Clear Lake API and Backend Documentation

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Link to upload file on webpage:
https://tercdev.github.io/Clear_Lake_Website_Data_Visualization/upload-csv
To access login information, please contact Alicia Cortes at alicortes@ucdavis.edu

Our current system:

- ➢ We are using AWS S3 pre-signed URLs which will grant users temporary access to either download or upload files into the system which are private to them
- ➢ This makes our system serverless: no server management, scalable, security, reduced latency
- ➢ The process of how CSV goes from upload stage to database insertion stage
    - When client uploads CSV files into the dropzone from this link, the files are then sent to the S3 bucket and is sorted into its data type folder based on the name of the file
        - Thus, following the naming convention (mentioned later in this document) is very important
        - If you don't see the data being uploaded onto the database, please check the naming convention.
        - The client can upload up to 5 files at a time (this can be changed up to client preferences)
        - Client can ONLY upload CSV files → other file types will be grayed out and cannot be uploaded
    - Once files are uploaded into their correct data type folder in the S3 bucket, files will be added in database
        - May take some time (around 5-10 minutes), depending on how much data is on the file
        - Only new data will be added onto the database table based on time
        - If client updates/changes data, the database will reflect that change

- Flow data is directly scraped of these website and updated every 15 minutes
  - http://cdec.water.ca.gov/dynamicapp/QueryF?s=SCS
  - http://cdec.water.ca.gov/dynamicapp/QueryF?s=MCU
  - http://cdec.water.ca.gov/dynamicapp/QueryF?s=KCK
- Precipitation data is scraped from (hourly)
  - *https://cdec.water.ca.gov/dynamicapp/QueryF?s=LYO*
  - *https://cdec.water.ca.gov/dynamicapp/QueryF?s=KTI*

API Endpoint:

➢ Meteorological GET Request:

https://4ery4fbt1i.execute-api.us-west-2.amazonaws.com/default/clearlake-met?id=5&start=20220202&end=20220204	1 = Buckingham Point 2 = Clearlake Oaks 3 = Jago Bay 4 = Konocti Bay 5 = Nice 6 = North Lakeport 7 = Big Valley Rancheria *Query Parameters:* **id**: see above for station id **start**, **end**: time written in <year><month><date>

➢ Stream Turbidity and Temperature GET Request

https://1j27qzg916.execute-api.us-west-2.amazonaws.com/default/clearlake-streamturb-api?id=2&start=20211202&end=20220204	1 = Kelsey 2 = Middle 3 = Scotts *Query Parameters:* **id**: see above for station id **start**, **end**: time written in <year><month><date>

➢ Stream Flow and Stage GET Request

https://b8xms0pkrf.execute-api.us-west-2.amazonaws.com/default/clearlake-streams?id=1&start=20190202&end=20190204	1 = Kelsey 2 = Middle 3 = Scotts *Query Parameters:* **id**: see above for station id **start**, **end**: time written in <year><month><date>

➢ Stream Precipitation GET Request

https://ts09zwptz4.execute-api.us-west-2.amazonaws.com/default/clearlake-precipitation-api?id=1&start=20190202&end=20190204	1 = Kelsey 2 = Middle 3 = Scotts *Query Parameters:* **id**: see above for station id **start**, **end**: time written in <year><month><date>

➢ Lake Profile Data GET Request

https://3kgpak926a.execute-api.us-west-2.amazonaws.com/default/clearlake-profiledata?id=5&start=20190318&end=20190319	site_id_map = {
	'1': "UA01",
	'2': "UA06",
	'3': "UA07",
	'4': "UA08",
	'5': "LA03",
	'6': "NR02",
	'7': "OA04",
	}
	
	Query Parameters:
	id: see above for station id
	start, **end**: time written in <year><month><date>

➢ Lake Oxygen Data GET Request

https://f6axabo7w6.execute-api.us-west-2.amazonaws.com/default/clearlake-lakeoxygen?id=5&start=20190422&end=20190504	ids = {'1': "CLEARLAKE_LA03OXYGEN", '2': "CLEARLAKE_NR02OXYGEN", '3': "CLEARLAKE_OA04OXYGEN", '4': "CLEARLAKE_UA01OXYGEN", '5': "CLEARLAKE_UA06OXYGEN", '6': "CLEARLAKE_UA08OXYGEN", '7': "CLEARLAKE_UA07OXYGEN"} **start**, **end**: time written in <year><month><date>

