The U.S. Toxics Release Inventory (TRI)

Experiences in the development and implementation of PRTR: Uses and Applications

29 August 2024

Presentation Overview

- Toxics Release Inventory overview
- Most recent TRI data
- Adding context to TRI data
- Accessing TRI data (live demo)
- Q&A

What is the TRI?

An information resource about toxic chemical waste management at facilities across the U.S.

800+

individual chemicals and chemical categories

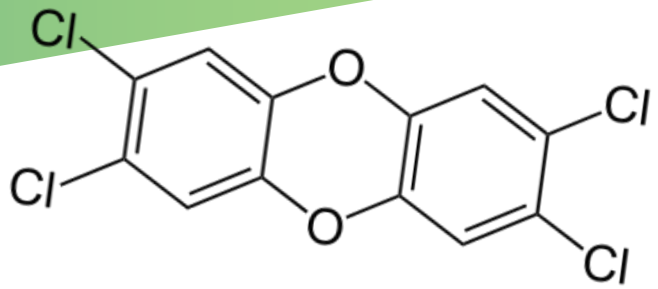
21,000+

industrial and federal facilities

since 1987

annual reporting directly from facilities

What Chemicals Are Covered?



- TRI covers an important subset of chemicals used in commerce
- In general, chemicals on the TRI list are those that cause:
  - Cancer or other chronic human health effects
  - Adverse acute human health effects
  - Significant adverse environmental effects

See the complete list at www.epa.gov/tri/tri-listed-chemicals

What Facilities Must Report?

A facility's coverage under the TRI Program is determined by its 6-digit North American Industry Classification System (NAICS) code. Approximately 400 NAICS codes are required to report to TRI.

- Covered industry sectors include:

Manufacturing

Federal Facilities

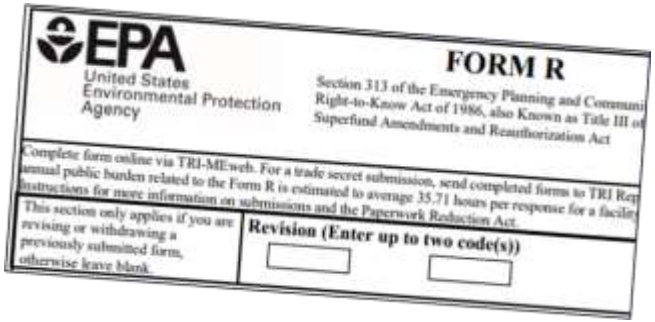
Coal/Oil Electricity Generation

Certain Mining Facilities

Hazardous Waste Management

- Minimum number of employees (equivalent to 10 full-time employees)
- Manufacture~~s~~, process~~es~~, or otherwise use~~s~~ more than a certain amount of a TRI-listed toxic chemical per year (generally 25,000lbs M/P and 10,000lbs OU; lower thresholds for PBTs/chemicals of special concern)

What information do facilities report to TRI?


EPA
United States Environmental Protection Agency

FORM R

Section 313 of the Emergency Planning and Communi
Right-to-Know Act of 1986, also Known as Title III of
Superfund Amendments and Reauthorization Act

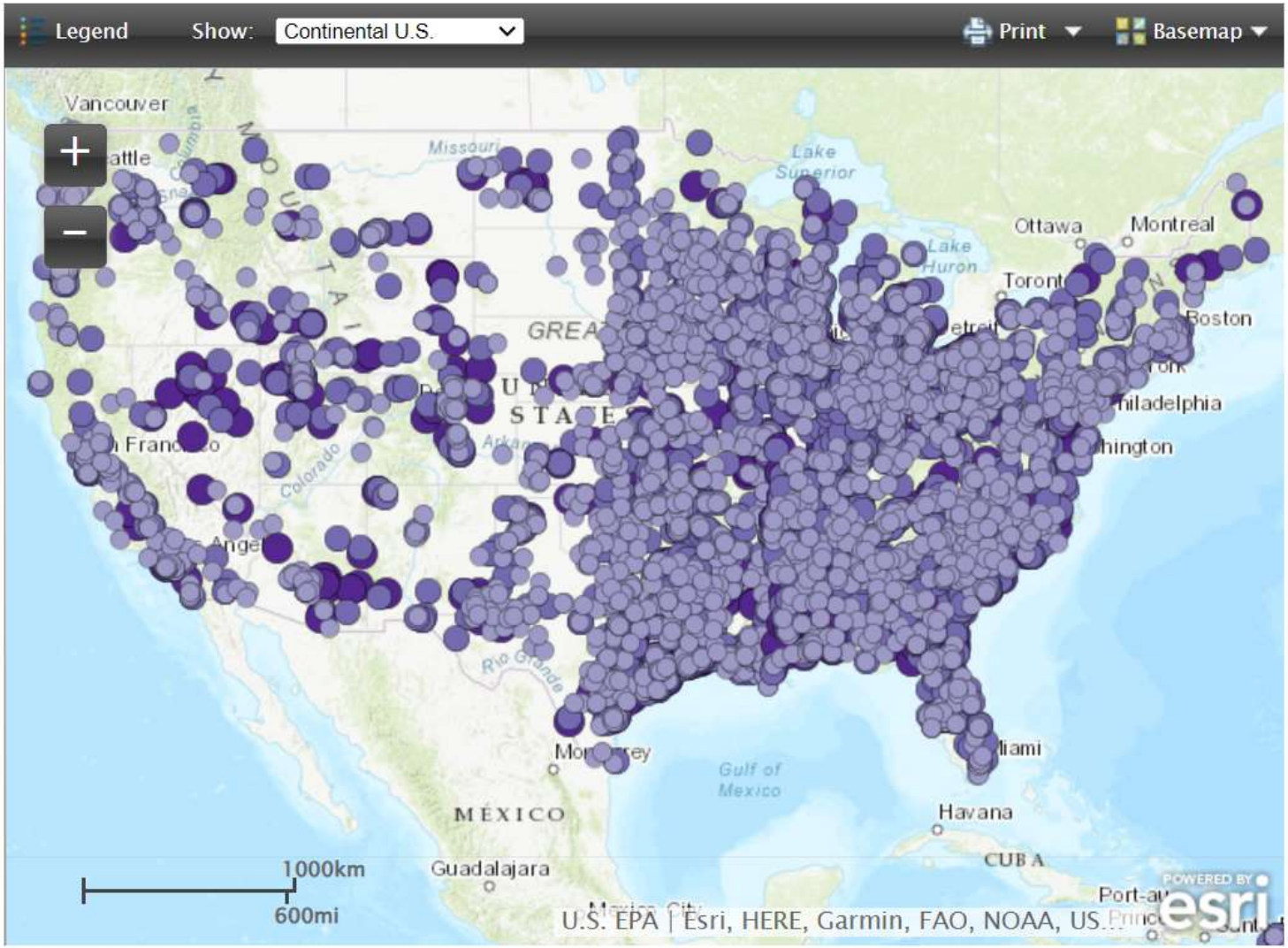
Complete form online via TRI-MEweb. For a trade secret submission, send completed forms to TRI Rep
annual public burden related to the Form R is estimated to average 35.71 hours per response for a facilit
Instructions for more information on submissions and the Paperwork Reduction Act.

