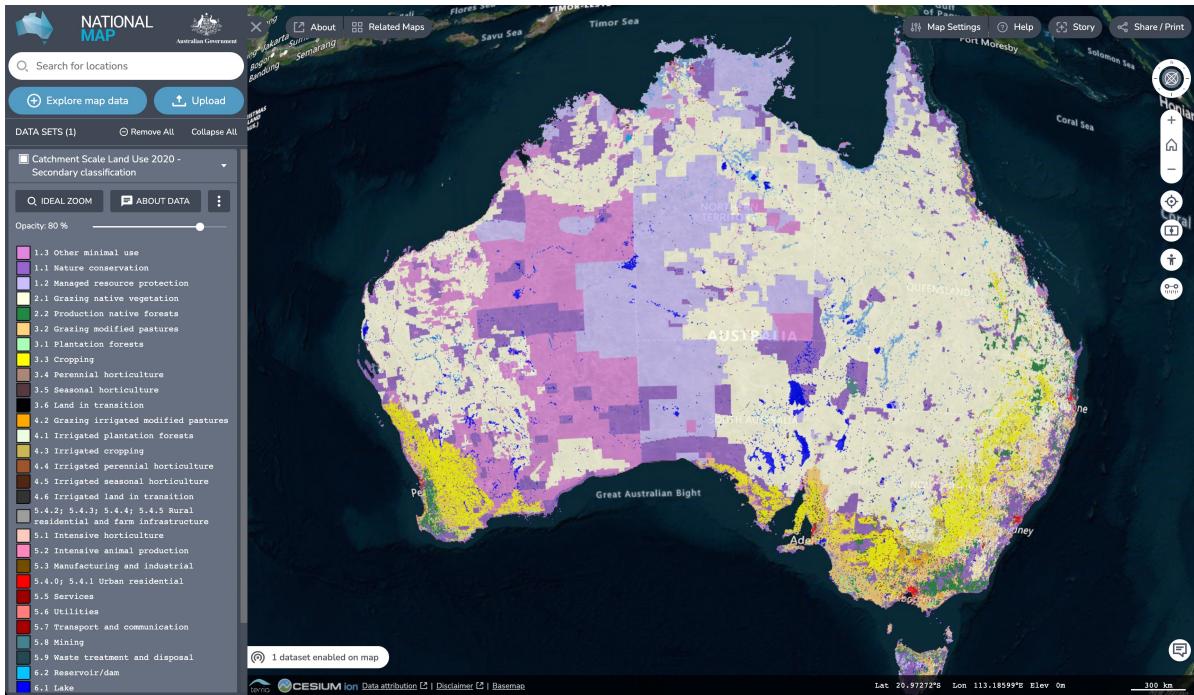
- An open-source framework for web-based geospatial catalogue explorers
- **Cesium/Leaflet** based in-browser tool for looking at 2D and 3D data
- Find us at [terria.io](https://terria.io)



# (Australian) NationalMap

[nationalmap.gov.au](http://nationalmap.gov.au)

- Birth of TerriaJS
- Geospatial data discovery, visualisation and sharing
- Launched 2014
- 14,000+ datasets, 30,000+ sessions/month



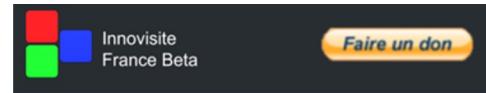


# TerriaJS Adoption by Community

## Industry



## Gov/ Research



## NGOs



Food and Agriculture Organization of the United Nations



Open Data Platform



Geography Teachers' Association of Victoria Inc.





## Version 8 release

- Milestone V8 release 12 months ago
- Rewrite from **JavaScript** (knockout.js) to **TypeScript** (React/mobX)
- Becoming more stable/mature
- Thank you to all contributors
  - Especially to Zoran Kokeza!



