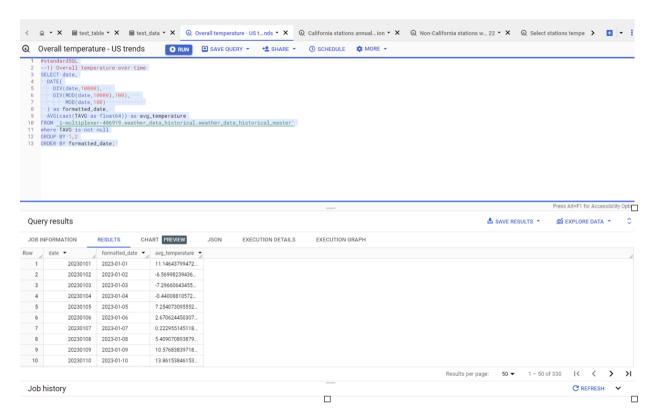
```
SQL QUERIES
SQL Queries:

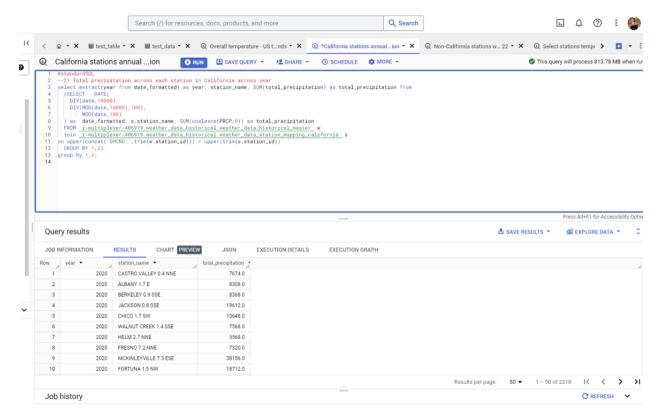
#standardSQL
--1) Overall temperature over time
SELECT date,
DATE(
DIV(date,10000),
DIV(MOD(date,10000),100),
MOD(date,1000)
) as formatted_date,
AVG(cast(TAVG as float64)) as avg_temperature
FROM `i-multiplexer-406919.weather_data_historical.weather_data_historical_master`
where TAVG is not null
GROUP BY 1,2
ORDER BY formatted_date;
```



#standardSQL

--2) Total precipitation across each station in California across year select extract(year from date_formatted) as year, station_name, SUM(total_precipitation) as total_precipitation from (SELECT_DATE(DIV(date,10000), DIV(MOD(date,10000),100), MOD(date,10000))
) as date_formatted, s.station_name, SUM(coalesce(PRCP,0)) as total_precipitation

FROM `i-multiplexer-406919.weather_data_historical.weather_data_historical_master` w join `i-multiplexer-406919.weather_data_historical.weather_data_station_mapping_california` s on upper(concat('GHCND:',trim(w.station_id))) = upper(trim(s.station_id)) GROUP BY 1,2) group by 1,2;

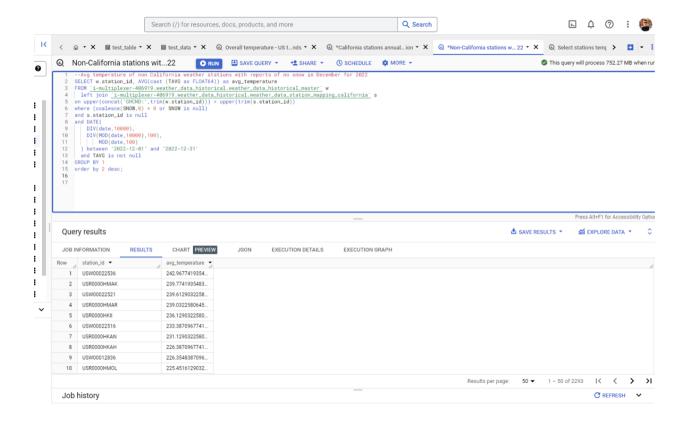


--3) Avg temperature of non California weather stations with reports of no snow in December for 2022 SELECT w.station_id, AVG(cast (TAVG as FLOAT64)) as avg_temperature FROM `i-multiplexer-406919.weather_data_historical.weather_data_historical_master` w left join `i-multiplexer-406919.weather_data_historical.weather_data_station_mapping_california` s on upper(concat('GHCND:',trim(w.station_id))) = upper(trim(s.station_id)) where (coalesce(SNOW,0) = 0 or SNOW is null) and s.station_id is null and DATE(

