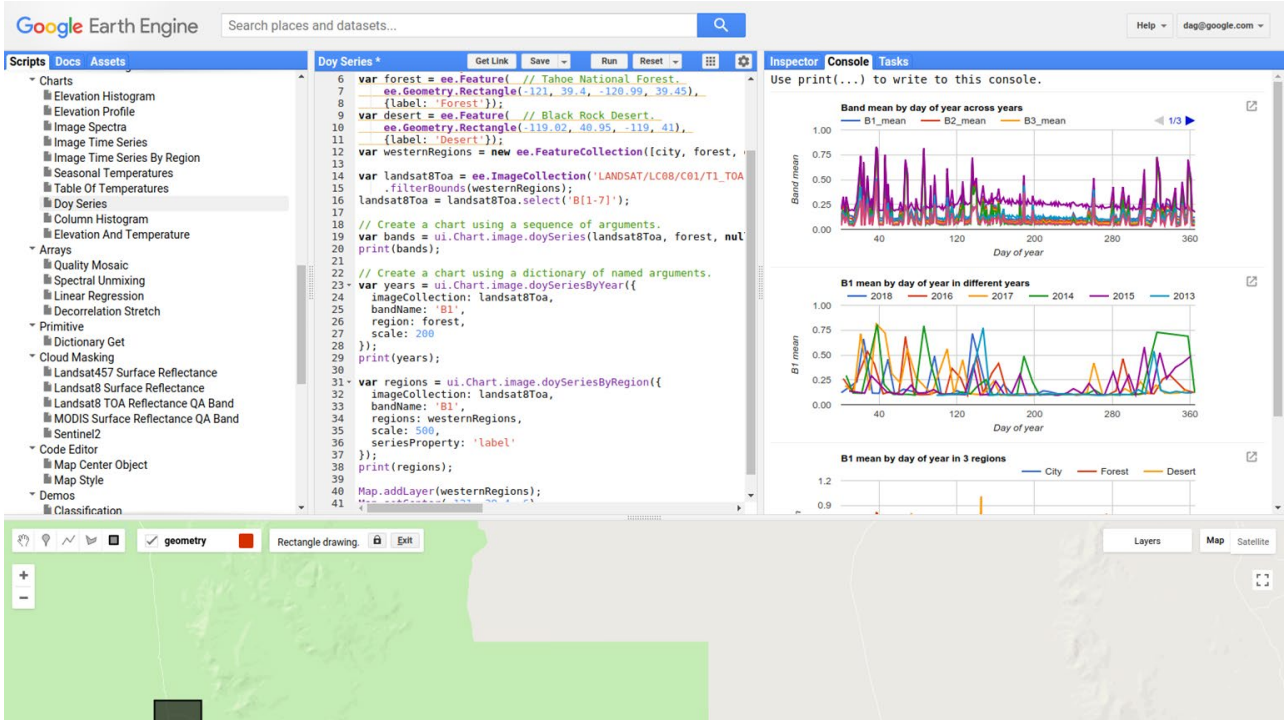
Google Earth Engine
UI & Apps

Earth Engine Apps

Mengapa?