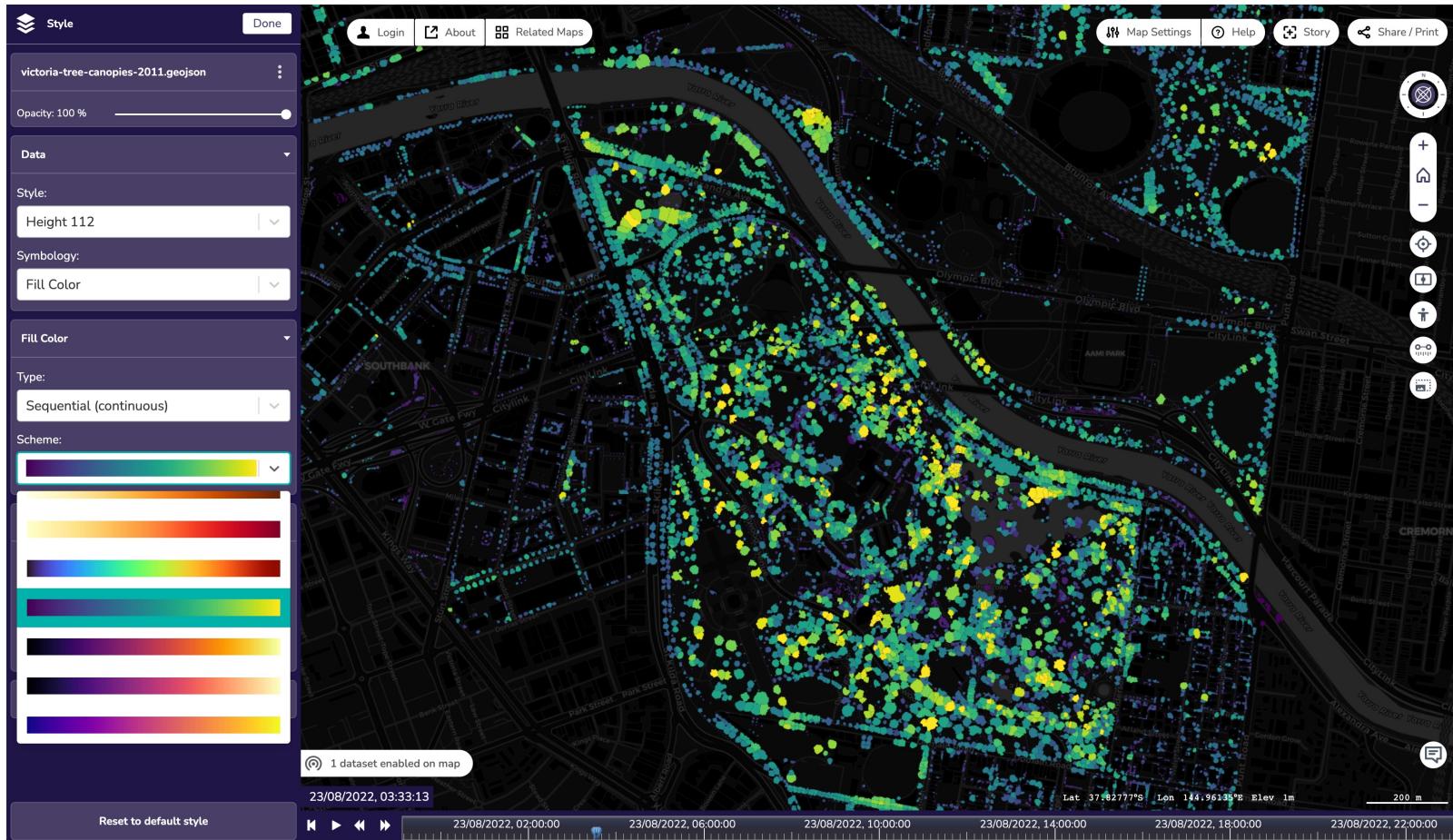
## Some notable new features

- Mapbox Vector Tile support using [protomaps.js](#) (+geojson-vt)
- Edit style (for vector data)
- 3D clipping box
- 3D compare/splitter
- New Plugin API - [github.com/terriaajs/plugin-sample](https://github.com/terriaajs/plugin-sample)



# GeoJSON -> MVT + Edit style

[vic.digitaltwin.terria.io](http://vic.digitaltwin.terria.io)





# Edit style (marker)

[vic.digitaltwin.terria.io](http://vic.digitaltwin.terria.io)

Style Done

Login About Related Maps

Map Settings Help Story Share / Print

?

