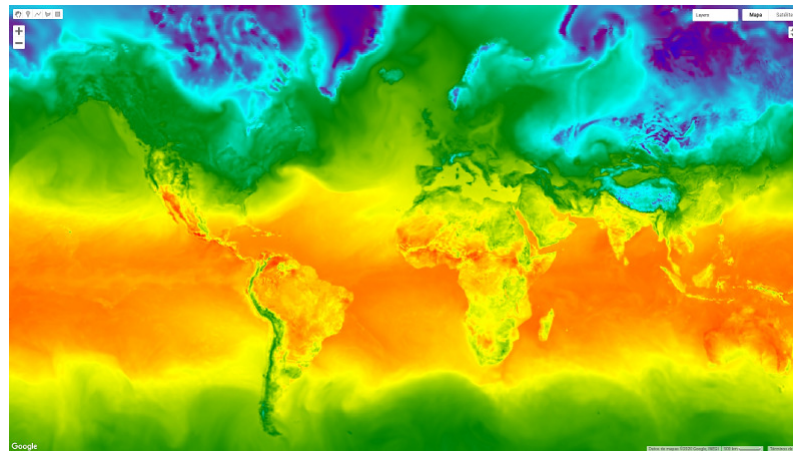


# Google Earth Engine Atlas



Remote sensors with GEE API

Includes examples taken from the geography of Huila

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## Chapter 1

# Remote Sensing and GEE API

### 1.1 Introduction

Remote sensors are, perhaps, the most important tool in environmental science today. With it we can record the way in which the vegetation cover, the river basins, the composition of the atmosphere, and the geomorphology change, among other aspects that are determining to establish the general health of the planet earth, our home.

This document constitutes an atlas on the types of cartography that can be achieved using the Google Earth Engine API technology with its entire arsenal of remote sensors and registration obtained primarily by the United States Geological Survey (USGS) and other sensor suppliers.

The general purpose of the document is to serve as a guide for the investigation of the problems associated with earth sciences, understanding by them a broad spectrum of disciplines such as geology, geomorphology, meteorology, geophysics, geochemistry, topography and geodesy, environmental engineering, soil engineering, among other disciplines whose set deals with the problems that affect the health of planet earth.

The reader will be able to find a whole series of short examples applied primarily to the geography of Huila, in some cases situations that affect the entire Colombian territory are illustrated and in other more scarce subjects of global interest are discussed. Naturally, all the examples are applicable to any region of the planet on condition that there is a record associated with the geographical location to be studied.

The examples have been achieved by executing source code in the Google Earth Engine API using the Java Script and Python languages. However, Both the source code written in Java Script and Python and the mathematical routines used for certain calculations and written in Google's Go language, Inc., have been omitted and are reserved by the author. Also, the literature that accompanies each of the examples has been taken, with a few modifications, from the Google Earth Engine API.

We hope that this guide will be of great help to territorial entities, such as departments, municipalities and the nation itself, which traditionally use very little this type of technology, in some cases due to the lack of technical preparation of its officials and in others , for rampant ignorance on the subject.

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