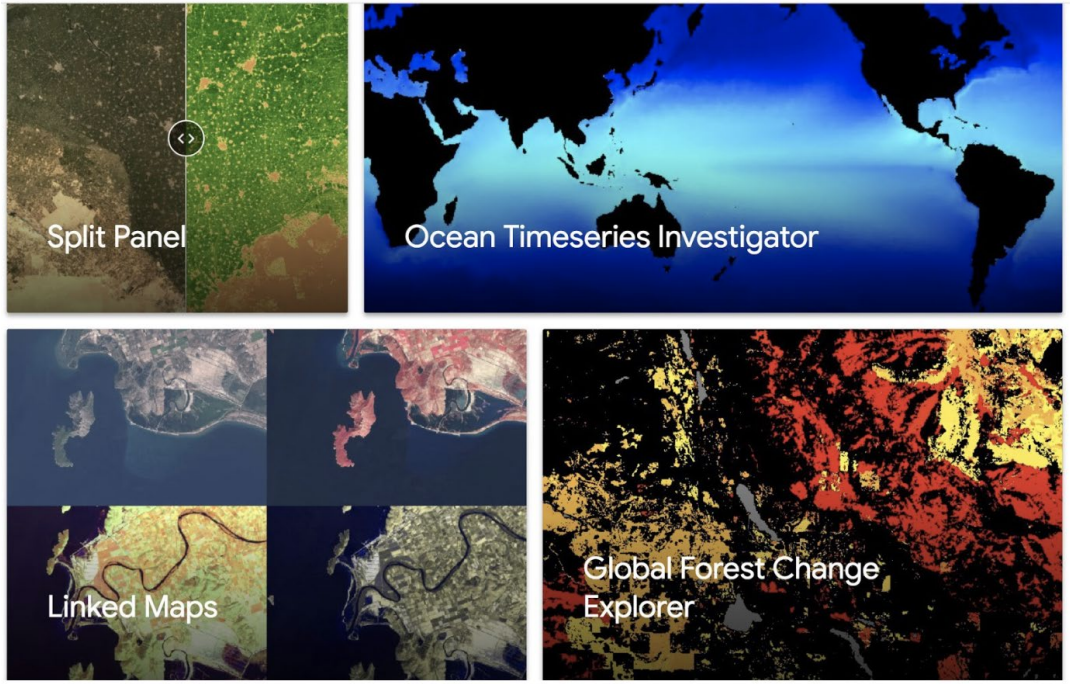
Sebagian besar pakar bukanlah pengembang Earth Engine. Mereka membutuhkan alat analisis untuk menciptakan **dampak yang lebih besar.**



earthengine.app

Earth Engine Apps

Bagikan tampilan yang disesuaikan ke dalam analisis Anda tanpa audiens Anda harus mendaftar ke Earth Engine atau menulis code apa pun



MODIS Ocean Temperature - Time Series Inspector

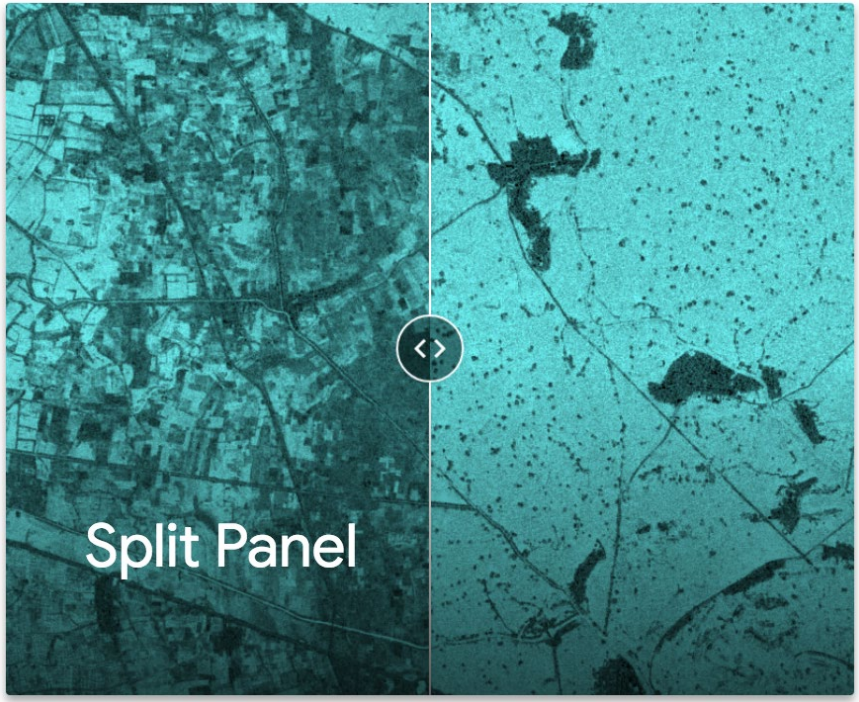
https://google.earthengine.app/view/ocean

