Google

#GeoForGood19

Make your own Earth Engine App

Ben Galin / September 18, 2019

Agenda

Introduction

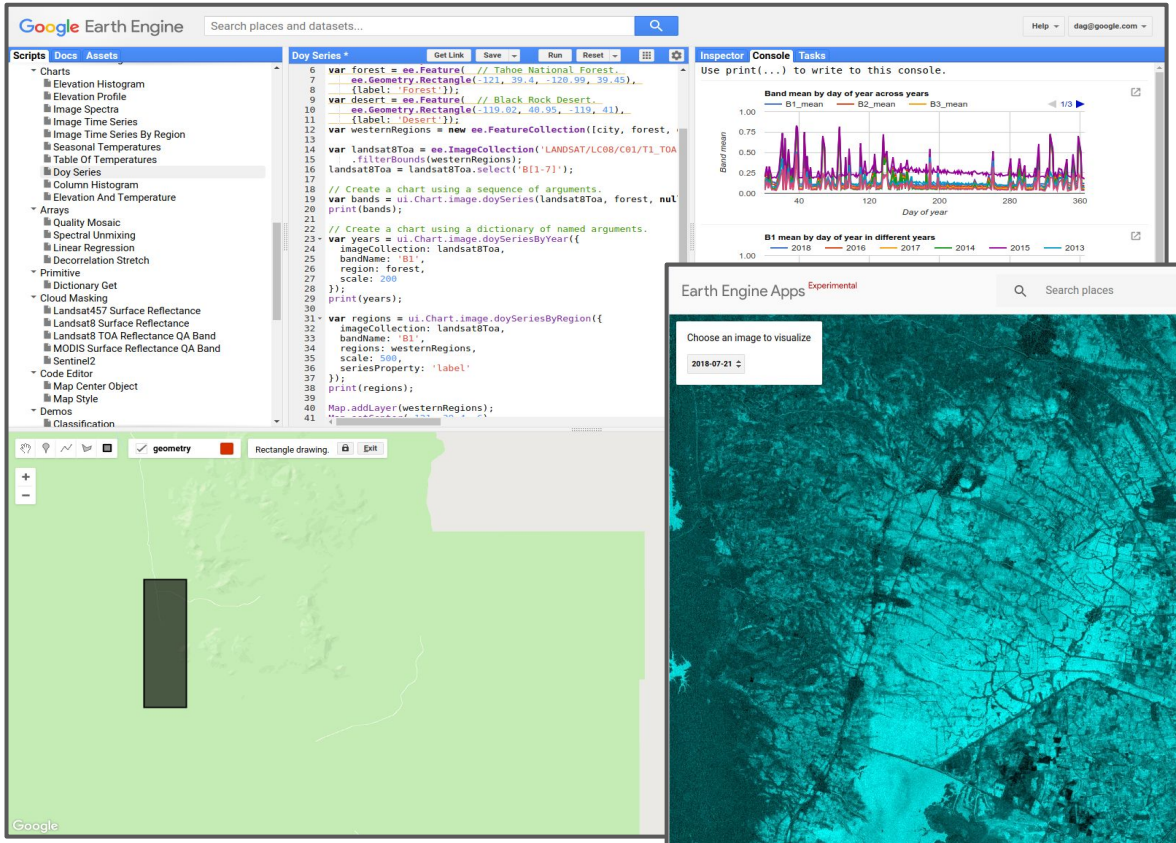
What and Why?

