

Hidrologia EC - App Summary

Streamlit app that visualizes multiyear comparisons of water levels and flows (cota/caudal) using a daily CELEC dataset. It focuses on interactive year selection and station-level exploration.

Who it is for

Hydrology analysts and planners comparing historical water levels and flows at specific stations in Ecuador.

What it does

- Selects a station variable (cota or caudal) from dataset columns.
- Lets users choose multiple years to compare in one view.
- Plots a multiyear overlay by day-of-year with dual day and month tick labels.
- Plots a historical time series colored by year for the selected period.
- Treats zero values as missing data to avoid misleading plots.
- Caches the dataset for faster reloads using Streamlit caching.

How it works (repo evidence)

- **UI:** Streamlit layout with title, selectbox, multiselect, and two Matplotlib figures.
- **Data:** Loads `data_caudales_diario.pickle` (pandas DataFrame) with year/month/day and value columns.
- **Processing:** Filters by selected years, pivots by day-of-year, builds labels, and prepares time series.
- **Plots:** Matplotlib line plot for multiyear overlay; LineCollection for colored historical series.

How to run

- Install Python deps from `requirements.txt` (streamlit, pandas, matplotlib).
- Run: `streamlit run streamlit_app.py`

If any item is missing above, it was not found in the repo.