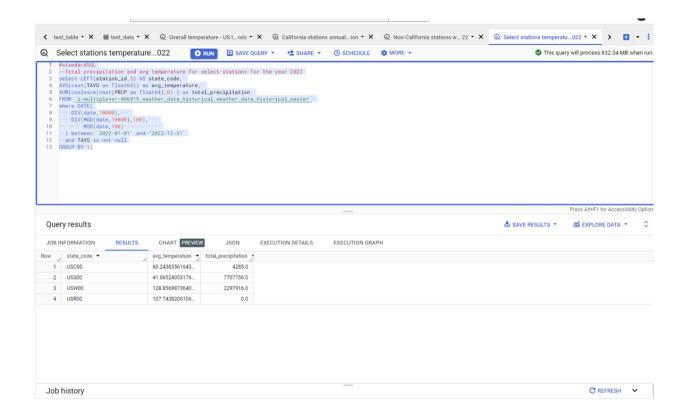
DIV(date,10000),

DIV(MOD(date,10000), 100),

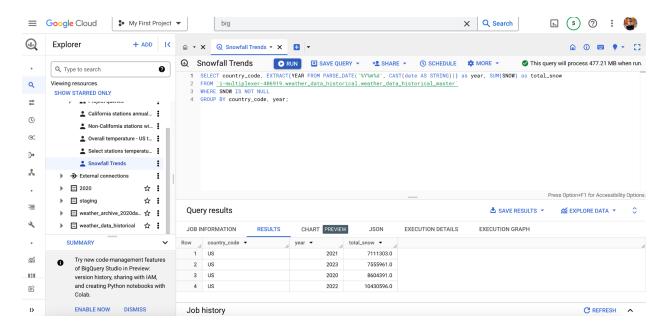
MOD(date,1000)
) between '2022-12-01' and '2022-12-31' and TAVG is not null
GROUP BY 1 order by 2 desc;



#standardSQL



5.Yearly snowfall trends per country
SELECT country_code, EXTRACT(YEAR FROM PARSE_DATE('%Y%m%d', CAST(date AS STRING)))
as year, SUM(SNOW) as total_snow
FROM `i-multiplexer-406919.weather_data_historical.weather_data_historical_master`
WHERE SNOW IS NOT NULL
GROUP BY country_code, year;

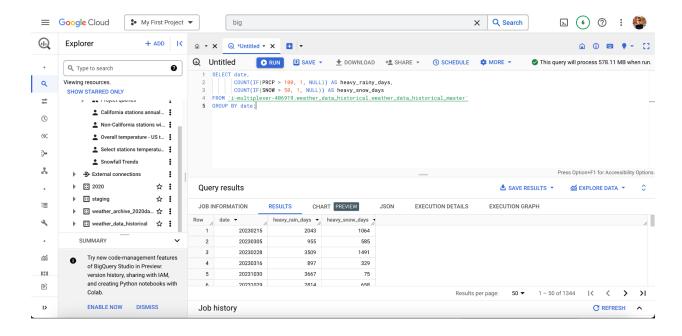


6. Find out the heavy snow and rainy days in the year. SELECT date,

COUNT(IF(PRCP > 100, 1, NULL)) AS heavy_rainy_days,

COUNT(IF(SNOW > 50, 1, NULL)) AS heavy_snow_days

FROM `i-multiplexer-406919.weather_data_historical.weather_data_historical_master` GROUP BY date;



7. Rainfall each weather station recorded on each day of the week.

SELECT station id,

FORMAT_DATE('%A', PARSE_DATE('%Y%m%d', CAST(date AS STRING))) AS weekday, SUM(PRCP) as total_precipitation

FROM `i-multiplexer-406919.weather_data_historical.weather_data_historical_master`

GROUP BY station id, weekday

ORDER BY station_id, weekday;