This section only applies if you are revising or withdrawing a previously submitted form, otherwise leave blank.

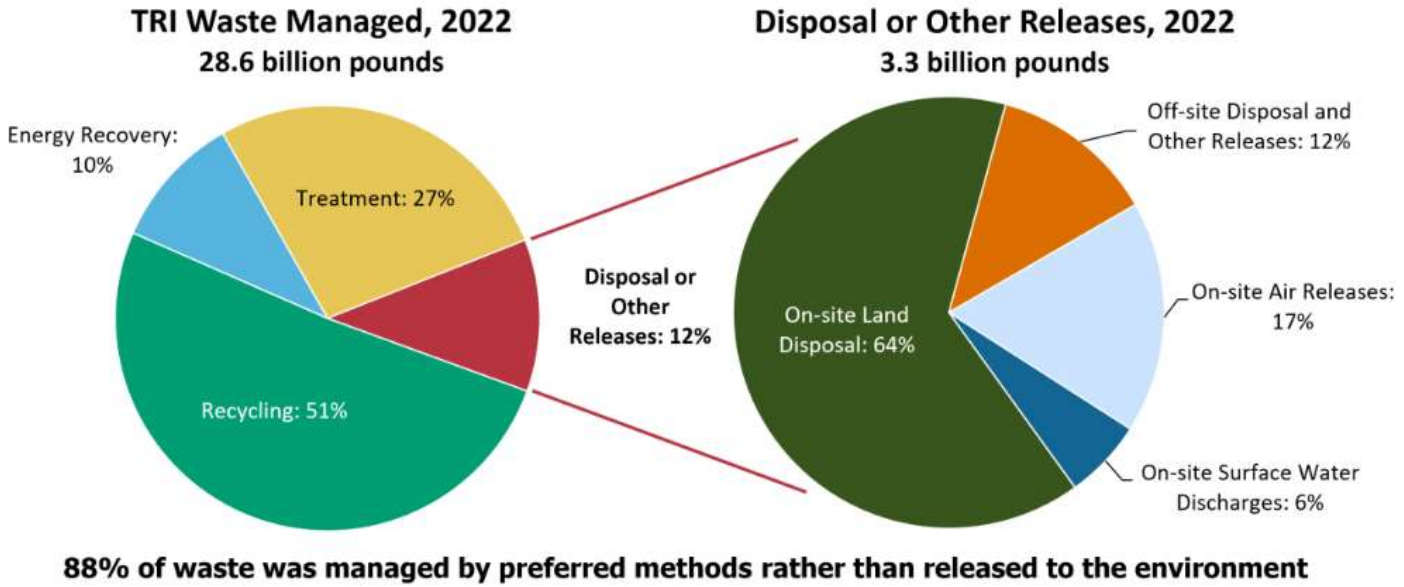
Revision (Enter up to two code(s))

- **On-site releases**
  - Air emissions
  - Surface water discharges
  - Disposal to land
- **Other on-site waste management**
  - Recycling
  - Energy recovery
  - Treatment
- **Transfers to off-site locations**
- **Newly implemented pollution prevention activities**

