Data Download Example

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2025-01-30

This notebook downloads and parses the lake level time series data in the Hydrocron example: https://podaac.github.io/hydrocron/examples.html

Download

```
# Define download directory and file name
out_dir <- "data"
out_file <- "example_data.csv"

# Define the example API URL
url <- "https://soto.podaac.earthdatacloud.nasa.gov/hydrocron/v1/timeseries?feature=PriorLake&feature_i

# Make the GET request to the API
response <- GET(url)

# Check the status of the response
if (status_code(response) == 200) {
  # Parse the JSON response
  json_content <- content(response, as = "text")
  parsed_json <- fromJSON(json_content)

  # Extract the CSV data from the JSON
  csv_content <- parsed_json$results$csv

  # Write the extracted data to a CSV file
  write_file(csv_content, file.path(out_dir, out_file))
  cat("Data downloaded successfully.\n")
} else {
  cat("Failed to download data. Status code:", status_code(response), "\n")
}
```

```
## No encoding supplied: defaulting to UTF-8.
```

```
## Data downloaded successfully.
```

Plot

```
# Read data
data <- read_csv(file.path(out_dir, out_file), show_col_types = F)

# View data
print(data)
```

```
## # A tibble: 2 x 11
##      lake_id time_str              wse area_total quality_f collection_shortname
##        <dbl> <dttm>              <dbl>      <dbl>     <dbl> <chr>
## 1 6350036102 2024-07-23 11:50:03  260.      0.464         1 SWOT_L2_HR_LakeSP_2~
## 2 6350036102 2024-07-25 22:48:23  261.      0.553         1 SWOT_L2_HR_LakeSP_2~
## # i 5 more variables: crid <chr>, PLD_version <dbl>, range_start_time <dttm>,
## #   wse_units <chr>, area_total_units <chr>
```

```
# Plot data
ggplot(data, aes(x = time_str, y = wse)) +
  geom_point(col = "blue") +
  geom_line(col = "blue") +
  xlab("Date/Time") +
  ylab("Water Surface Elevation (m)") +
  ggtitle("Example Lake Data from Hydrocron") +
  theme_bw()
```