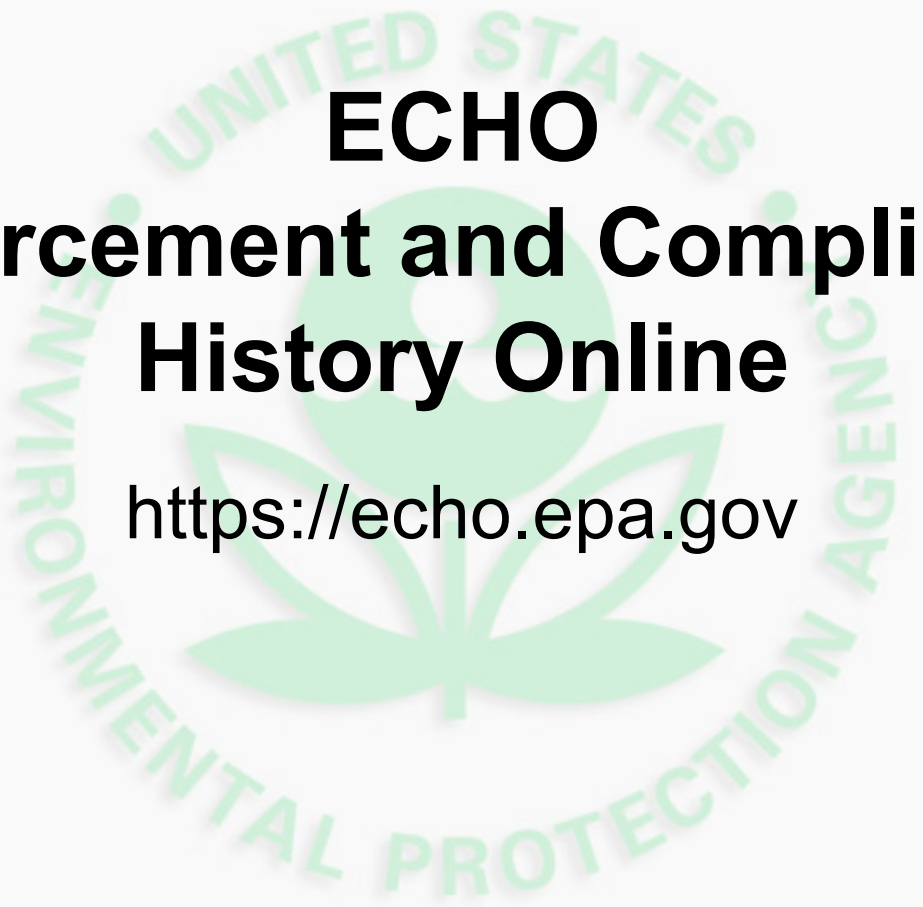




ECHO

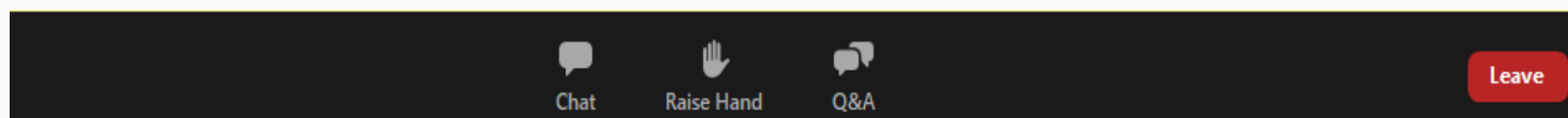
Enforcement and Compliance History Online