➢ Lake Temperature Data GET Request

https://18eduqff9f.execute-api.us-west-2.amazonaws.com/default/clearlake-laketemperature?id=2&start=20190422&end=20190504	ids = {'1': "CLEARLAKE_LA03TEMPERATURE", '2': "CLEARLAKE_NR02TEMPERATURE", '3': "CLEARLAKE_OA04TEMPERATURE", '4': "CLEARLAKE_UA01TEMPERATURE", '5': "CLEARLAKE_UA06TEMPERATURE", '6': "CLEARLAKE_UA08TEMPERATURE", '7': "CLEARLAKE_UA07TEMPERATURE"}

➢ Lake Profile Data Uniques Dates for Each Sites GET Request

https://v35v56rdp6.execute-api.us-west-2.amazonaws.com/default/clearlake-profiledata-sitedates?id=1	site_id_map = {
	'1': "UA01",
	'2': "UA06",
	'3': "UA07",
	'4': "UA08",
	'5': "LA03",
	'6': "NR02",
	'7': "OA04",
	}
	
	Query Parameters:
	
	id: see above for station id

How our S3 bucket is structured:

met/

- bkp/
    - met_bkp_<fromDate>_<toDate>.csv
- bvr/

… (other 5 other met sites)

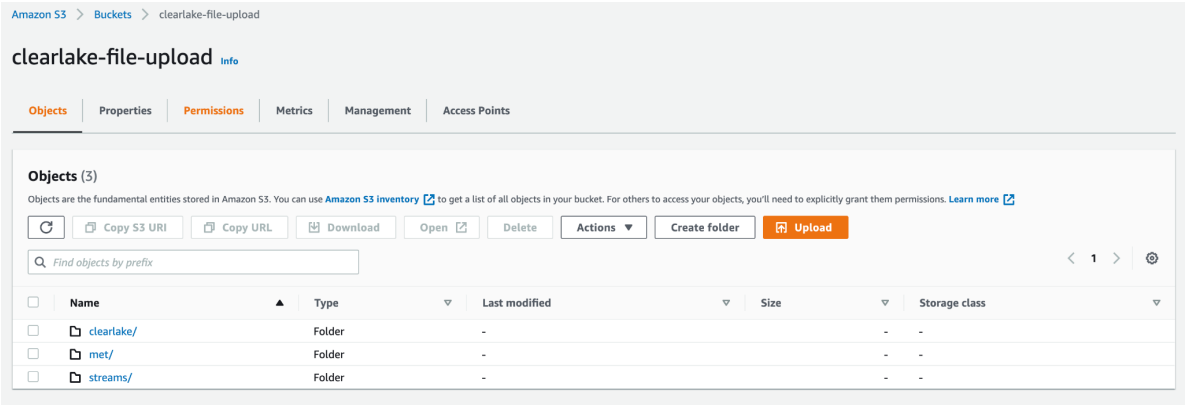
streams/

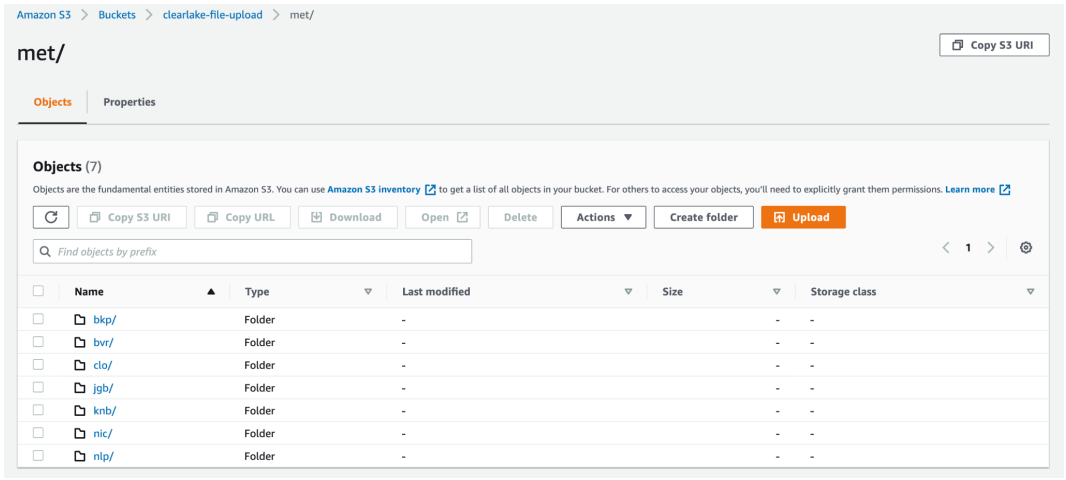
- kck/
    - turb/
        - stream_kck_turb_<fromDate>_<toDate>.csv
- mcu/
    - turb/
        - stream_mcu_turb_<fromDate>_<toDate>.csv
- scs/