Visualisasi Sentinel-2 September 2018 (Linked maps)

https://google.earthengine.app/view/linked-maps

Banjir besar di Kerala, musim muson 2018 (Split Panel)

https://google.earthengine.app/view/split-panel



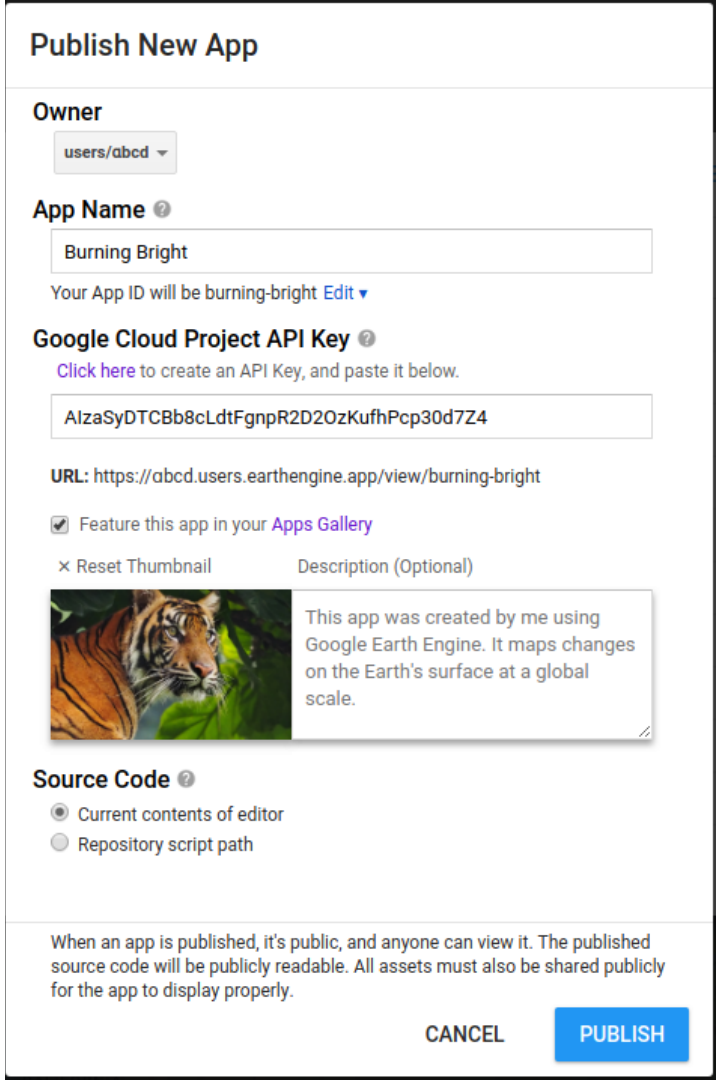
Earth Engine Apps

Writing Your App

```
// Make UI components.
var label = ui.Label('Click for elevation');

var inspector = ui.Panel({
  widgets: [label],
  layout: ui.Panel.Layout.flow('horizontal')
});

// Define callback functions.
function showElevation(elevation) {
  var titleLabel = ui.Label({
    value: 'Elevation:',
    style: {
      fontWeight: 'bold',
    }
  });

  var elevationLabel = ui.Label(elevation);

  inspector.clear();
  inspector.add(titleLabel);
  inspector.add(elevationLabel);
}

function inspect(coords) {
  var point = ee.Geometry.Point(coords.lon, coords.lat);
  var elevation = alos.reduceRegion({
    reducer: ee.Reducer.first(),
    geometry: point,
    scale: 30
  }).get('AVE');

  elevation.evaluate(showElevation);
}

// Set up the map.
Map.addLayer(alos, visParams, 'Elevation');
Map.setCenter(138.7271, 35.3644, 10);
Map.add(inspector);
Map.onClick(inspect);
Map.style().set('cursor', 'crosshair');
```