2022 TRI Reporting Facilities

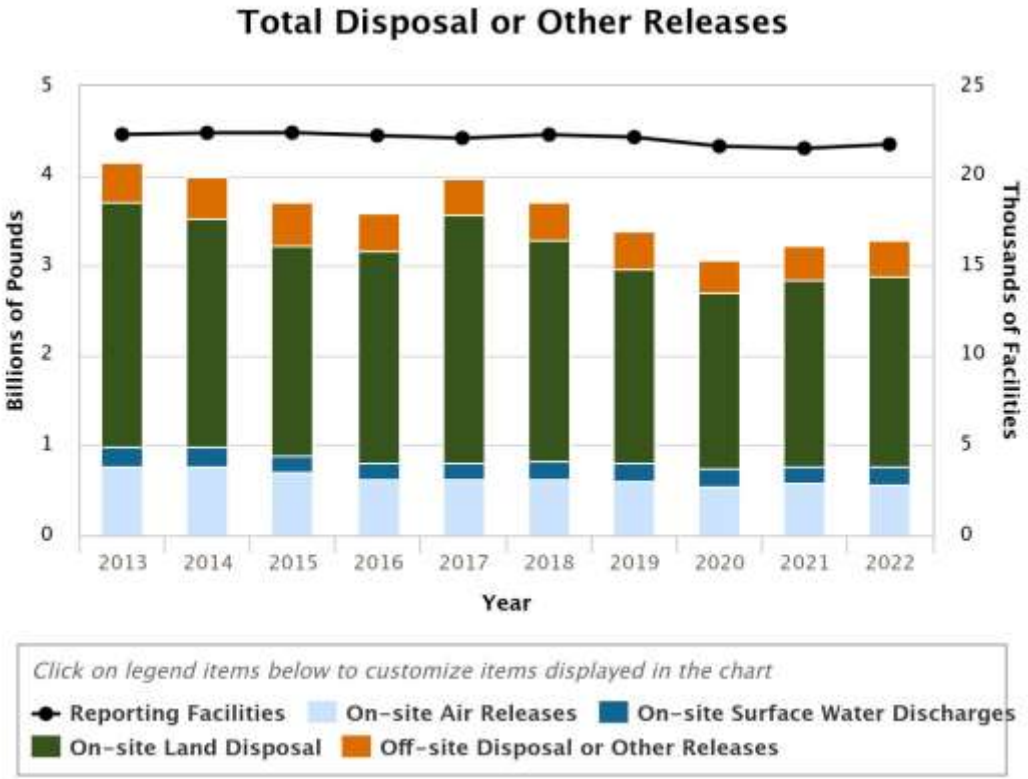


2022 TRI Data – Waste Managed

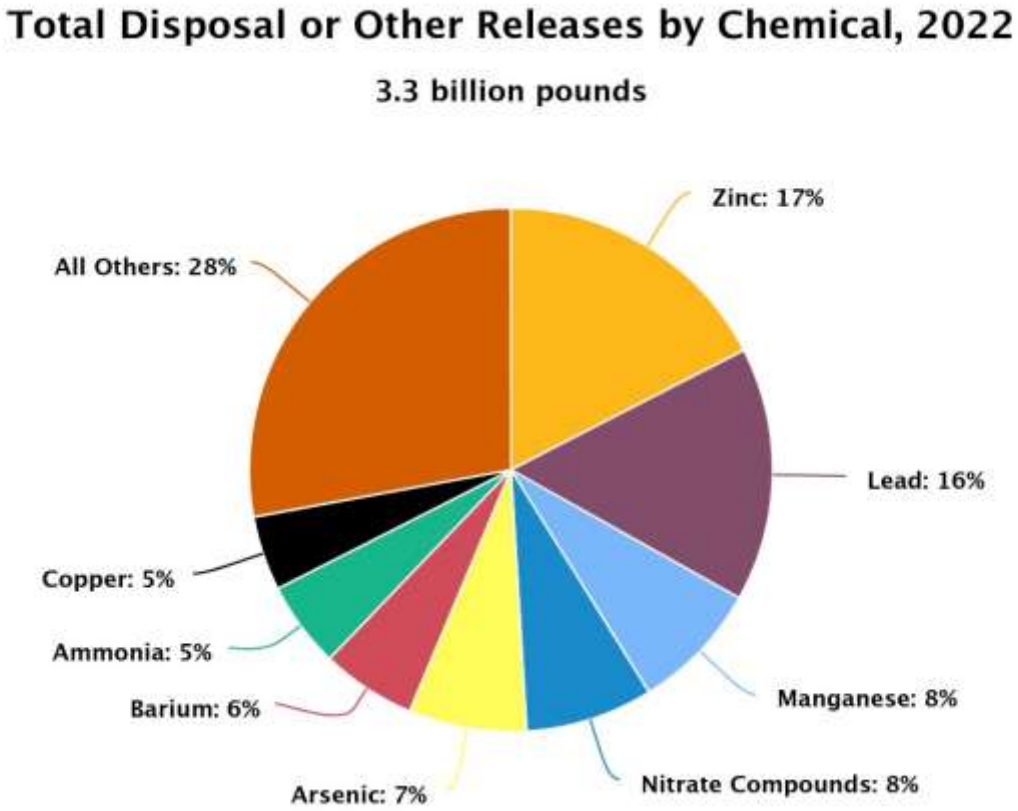


88% of waste was managed by preferred methods rather than released to the environment

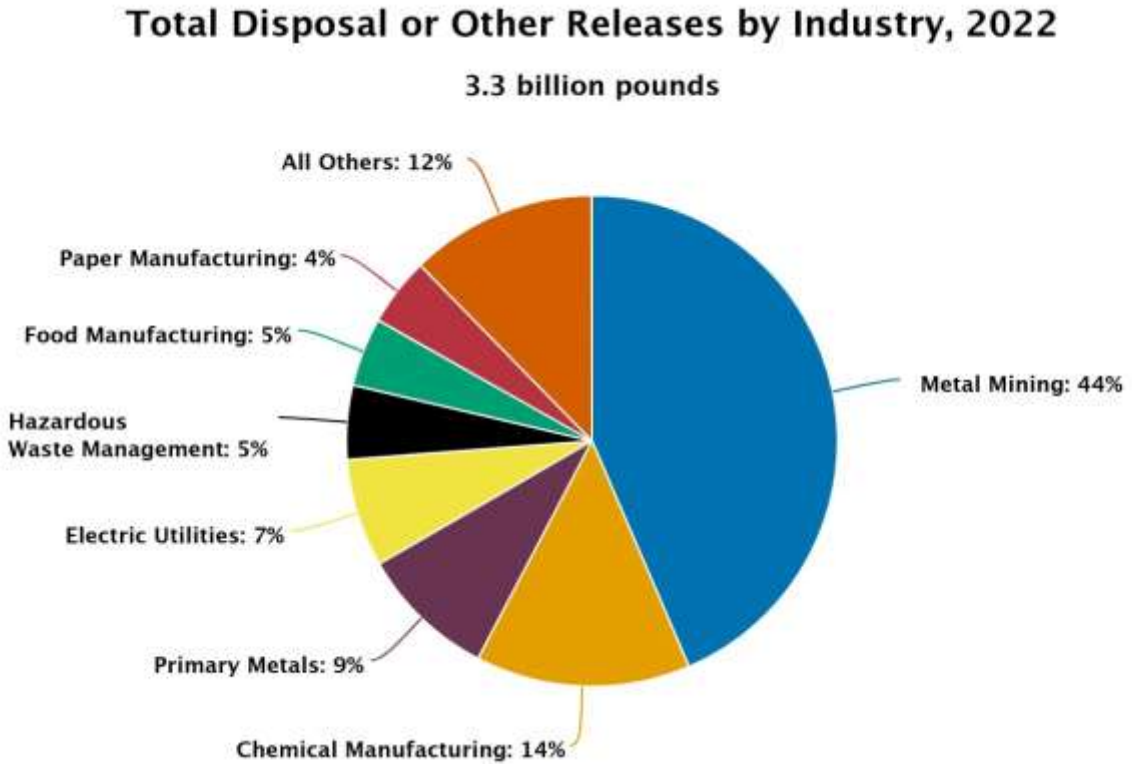
2022 TRI Data – Release Trend



2022 TRI Data – Releases by Chemical



2022 TRI Data – Releases by Sector



What Pollution Prevention Data do Facilities Report?

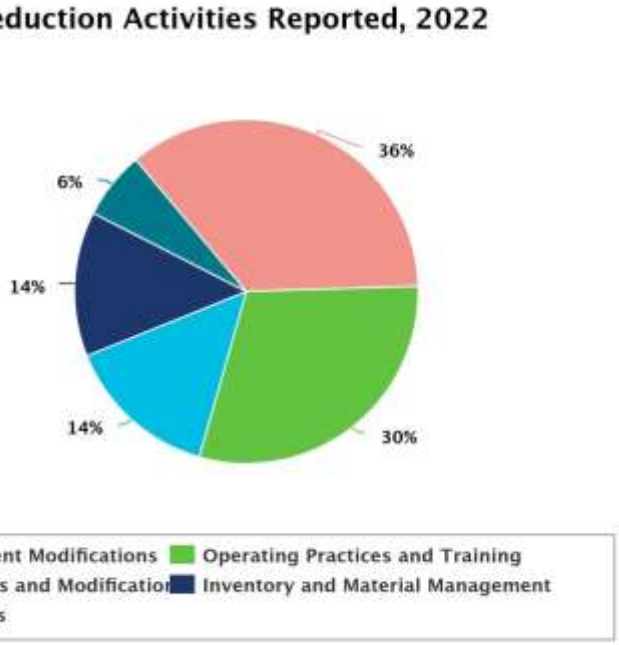
Source reduction activities are practices that reduce, eliminate, or prevent pollution at its source. Source reduction is also referred to as Pollution Prevention (P2).

