// Code is taken from DEMO repository of GEE platform

// Use the NASA NEX-DCP30 dataset to create a visualization of projected

// climate in the San Joaquin watershed of California, USA

// https://cds.nccs.nasa.gov/wp-content/uploads/2014/04/NEX-DCP30\_Tech\_Note\_v0.pdf

// http://www.nasa.gov/content/nasa-supercomputer-generates-closer-look-at-future-climate-conditions-in-us

var geometry1 = /\* color: #98ff00 \*/ee.Geometry.MultiPoint();

var base\_collection = ee.ImageCollection('NASA/NEX-DCP30\_ENSEMBLE\_STATS')

.select(['tasmax\_median', 'tasmax\_quartile25', 'tasmax\_quartile75'])

.filterDate('2010-01-01', '2100-01-01');

var january = base\_collection.filter(ee.Filter.calendarRange({

start: 7,

field: 'month'

}));

// Convert temperature to Celsius.

january = january.map(function(image) {

return image.subtract(273.15)

.copyProperties(image, ['system:time\_start', 'scenario']);

});

var rcp26 = january.filterMetadata('scenario', 'equals', 'rcp26');

var rcp45 = january.filterMetadata('scenario', 'equals', 'rcp45');

var rcp60 = january.filterMetadata('scenario', 'equals', 'rcp60');

var rcp85 = january.filterMetadata('scenario', 'equals', 'rcp85');

var forest = ee.Feature(

ee.Geometry.Rectangle(-121, 39.4, -120.8, 39.8),

{label: 'Tahoe National Forest'});

var roi = ee.Feature(

ee.FeatureCollection('USGS/WBD/2017/HUC06')

.filterMetadata('huc6', 'equals', '180400') // San Joaquin watershed

.first());

var options = {

title: 'Daily Maximum Near-Surface Air Temperature',

vAxis: {

title: 'Daily Maximum Near-Surface Air Temperature [Celsius]'

},

lineWidth: 1,

pointSize: 4

};

var labelBands = function(collection, scenario) {

return collection.select(

['tasmax\_median', 'tasmax\_quartile25', 'tasmax\_quartile75'],

['rcp' + scenario + '\_tasmax\_median',

'rcp' + scenario + '\_tasmax\_quartile25',

'rcp' + scenario + '\_tasmax\_quartile75']);

};

var combined = labelBands(rcp26, '26').merge(labelBands(rcp85, '85'));

var chart = ui.Chart.image.series({

imageCollection: combined,

region: roi,

reducer: ee.Reducer.mean(),

scale: 200,

xProperty: 'system:time\_start'

}).setChartType('LineChart')

.setOptions({

title: 'Predicted January Temperature - San Joaquin Watershed',

vAxis: {

title: 'Daily Maximum Near-Surface Air Temperature [Celsius]'

},

interval: {

rcp26\_tasmax\_quartile: {'style':'area'},

rcp85\_tasmax\_quartile: {'style':'area'},

},

lineWidth: 1,

curveType:'function',

interpolateNulls: true

});

chart = chart.setSeriesNames('RPC2.6', 0);

chart = chart.setSeriesNames('RPC8.5', 3);

print(chart);

var sld =

'<RasterSymbolizer>' +

'<ColorMap>' +

'<ColorMapEntry color="#110092" quantity="17.5" label="17.5"/>' +

'<ColorMapEntry color="#0C00FF" quantity="20.0" label="20.0" />' +

'<ColorMapEntry color="#0E66FF" quantity="22.5" label="22.5" />' +

'<ColorMapEntry color="#0DDFFB" quantity="25.0" label="25.0" />' +

'<ColorMapEntry color="#52AA92" quantity="27.5" label="27.5" />' +

'<ColorMapEntry color="#A9EE35" quantity="30.0" label="30.0" />' +

'<ColorMapEntry color="#FFDE00" quantity="32.5" label="32.5" />' +

'<ColorMapEntry color="#FF6E00" quantity="35.0" label="35.0" />' +

'<ColorMapEntry color="#F90000" quantity="37.5" label="37.5" />' +

'<ColorMapEntry color="#770B11" quantity="40.0" label="40.0" />' +

'</ColorMap>' +

'</RasterSymbolizer>';

var image2 = ee.Image(rcp26.filterDate('2050-01-01', '2051-01-01').first())

.select('tasmax\_median');

Map.centerObject(roi);

Map.addLayer(image2,

{bands:'tasmax\_median', min:-2, max:8},

'historical\_195001 tasmax\_median', false);

Map.addLayer(image2.sldStyle(sld), {}, "tasmax\_median (styled)", true);

Map.addLayer(roi, {}, 'Region of Interest');