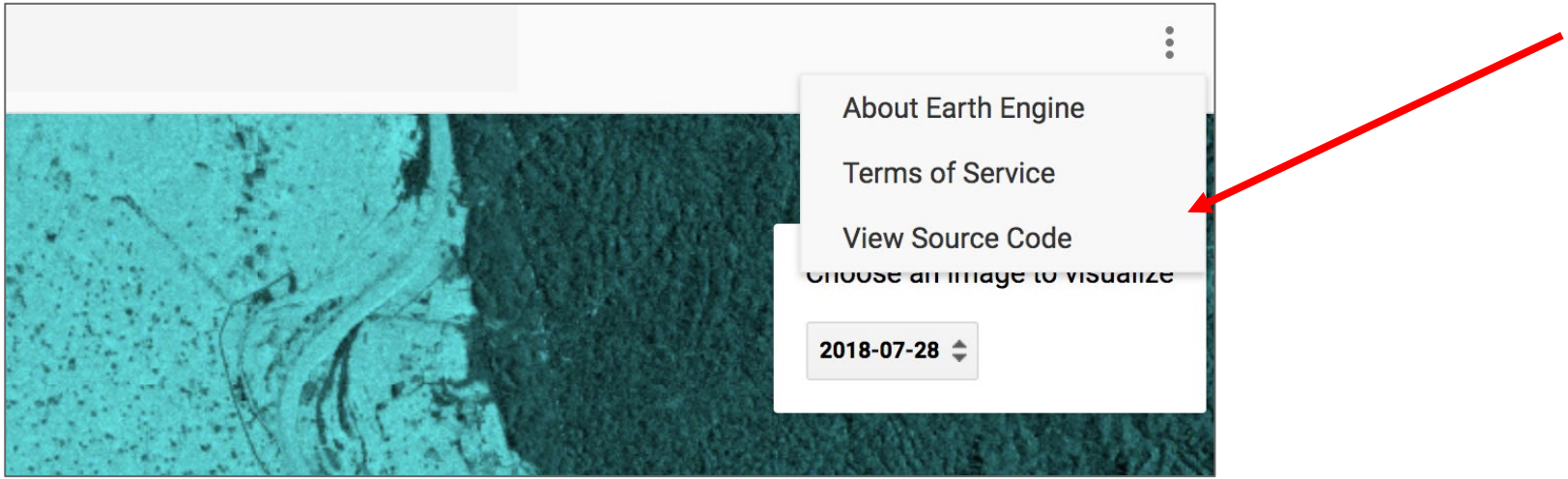
Earth Engine Apps

Publishing Your App



Sumber daya pengembangan

- App development docs
- Blog post
- Actual app samples (Curated apps page)
  - Anda dapat memeriksa code sebenarnya dari setiap aplikasi dari tombol di kanan atas.



Visualising the 2018 Kerala Floods

Chittoor

Minimum Extent of Flooding

1290 hectares

WHAT DOES THIS APP DO?

This web app visualises and estimates taluk-wise flood extent in Kerala this year (2018), based on satellite images from the European Space Agency's Sentinel-1. Unlike conventional satellites, Sentinel-1 has a radar-based instrument capable of imaging the earth in all kinds of weather, during day or night. In overcast situations, radar imagery is often the only way to assess the extent of flooding.

HOW DO I USE THIS APP?

