

# Using the Geostreams API

- [Step 1: Create an Account](#)
- [Step 2: Acquire Data from API by using CURL](#)
  - [Get all Sensors in JSON format](#)
  - [Authenticate](#)
  - [Get all Datapoints for Single Sensor](#)

## Step 1: Create an Account

- go to: <https://greatlakestogulf.org/geostreams>
- Click "Sign Up"
  - Fill out form
  - Ignore check email
  - You're done

## Step 2: Acquire Data from API by using CURL

You can acquire the data from API by using curl command

### Get all Sensors in JSON format

Currently, pulling sensors does not require authentication.

Inputs	Output type	Output Example
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url	JSON	<p><b>Output JSON example</b></p> <pre> { "sensors":[    { "id":1445,     "name":"03254520",     "created":"2018-03-23T15:48:32Z",     "geoType":"Feature",     "geometry":{" type":"Point", "coordinates":[ -84.44799549,38.9203417,0]     },     "properties":{" name":"03254520",       "huc":{" huc8":{" code":"05100101"},"huc2":{"code":"05" },         "huc4":{"code":"0510"}, "huc6":{"code":"051001"},         "huc_name":"Licking"       },       "region":"0510",       "location":"LICKING RIVER AT HWY 536 NEAR ALEXANDRIA, KY",       "type":{"         "title":"United States Geological Survey",         "network":"NWIS",         "id":"usgs"       },       "popupContent":"03254520",       "online_status":"online",       "id":1445     },     "min_start_time":"2007-10-01T06:00:00Z",     "max_end_time":"2020-02-05T12:30:00Z",     "parameters":[       "discharge-ft3s",       "discharge-ft3s-qc",       "dissolved-oxygen-mgl",       "dissolved-oxygen-mgl-qc",       "nitrate-nitrite-as-n-mgl",       "nitrate-nitrite-as-n-mgl-qc",       "pH",       "pH-qc",       "specific-conductance-uScm",       "specific-conductance-uScm-qc",       "turbidity-fnu",       "turbidity-fnu-qc",       "water-temperature-c",       "water-temperature-c-qc"     ],     ....   ] }} </pre>
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**Get all Sensors**

```
curl -X GET --compressed https://greatlakestogulf.org/geostreams/api/sensors
```

### Authenticate

Inputs	Output	Details
<ul style="list-style-type: none"> <li>• url</li> <li>• email</li> <li>• password</li> </ul>	X-Auth-Token	Use the token for fetching datapoints

## Authenticate

```
curl -X POST -H 'Content-Type: application/json' -d '{"password": "*****", "identifier": "email"}' --compressed -i https://greatlakestogulf.org/geostreams/api/authenticate
```

## Get all Datapoints for Single Sensor

We request that a user not try to pull all datapoints concurrently. It is preferred that datapoints be pulled in series by sensor id.

Inputs	Output Type	Details	Example Return
<ul style="list-style-type: none"><li>• token</li><li>• sensor_id</li><li>• since</li></ul>	JSON	Use X-Auth-Token from authentication	<p><b>Example Output</b></p> <pre>[    {     "id":96556536,     "created":"2019-09-27T20:45:42Z",     "start_time":"2018-06-25T00:00:00Z",     "end_time":"2018-06-25T00:00:00Z",     "properties":{       "nitrate-nitrite-inorganic-total-as-n-mgl":"4.16"     },     "type":"Feature",     "geometry":{       "type":"Point",       "coordinates":[-90.645,42.5408333,0 ]     },     "stream_id":"28",     "sensor_id":"22",     "sensor_name":"IL_EPA_WQX-M-13"   },   ... ]</pre>

## Get Datapoints for Single Sensor

```
curl -X GET -H 'Content-Encoding: application/json' -H 'x-auth-token:token' --compressed 'https://greatlakestogulf.org/geostreams/api/datapoints?sensor_id=22&since=2018-06-01'
```