

Lake Powell Outlet Releases and Temperature

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Description

This is an R Markdown document. This document plots Lake Powell Outlet Releases and Temperature in an interactive graph (dygraphs). The document also shows histograms of daily difference in release temperature and differences broken out by month.

Key steps 1. Download Glen Canyon Dam Turbine, River Outlet, and Total Releases from Reclamation's Data Portal and plot as an interactive Time-Series (DyGraph) 2. Download Release Temperature Data from Grand Canyon Monitoring and Research Center Website A. Glen Canyon Dam Release Water Temperature near Page AZ - gcmrcTemp.tsv (csv file). Grand Canyon Monitoring and Research Center https://www.gcmrc.gov/discharge_qw_sediment/station/GCDAMP/09379901#. B. Glen Canyon Dam hourly release data. Reclamation HDB Online Data Query Tool at https://www.usbr.gov/lc/region/g4000/riverops/_HdbWebQuery.html

3. Plot A. Combined DyGraph (interactive timeseries plot) with Releases on left axis and Temperature on the second right axis. B. Histogram of daily temperature differences C. Histogram of daily temperature differences broken out by month (facet)

Versions to use to reproduce results

A. R version 4.1.1. Download from <https://cran.r-project.org/>. B. R Studio 2021.09.0. Build 351 - Download from <https://www.rstudio.com/>.

Key findings

Requested Citation

David E. Rosenberg (2025), "Lake Powell Outlet Releases and Temperature." Utah State University. Logan, Utah. Hydroshare

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## [16] TRUE TRUE
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Figure 1. Interactive Lake Powell Release and Temperature Hydrographs