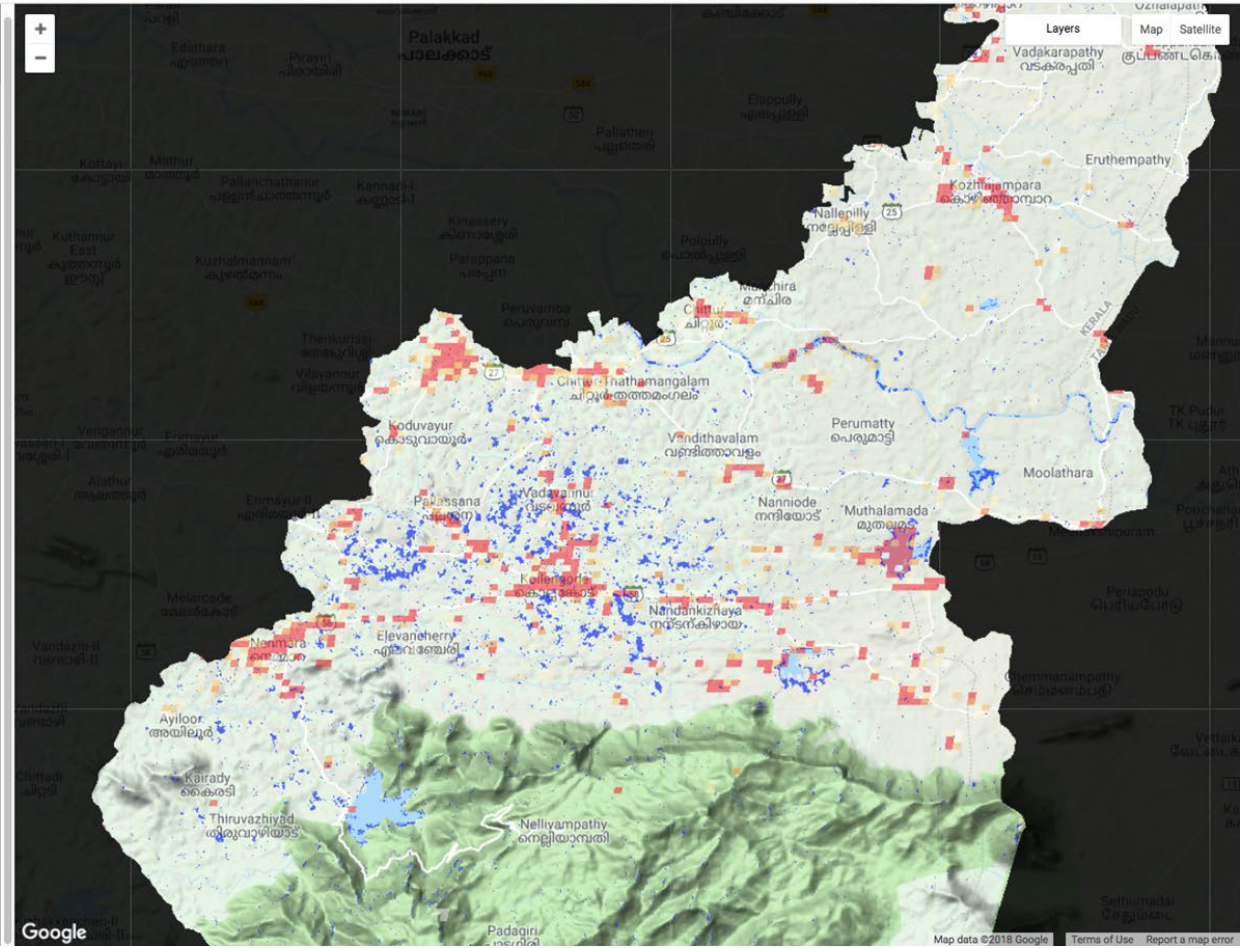
From the drop-down menu above, choose a taluk of Kerala for which you want to see a map of flooded areas. The map window on the right will then zoom to that taluk and show you the location and extent of flooding (in blue), in relation to the density of human settlements (in yellow to red) in that taluk.

At the top-right corner, you'll see a button called 'Layers'. Clicking on that will show you all layers in this map that can be switched on/off. Don't forget to check out the 'Before Flooding' and 'After Flooding' layers; they show you the actual satellite images used to make the flood map.

When you choose a taluk, the app also shows (in a panel below the drop-down) an estimate of the minimum extent of flooding in that taluk.

DISCLAIMER & CAVEAT: Use these maps and numbers with caution. This analysis has limitations, and may suffer from both inclusion and exclusion errors. Flood areas may include wetlands/water bodies where water levels may have changed. Conversely, given that Sentinel-1 imagery are not available for the period of peak flooding, there is almost certain understimation of the extent of flooding.