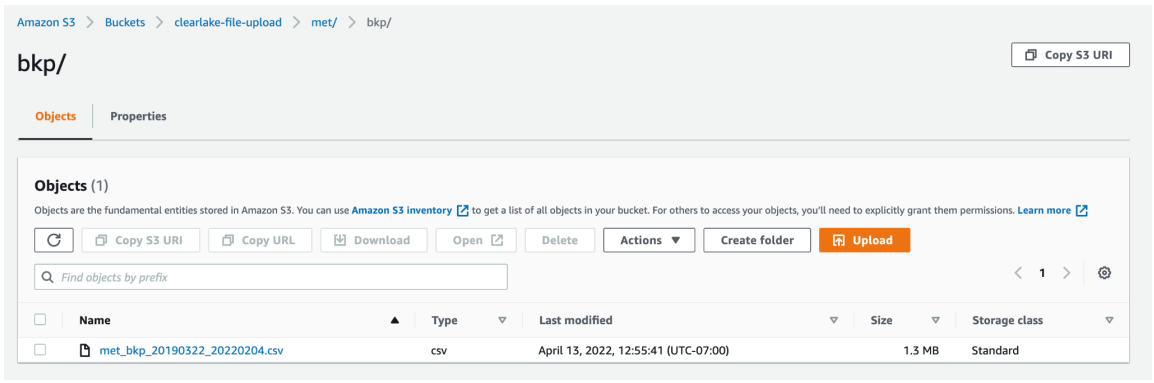
clearlake/

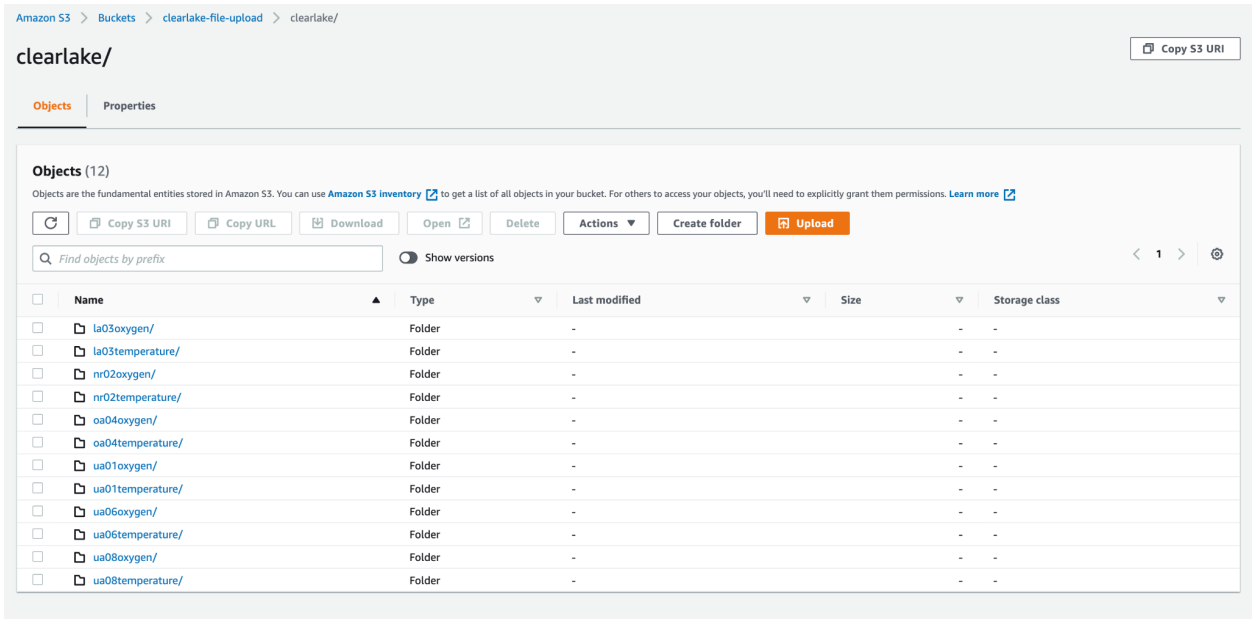
- profiledata/
    - ClearLake_ProfileData_2019_2021.csv
- la03oxygen/
    - ClearLake_LA03oxygen_20190323_20220204.csv
- la03temperature/
    - ClearLake_LA03temperature_20190323_20220204.csv

…









File Naming Conventions:

➢ <dataType>_<stationAbbvrievation>_<fromDate>_<toDate>