<https://echo.epa.gov>

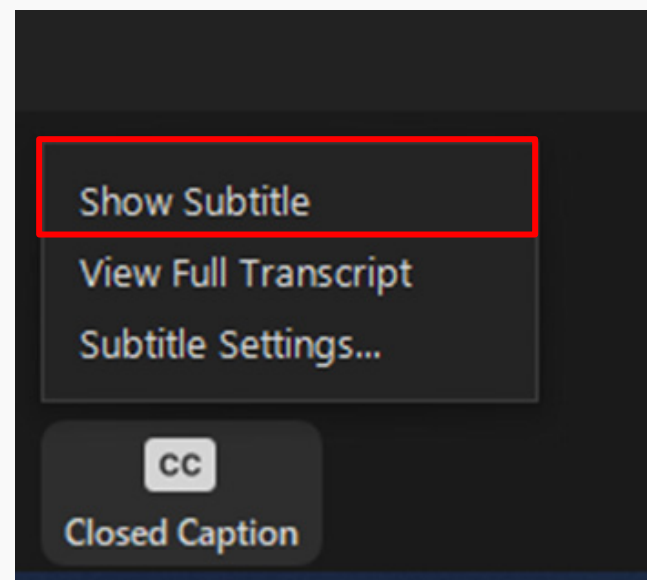


AUDIO INSTRUCTIONS

You are in listen-only mode (muted).



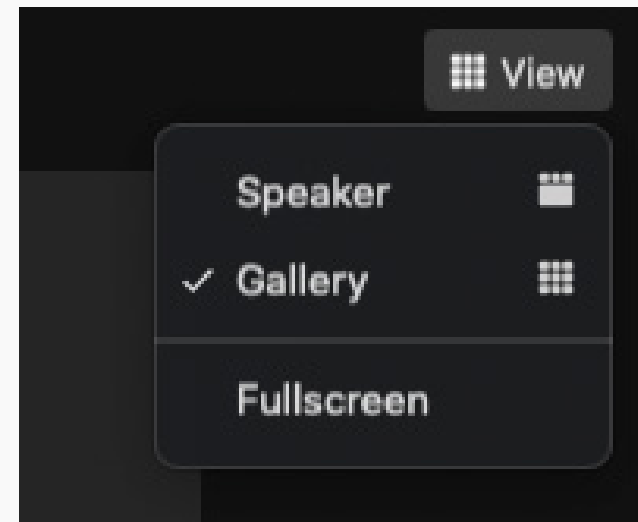
Closed Captioning for today's Webinar is available by clicking the "Closed Caption" button on your toolbar.





VIDEO INSTRUCTIONS

If you don't see a presentation on the screen, try switching the view layout using the options in the top right corner.





Questions During the Webinar

- Use the Questions box to type in your questions throughout the webinar.
- Please make the context of your question clear, as we will be answering questions covering a range of topics (feel free to reference live examples or slide numbers).
- In order to make this webinar useful for all attendees, we will not address site specific or individual problems during this session - please use ECHO's [Contact Us](#) page for help with those questions.



Webinar Materials

A recording of the webinar, as well as presentation slides and transcript, will be uploaded to the [ECHO Training Page](#).



Introduction

- The U.S. Environmental Protection Agency provides public access to its regulatory compliance and enforcement data via the Internet.
- The Enforcement and Compliance History Online (ECHO) website at <https://echo.epa.gov> integrates data from major EPA information systems for public use.



What is ECHO?

- ECHO is EPA's public website that provides compliance information about regulated facilities.
 - How they are regulated
 - When they were inspected
 - Whether violations of environmental regulations were found
 - Whether an enforcement action was taken
- The website also provides dashboards with views of overall enforcement and compliance status trends and some bulk datasets for download.



ECHO Content

Compliance history for more than 1 million EPA-regulated facilities

- Three-year compliance status and five-year inspection and enforcement history
- EPA and state, local, and tribal environmental agency data for:
 - Clean Air Act stationary sources
 - Clean Water Act permitted dischargers
 - Safe Drinking Water Act public water systems
 - Resource Conservation and Recovery Act hazardous waste handlers



ECHO Content (continued)

- EPA data for other statutes like Emergency Planning and Community Right-to-Know Act (EPCRA), Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and Toxic Substances Control Act (TSCA):
 - Inspections
 - Enforcement Action Details



Sources of ECHO Data

ECHO extracts data from other EPA data systems, typically on a weekly basis:

- Integrated Compliance Information System (ICIS)
- Resource Conservation and Recovery Act Information System (RCRAInfo)
- Safe Drinking Water Information System (extracted quarterly)
- Facility Registry Service (links EPA-regulated facilities and permits under one ID number)
- Envirofacts: Toxics Release Inventory (TRI) and Greenhouse Gas (GHG) pollutant release data for context; EJSCREEN data

Full list with refresh dates on “About the Data” page
(<https://echo.epa.gov/resources/echo-data/about-the-data>)



ECHO Features

- Facility Searches → *under home page “Search Options”*
 - All Data (cross-program)
 - Air (stationary source)
 - Wastewater/Stormwater/Biosolids (NPDES program)
 - Hazardous Waste (RCRA Subtitle C)
 - Drinking Water (public water systems)
- Water Pollutant Loading Tool → *under home page “Search Options”*
- EPA Enforcement Case Search → *under home page “Find EPA Cases”*
- State Dashboards → *under home page “Analyze Trends”*



Today's Topics

- Focus: how to access, download, and use data for offline analyses
- Use case studies to explore data sets and downloads of search results within ECHO including:
 - How to download NPDES Discharge Monitoring Report (DMR) data
 - How to combine National Data Download files
 - How to use the ECHO Explorer



Please enter questions you have during the presentation, and we will answer them soon.



Live Demo of ECHO



Guest Speaker:

Will Wheeler

Economist at EPA's National Center for
Environmental Economics



“Follow the Data to Answer Questions about the Environment”

- <https://www.epa.gov/perspectives/follow-data-answer-questions-about-environment>
- “I answer questions that help the agency and our state partners protect the environment!”
- Example: EPA’s Office of Enforcement and Compliance Assurance asked *‘Do automatic reminder emails help facilities submit mandatory reports on time?’*
 - The answer is clearly yes! But finding that answer required me looking at years of data files with tens of millions of rows (of course, I thought this was a fun challenge).



Some Lessons Learned

- I have a lot of experience using the data downloads (a LOT with the CWA NPDES data)
- I have learned many of lessons about using the data, some the hard way
 - Focus today about practical advice



Software

- These files can be too large for personal laptops and desktops and they are unreadable in Excel
- Use software that is flexible and memory efficient
 - (Access or other database tools; R or Python are free)



Selecting Data

- Need a clear understanding of all variables of the many included in the files
- Only read those that are needed for analysis.
- Use techniques or software packages that allow selection when reading
 - In R, vroom and fread from data.table are great choices



Declare Data Types

- Always declare variable types when reading
- Leading zeros
- Integer keys
- Sparse variables

ECHO Data Downloads Resources



- ECHO Data Downloads: <https://echo.epa.gov/tools/data-downloads>
- ECHO Exporter: <https://echo.epa.gov/tools/data-downloads#exporter>
- Effluent Charts Help: <https://echo.epa.gov/help/reports/effluent-charts-help>
- NPDES Monitoring Data Download: <https://echo.epa.gov/trends/loading-tool/get-data/monitoring-data-download>
 - Help documentation: <https://echo.epa.gov/help/loading-tool/monitoring-data-download-help>

General Resources



- ECHO Tool Guide: <https://echo.epa.gov/resources/general-info/tool-guide>
- Video tutorials: <https://echo.epa.gov/help/tutorials>
- Webinars: <https://echo.epa.gov/help/training>
- FAQs: <https://echo.epa.gov/resources/general-info/echo-faq>
- ECHO Mailing list: <https://echo.epa.gov/resources/general-info/listserv>
- How to Report an Error: <https://echo.epa.gov/help/how-to-report-error>
- State Agency Websites: <https://echo.epa.gov/resources/echo-data/state-websites>



Question and Answer



Thank you for attending today's training!

A short survey will appear on your screen momentarily,
we would really appreciate your feedback.

OMB Control Number: 2030-0051 Expiration Date: 5/31/24

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