MD Madhusudan | @mdmadhusudan | mdm at ncf-india dot org



https://mdm.users.earthengine.app/view/kerala -flood-2018

Extreme droogte in Nederland

Met deze app vergelijkt u satellietbeelden van Nederland in juli 2018 ten opzichte van een normale juli in het recente verleden (2014-2017).

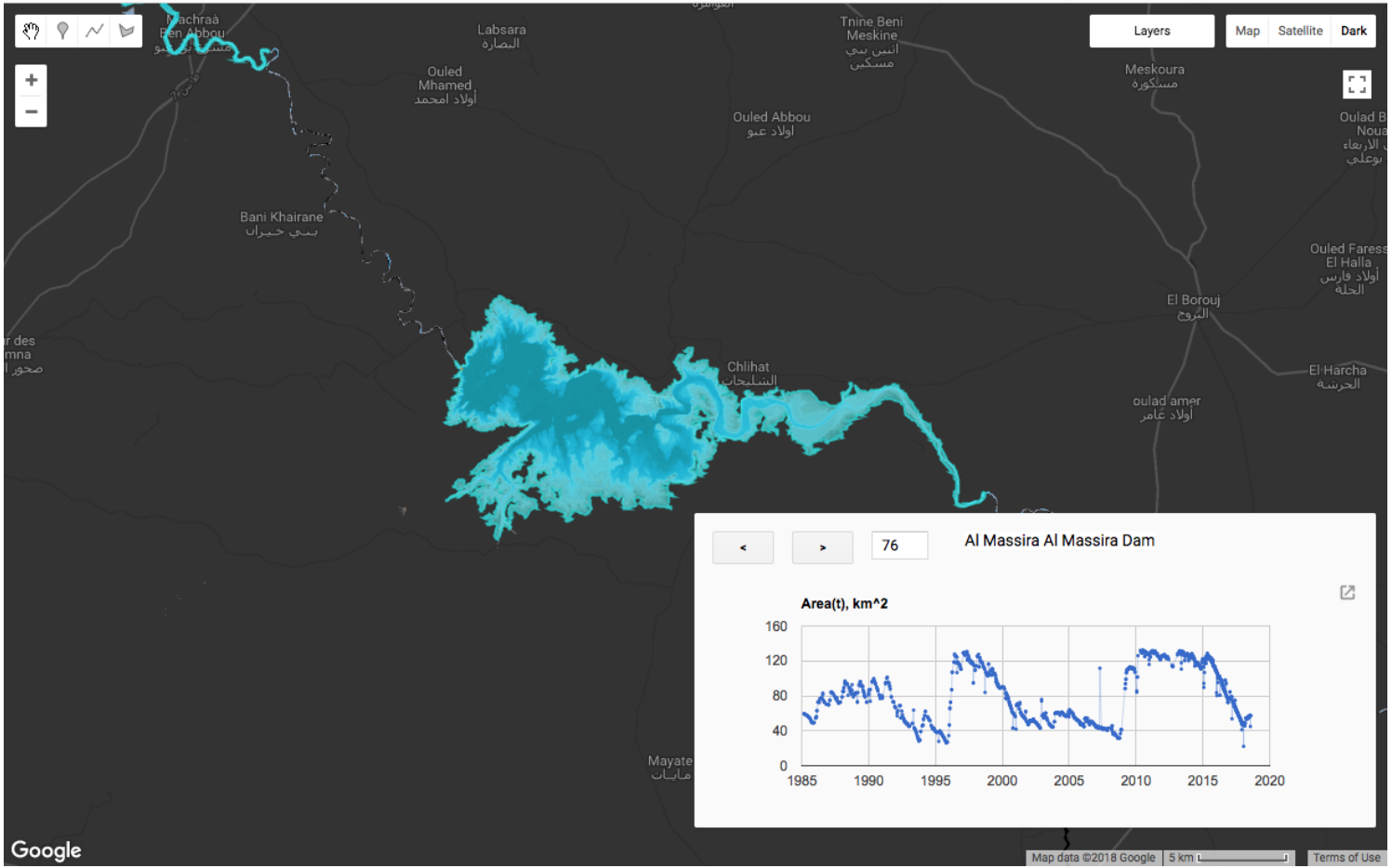
Schuif de lijn in het midden naar links en rechts om de verschillen tussen juli 2018 en een normale juli te visualiseren. U kunt op een gemeente klikken voor meer details.