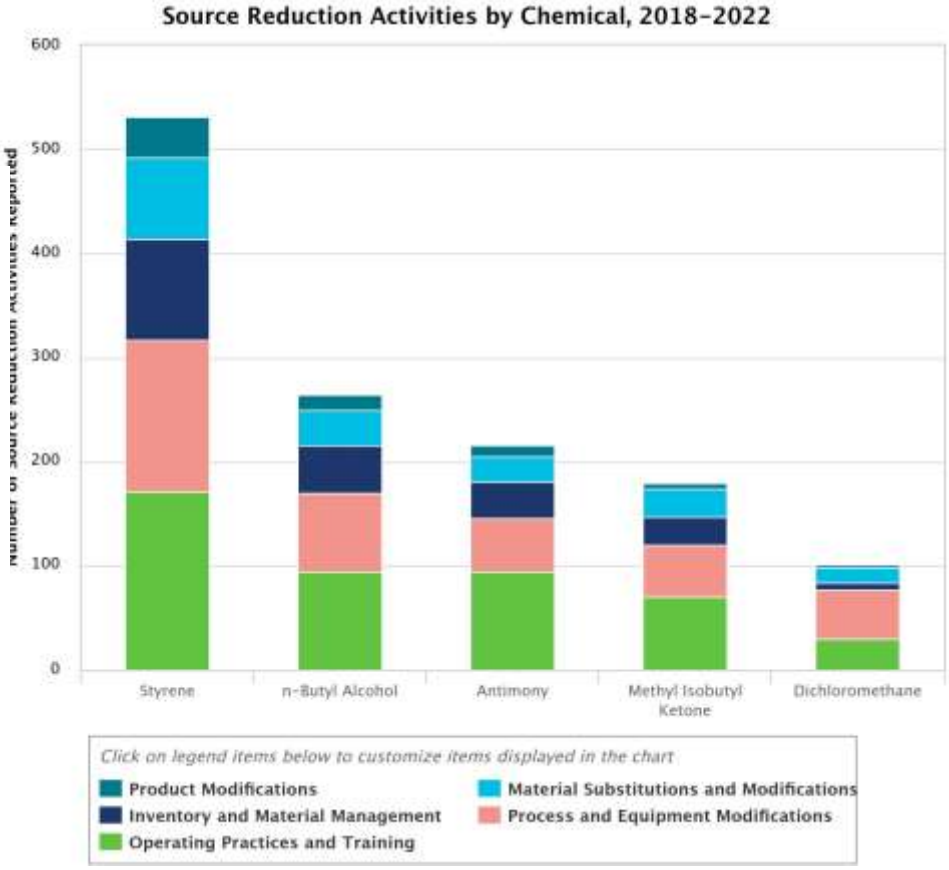
- Facilities are **required** to report all newly implemented source reduction activities involving TRI chemicals
  - Includes selection from 24 source reduction activity codes. Example: “S02: Substituted an organic solvent”
  - Codes are tracked across 5 categories
- Must also indicate the method(s) used to identify the activity (e.g., audit, vendor assistance)

Benefits of TRI P2 Data Collection

- Explore a shared knowledge base of source reduction practices
- Learn from peers along the value chain
- Increased opportunity to identify replicable practices
- Create a strong incentive for companies to reduce pollution and be good neighbors in their communities
- Measure facility/industry progress on reducing environmental releases and hazards

2022 TRI Data - Pollution Prevention





How EPA uses TRI P2 data

- Promoting P2 success stories
  - Chemical- and industry-specific spotlights
  - Videos highlighting good work being done at TRI-reporting facilities
  - P2 Search Tool
- Tracking facility performance
- Facilitating tech transfer
- Identifying research/assistance needs

More TRI Data Uses

Who uses the data?

*Includes federal, state, local, and tribal governments

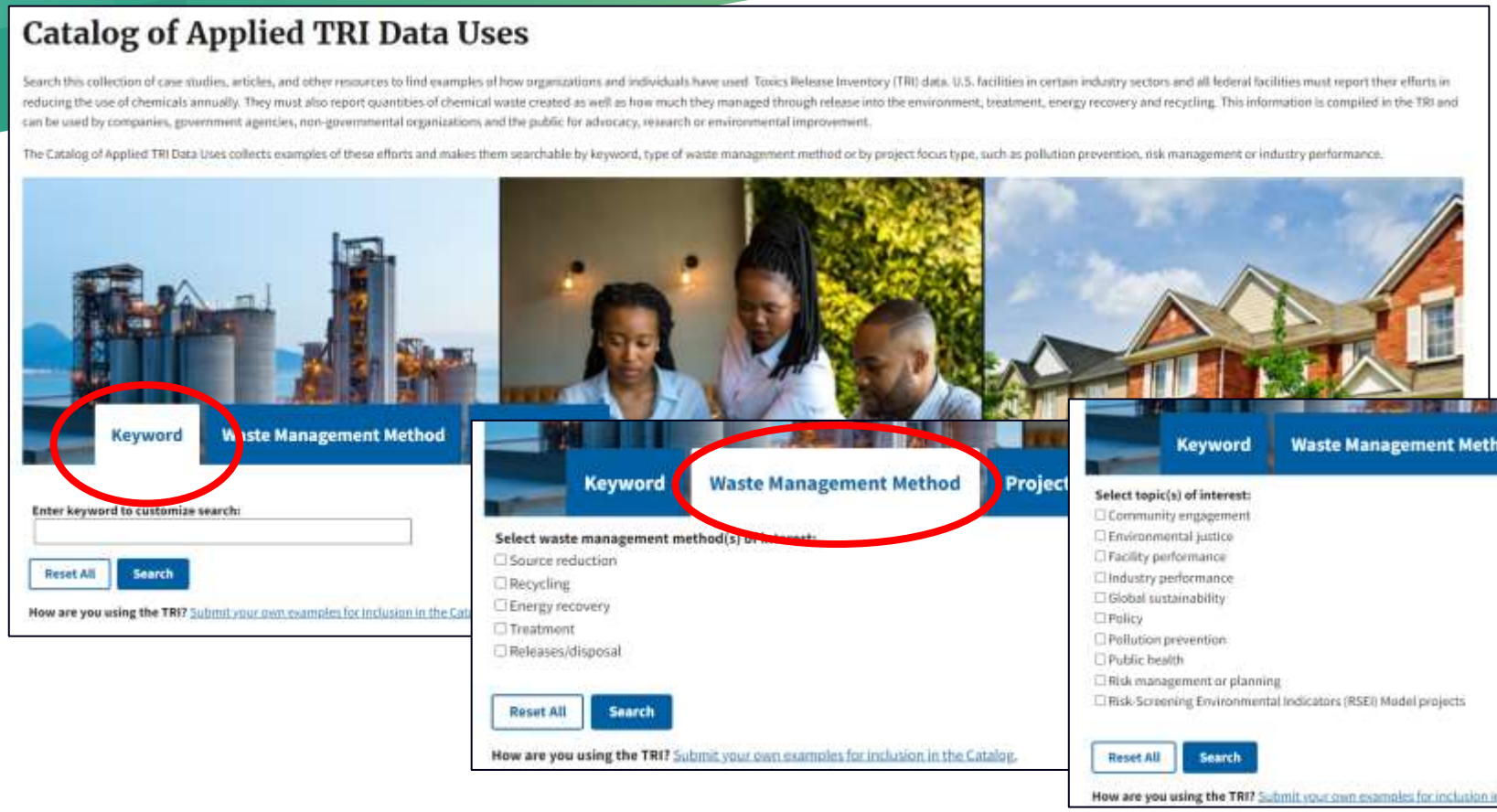
For what purposes?