+

-

Home

Orientation

Search

User icon

Print

Legend

Help

Feedback

2048

Lat 37.81591°S Lon 144.94572°E Elev 3m

23/08/2022, 03:33:13

23/08/2022, 02:00:00 23/08/2022, 06:00:00 23/08/2022, 10:00:00 23/08/2022, 14:00:00 23/08/2022, 18:00:00 23/08/2022, 22:00:00

Reset to default style

Style Data

Style: Select...

Symbology: Point/Marker Style

Marker Style

Variable: Site Type

Type: Qualitative

Enum styles

INT

POS

Value: POS

Marker: pitch

picnic-site

pitch

place-of-worship

playground

police-IP

Done

1 dataset enabled on map

23/08/2022, 03:33:13

Lat 37.81591°S Lon 144.94572°E Elev 3m

23/08/2022, 02:00:00 23/08/2022, 06:00:00 23/08/2022, 10:00:00 23/08/2022, 14:00:00 23/08/2022, 18:00:00 23/08/2022, 22:00:00

This screenshot shows a digital twin interface for Melbourne, Victoria, Australia. The map displays a dense urban area with a grid of streets. Numerous traffic lights are represented by small red, yellow, and green icons. White human-shaped icons are scattered across the map, particularly concentrated in the central business district and along major thoroughfares. A legend on the left side of the interface lists various site types, with 'pitch' currently selected. The interface includes a sidebar for styling, a top bar with user authentication and map settings, and a bottom bar showing a timeline from 02:00 to 22:00 on August 23, 2022. The timestamp '23/08/2022, 03:33:13' is also visible at the bottom left.



# 3D Clipping box

[vic.digitaltwin.terria.io](http://vic.digitaltwin.terria.io)

VICTORIA Australia Digital Twin Victoria CSIRO DATA 61

X Login About Related Maps Map Settings Help Story Share / Print

Search for locations

+ Explore map data Upload

DATA SETS (1) Remove All Collapse All

Sunbury Train Station BIM

IDEAL ZOOM ABOUT DATA :

Opacity: 100 % Shadows: None

Clip model Show clipping box Above ground only

Clip direction: Clip inside the box

1 dataset enabled on map

23/08/2022, 03:33:13

Lat 37.57908°S Lon 144.72860°E Elev 214m 5 m

23/08/2022, 02:00:00 23/08/2022, 06:00:00 23/08/2022, 10:00:00 23/08/2022, 14:00:00 23/08/2022, 18:00:00 23/08/2022, 22:00:00



# 3D Compare/Splitter

[vic.digitaltwin.terria.io](http://vic.digitaltwin.terria.io)

**Digital Twin Victoria**

Search for locations

+ Explore map data    Upload

DATA SETS (1)    Remove All    Collapse All

**SPLIT SCREEN MODE** X

Show Terrain on the

Left    Both    Right

Terrain hides underground features

Melbourne Central 2021 3D Photomesh

Q IDEAL ZOOM    ABOUT DATA    ...

Opacity: 100 %

Left    Both    Right

Shadows:

None

Clip model

1 dataset enabled on map

23/08/2022, 03:33:13

23/08/2022, 02:00:00    23/08/2022, 06:00:00    23/08/2022, 10:00:00    23/08/2022, 14:00:00    23/08/2022, 18:00:00    23/08/2022, 22:00:00

Map Settings    Help    Story    Share / Print

Zoom controls: +, -, Home, Reset, etc.

Lat 37.81957°S    Lon 144.96557°E    Elev 0m    20 m



## Future plans

- Story v2.0
- Imagery Compare/Splitter v2.0
- Catalog search by location
- Upgrade to TypeScript 4.x
- Mobile support...
- Improve documentation...



# My other talk!

## Exploring the World's Open Data Portals

Discovery, Visualisation and Analysis of Open Data with TerriaJS

Friday 12:30–13:00 in Room 4

### Links

- [terria.io](https://terria.io)
- [github.com/terriajs](https://github.com/terriajs)
- [nationalmap.gov.au](https://nationalmap.gov.au)
- [vic.digitaltwin.terria.io](https://vic.digitaltwin.terria.io)