De extreme droogte van 2018 laat duidelijk haar sporen na. Complete provincies zijn vergeeld en verdord. Welke effecten van de droogte kunt u vinden?

Created 2018/08/03 by Rutger Hofste. Created for fun and not for scientific purposes. Code and licence on Github: https://github.com/rutgerhofste/drought_app_v01

ok

http://rutgerhofste.users.earthengine.app/view/droughtappv01



http://gena.users.earthengine.app/view/mena -waterbodies

Earth Engine Apps

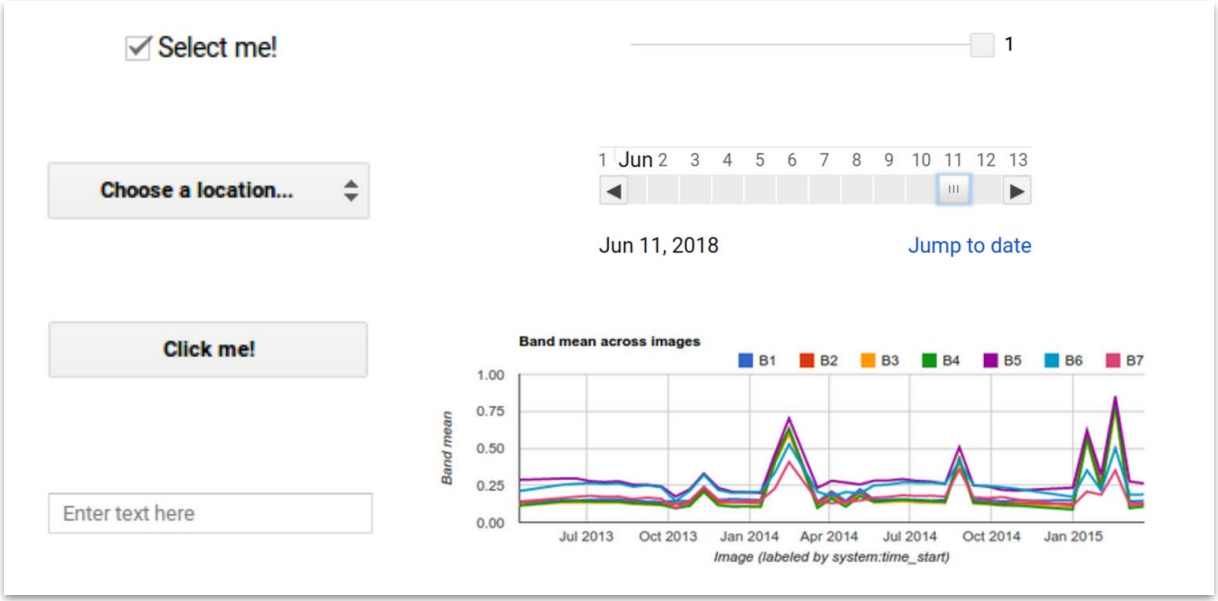
Widgets and Events

`ui.Checkbox()`
`.onChange()`

`ui.Select()`
`.onChange()`

`ui.Button()`
`.onClick()`

`ui.Textbox()`
`.onChange()`



`ui.Slider()`
`.onChange()`

`ui.DateSlider()`
`.onChange()`

`ui.Chart.*()`
`.onClick()`

Verifikasi tren secara visual dengan elemen UI

- Tujuan:
  - Pahami cara membandingkan hasil dari grafik time series dengan gambar sebenarnya.

- Poin penting:
  - Gunakan “ui.Select()” untuk membuat menu select
  - Buat function yang mengembalikan gambar dari id yang diberikan.


Terima kasih!