- Track environmental performance of facilities
- Estimate potential chemical risks
- Encourage pollution prevention

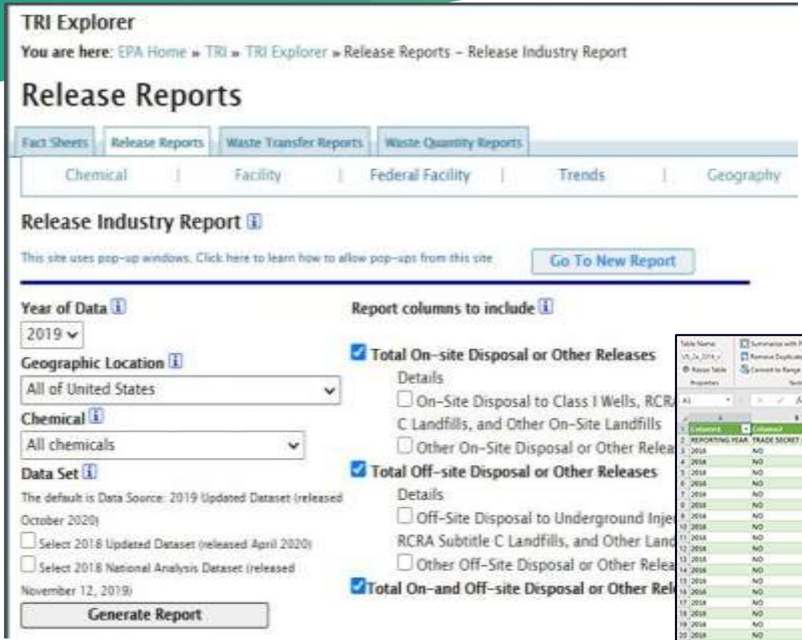
Leading to increased **awareness**, **understanding** of impact, and improved **decision making**.

www.epa.gov/toxics-release-inventory-tri-program/tri-data-uses

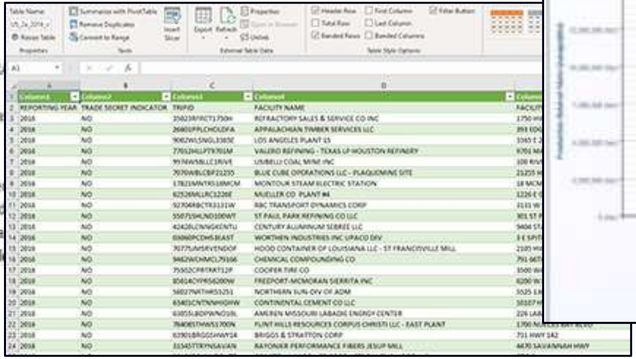
Catalog of Applied TRI Data Uses

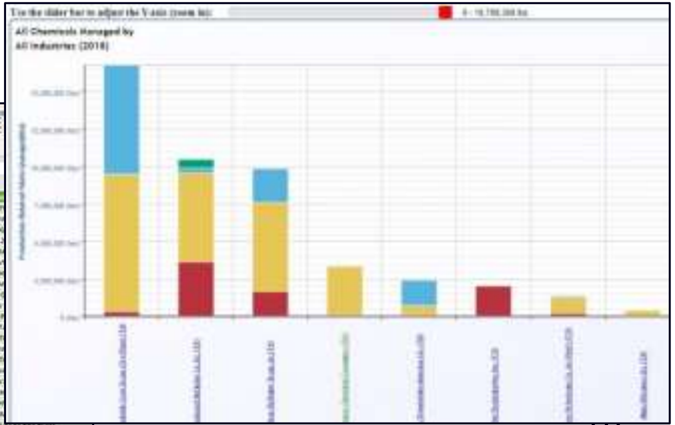


Accessing TRI Data

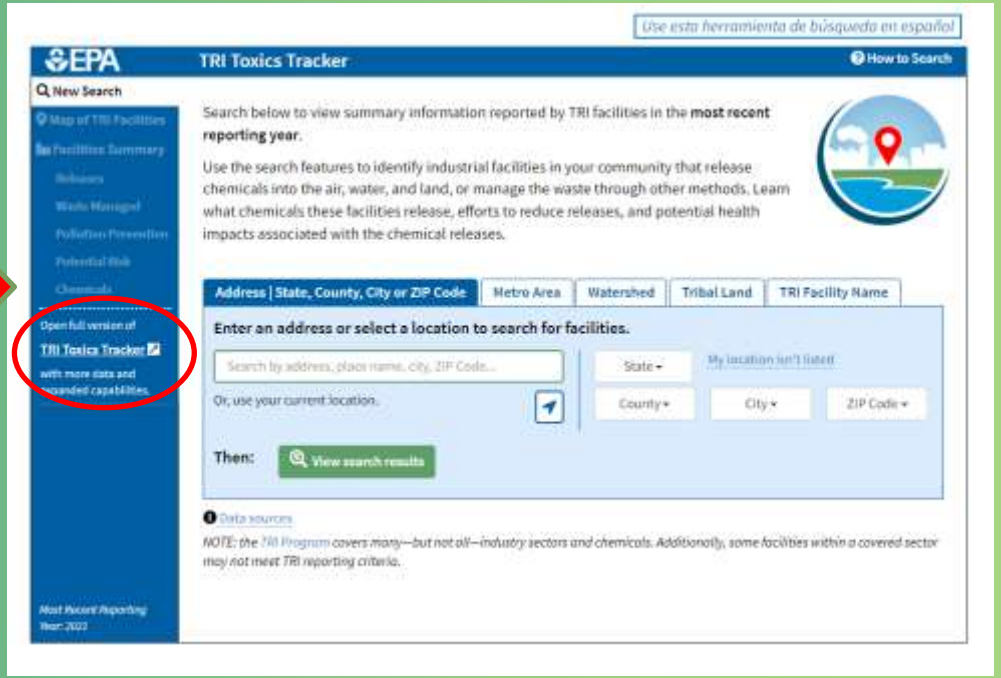


Tools vary by level of complexity, type of output, and amount of context added.