Build an Earth Engine App

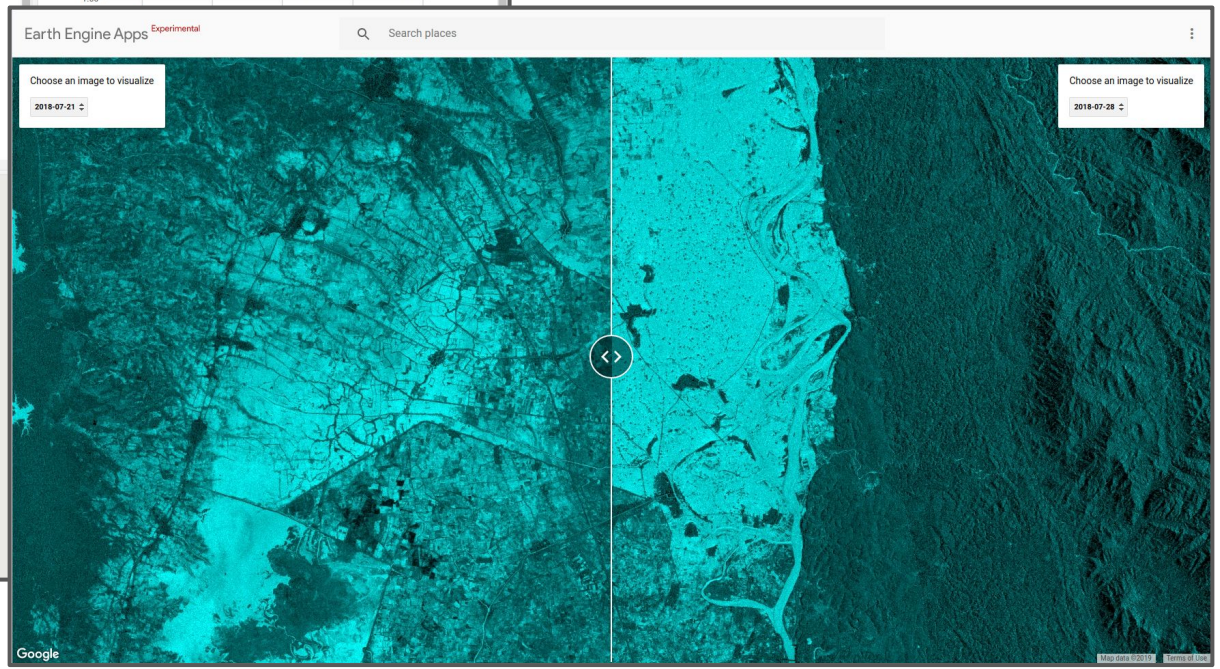
Preview: Restricted Apps

Summary

Code Editor: code.earthengine.google.com



EE Apps: earthengine.app



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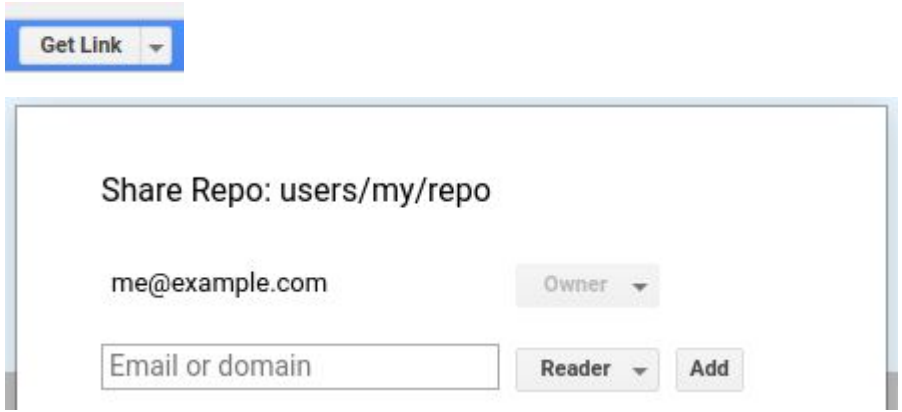
What ⇒ Why

Why ⇒ What

Why Earth Engine Apps

EE Apps are for **sharing** your work



Why Earth Engine Apps

EE Apps are for **sharing** the **output** of your work

App Engine & Earth Engine Overview

Google App Engine lets you build and run your own custom applications on Google's servers. App Engine applications are easy to create, maintain, and scale as your traffic and data storage needs change. You simply upload your application source code and it's ready to go. If you're new to developing for App Engine, be sure to check out the App Engine Python or Node.js quickstart before proceeding.

Earth Engine and App Engine can be used together to build scalable geospatial applications. Typically, your App Engine code includes the Earth Engine Python client library and makes requests to the Earth Engine backend using a service account. This is advantageous because it allows anyone to use your app without logging in or being a registered Earth Engine user. Note that the standard Earth Engine usage limits apply to each service account. If you expect your application to be popular and approach the usage limits, please contact the Earth Engine team (`earthengine@google.com`) before launching the application.

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Why Earth Engine Apps

EE Apps are for **easily sharing** the **output** of your work

Why Earth Engine Apps

EE Apps are for **publishing** your work

What are Earth Engine Apps

Examples: https://google.earthengine.app/

What are Earth Engine Apps

Example: https://www.intertidal.app/

(...which is in fact a Google Site webpage that is embedding https://michael.users.earthengine.app/view/intertidal)

What are Earth Engine Apps

"Earth Engine Apps are dynamic, publicly accessible user interfaces for Earth Engine analyses. With Apps, experts can use simple UI elements to leverage Earth Engine's data catalog and analytical power, for experts and non-experts alike to use."

– https://developers.google.com/earth-engine/apps

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Build an Earth Engine App

We will build an app version of **Nightlight Trends** (aka **Zoom Box**)

https://code.earthengine.google.com/

(Googlers: https://code.earthengine.google.com/?as_external)

The only code you'll need to write:

```
Map.centerObject(geometry, 7)
```

and

```
ee.data.copyAsset('users/bengalin/g4g', 'users/<me>/g4g')
```

Build an Earth Engine App

- Identify your app with an API Key
- Feature your app in a Gallery
- Access your app
- Share assets publicly
- Update your app's code

Build an Earth Engine App

- Build a Google Sites (sites.google.com) webpage around your app
- Create a custom domain

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Preview: restricted apps

A **restricted app** version of **Nightlight Trends** (aka **Zoom Box**)

https://code.earthengine.google.com/ (not launched yet)

Preview: restricted apps

- Identify the app
- Restrict access to app
- Share assets with app

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Thank you!

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