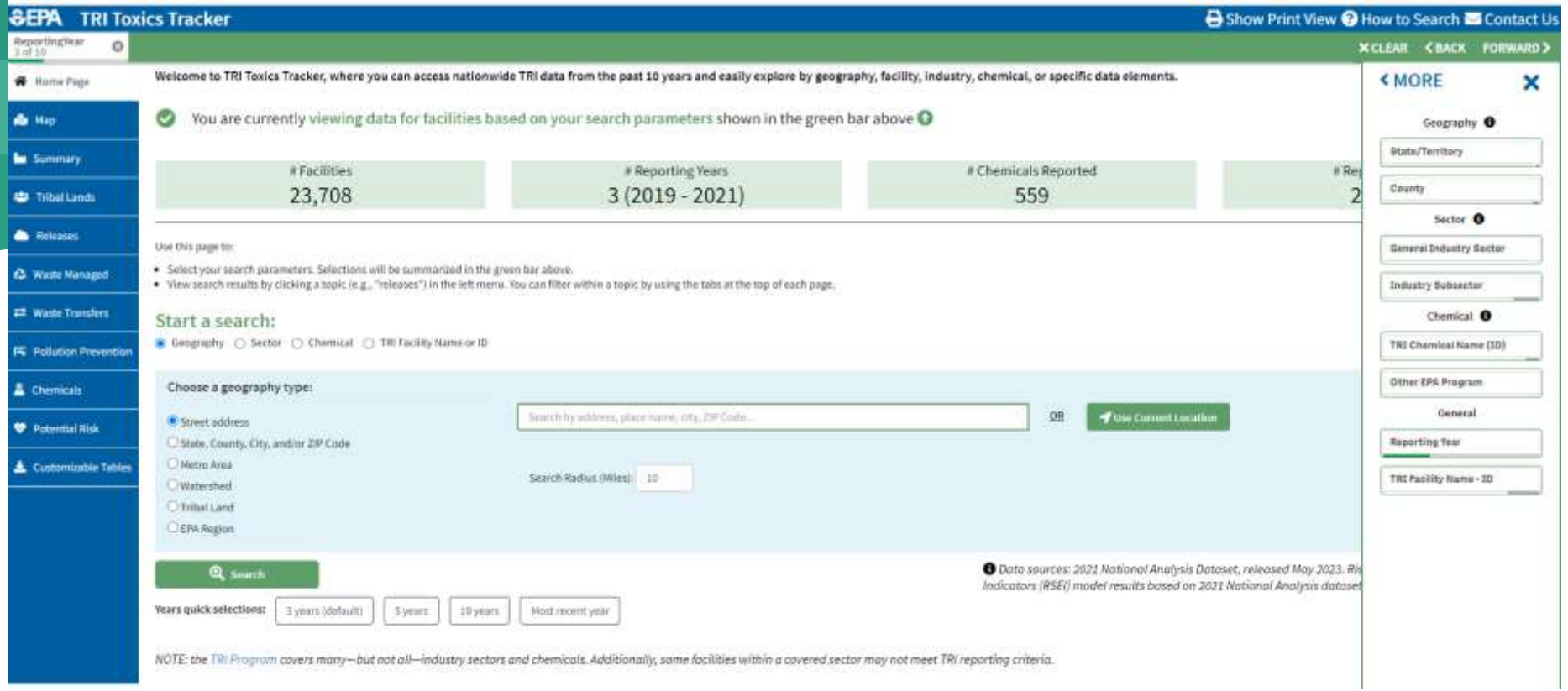




TRI Toxics Tracker via TRI Homepage



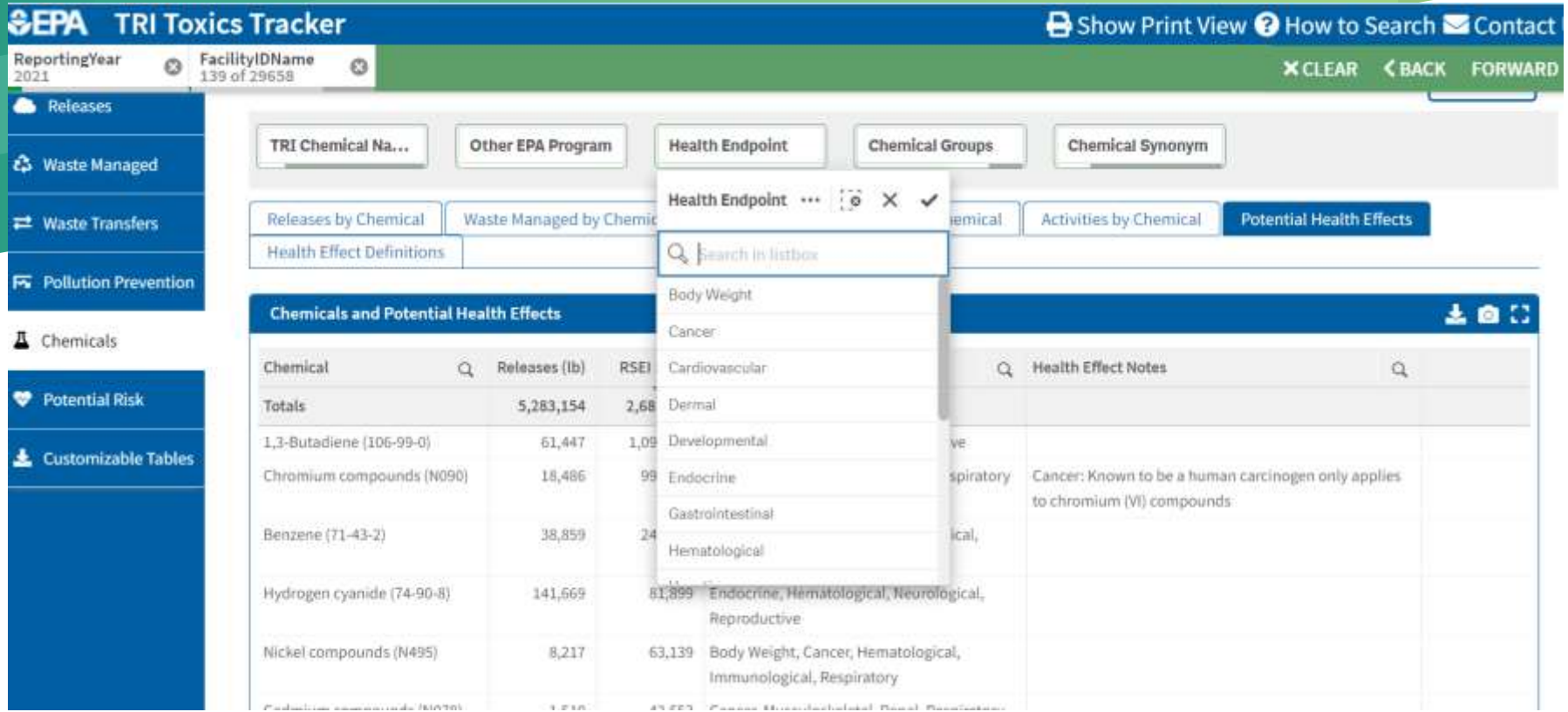
Full Version of TRI Toxics Tracker



Adding Context to TRI Data

- **Potential health effects associated with TRI chemicals are based on the Occupational Safety and Health Administration (OSHA) Carcinogen List and EPA's TRI-CHIP datasets.**
- *Demographic data layers provide characteristics of residents by census block groups, derived from EPA's EJScreen tool.*
- *Risk-Screening Environmental Indicators (RSEI) scores are relative unitless values to help understand potential impacts of TRI air and water releases, derived from EPA's RSEI model.*

Potential health effects associated with TRI chemicals



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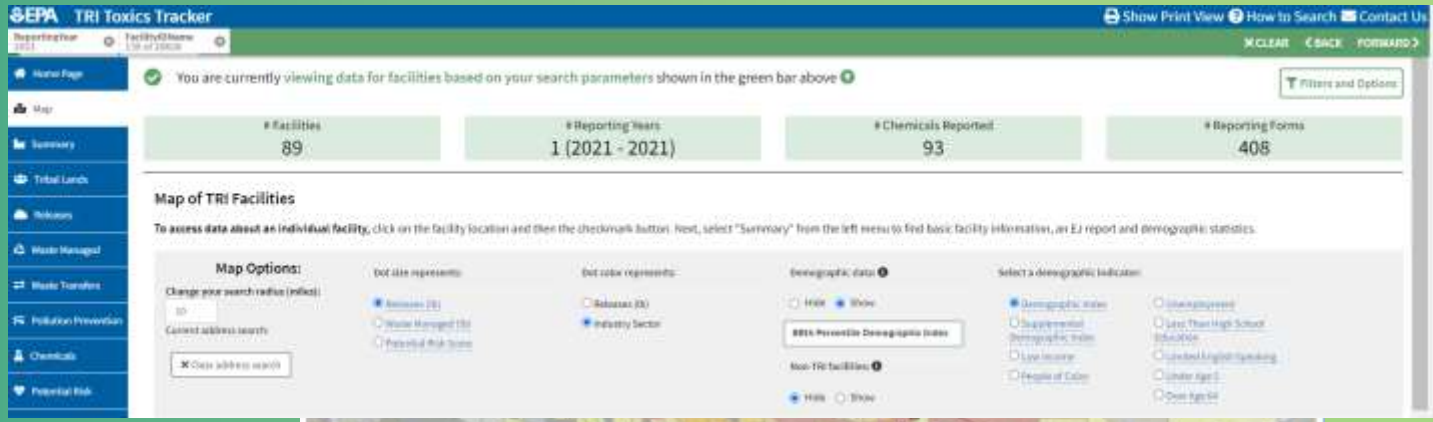
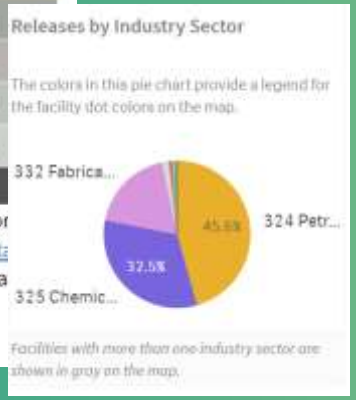
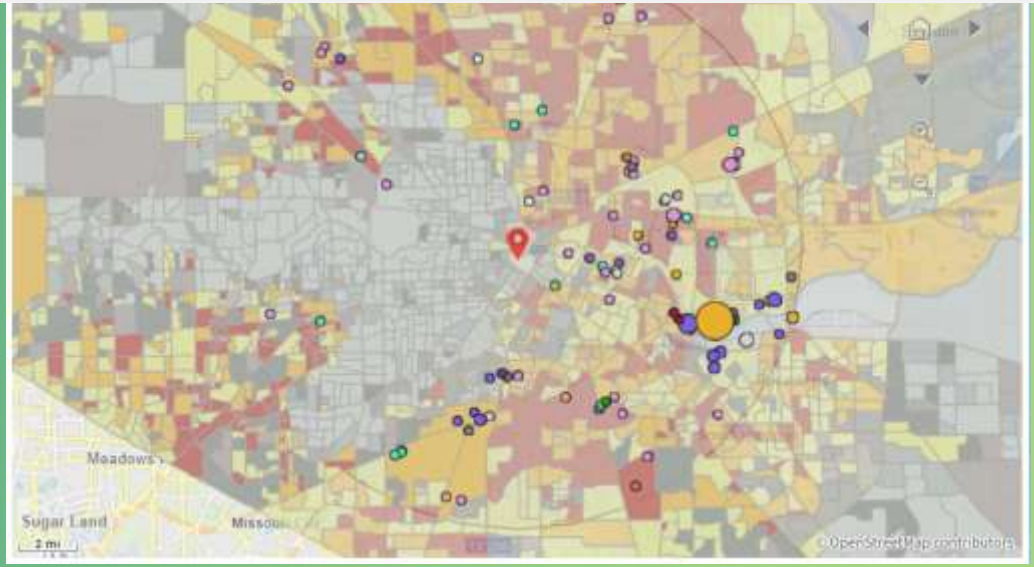
Mapping Demographic Data







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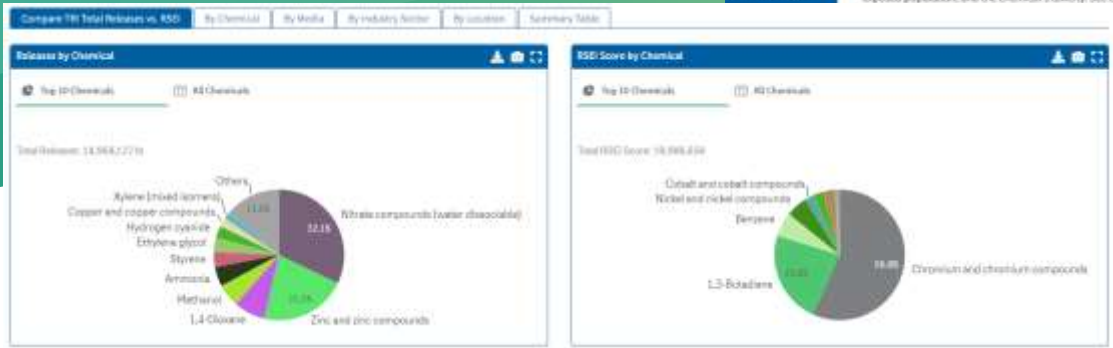
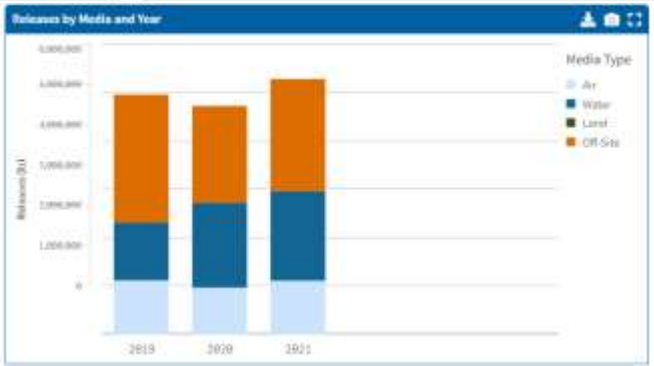
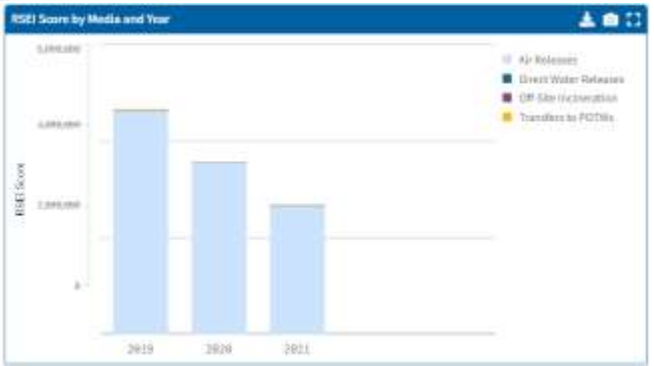
Potential impacts from TRI releases to air and water: RSEI scores







TRI Resources:

TRI Homepage - https://www.epa.gov/toxics-release-inventory-tri-program

TRI Toxics Tracker - https://edap.epa.gov/public/extensions/TRIToxicsTracker/TRIToxicsTracker.html#continue

TRI Data & Tools Page - https://www.epa.gov/toxics-release-inventory-tri-program/tri-data-and-tools

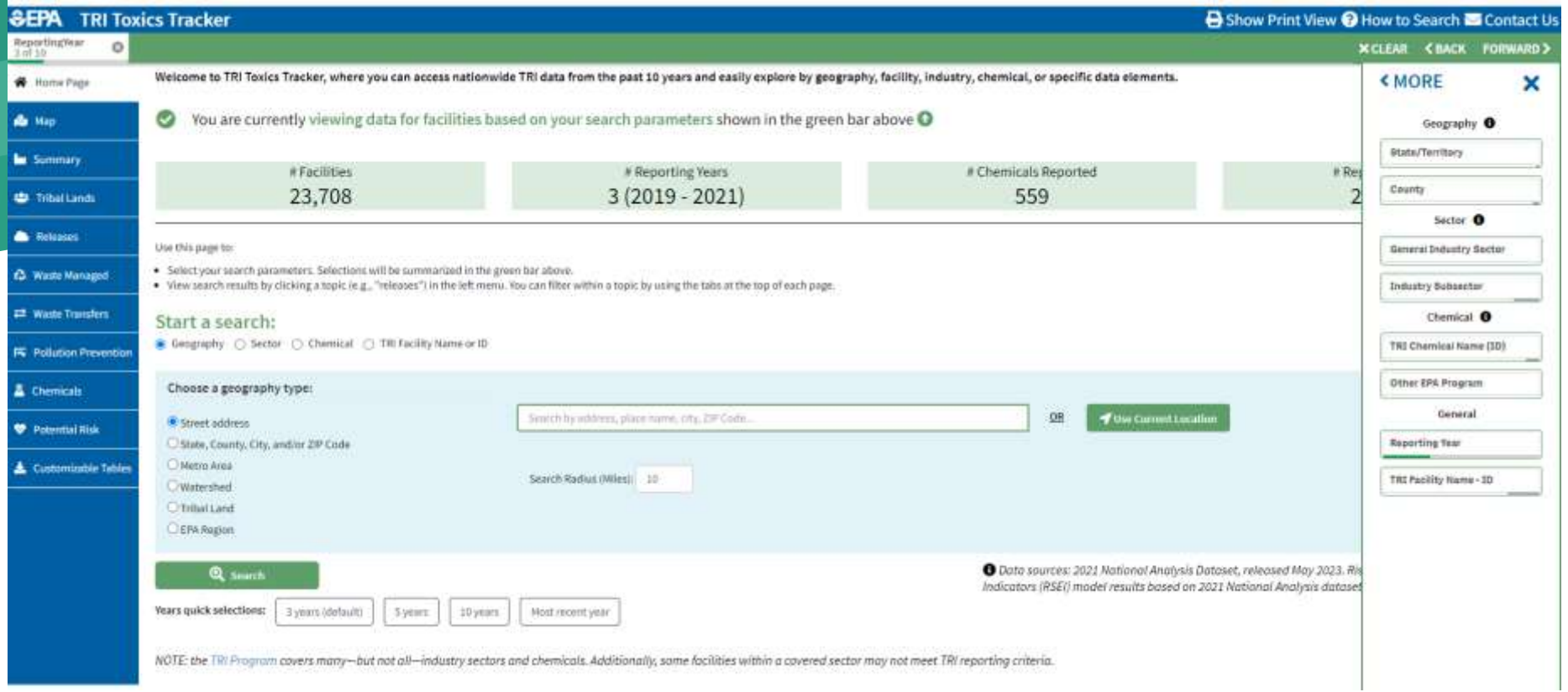
Catalog of TRI Data Uses - https://www.epa.gov/toxics-release-inventory-tri-program/catalog-applied-tri-data-uses

TRI Pollution Prevention - https://www.epa.gov/toxics-release-inventory-tri-program/pollution-prevention-p2-and-tri

Risk Screening Environmental Indicators Model - https://www.epa.gov/rsei

Factors to Consider when Using TRI Data - https://www.epa.gov/toxics-release-inventory-tri-program/factors-consider-when-using-toxics-release-inventory-data

TRI Toxics Tracker – Live Demo



Questions?

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