OVERVIEW OF CHANGES TO NPRI DATA PRODUCTS

NPRI Data User Workshop
2020-02-25

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OUTLINE

- Approach to Improving NPRI data products
- Data user research and key findings
- Ongoing efforts:
  - Changes to the NPRI website
  - Changes to Open Data
  - New NPRI Data Search: Demo
- Future work

NPRI DATA PRODUCTS – TYPES AND FORMATS

Online queries

NPRI Data Search

Tabular (CSV & XLSX)

Single year tabular data

Five year release data

Bulk data

Map Layers

Virtual Globe including Google Earth™

Open Mapping services

APPROACH TO IMPROVING NPRI DATA PRODUCTS

- Continuous Improvement of annual publications
  - Informed by user and non-user feedback, and web analytics
  - Implemented based on technical feasibility and availability of IT resources

- NPRI's Data Quality Management Framework: defines data quality in terms of seven elements

- Canada's 2018-2020 National Action Plan on Open Government and Canada's Open Data Principles

FEEDBACK AND ANALYTICS: SOURCES OF INFORMATION

- NPRI website analytics
  - 10 000 visits annually
  - Outbound clicks to NPRI data product
- Open Data Portal analytics
  - 8000 downloads annually
- Survey of internal (ECCC) data users
  - 40 participants
  - Satisfaction, most used products and future needs
- External Data user feedback
  - NPRI Inbox
  - Comments on Open Data
- Public Opinion Research (2019)

FEEDBACK AND ANALYTICS: KEY FINDINGS

- Most popular Data Products:

Online Query Site	Single Year Tabular Data	Bulk Data	Virtual Globe	Five-year Tabular Data

- Feedback:
  - Current products are satisfactory (internal and external data users)
  - Difficult to access information and data
  - Difficult to use and understand information and data

- Additional needs:
  - Online tools (e.g. web services, online visualization)
  - More years of data
  - More contextual information to data products
  - Create step-by-step guides

NPRI WEBSITE IMPROVEMENTS

- Fall 2017: migrated to Canada.ca

- All pages must be re-written
  by end of 2020
  - Plain simple language
  - Clear and easy to understand
  - Every page needs to be accessible

- Hired a non-technical writer to help
  with our pages

- Simplified url: www.Canada.ca/NPRI

- Objective: improve ease of access/findability of data products
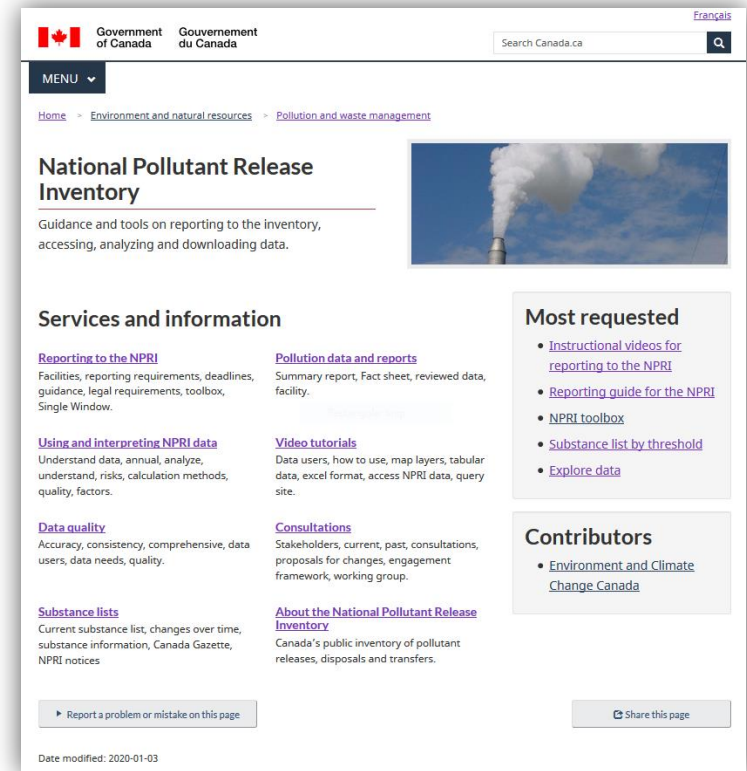
ACCESSING NPRI DATA PRODUCTS – NPRI WEBSITE

ACCESSING NPRI DATA PRODUCTS – EXPLORE DATA

- New [Explore NPRI data](#) page replaces Access Data page

- Redesigned and simplified with different types of data users in mind

- Contains descriptions and links to all the NPRI data products

Explore National Pollutant Release Inventory data

Thousands of facilities located across the country report to the NPRI each year. We make this data available to the public on this page.

The data can be used in different ways. For example:

- individuals can use it to track pollutants in their own neighbourhoods
- researchers can use it to monitor changes to air and water quality
- governments can use it to help set up environmental policies

Read about how we use NPRI data.

NPRI data

We have packaged the data in different ways for different uses. You can search the entire database, download subsets of data, or view the data on maps.

Search NPRI data

Search our database for pollutant releases in your area, as well as information about the facility(s).

Download NPRI data

These easy-to-use files let you dig deeper into the data in a variety of ways.

- Single year tables
  - annual tables of our most popular data fields. One table for each of the last 3 years
- Five year summaries
  - summaries by air, water or land releases grouped by province, industry type or substance
- All years datasets
  - annual data since 1994 on pollutant quantities, comments and geolocations
- Complete reported datasets
  - comprehensive datasets going back to 1994

View NPRI maps

All maps are for the most recent data.

- facility locations
- main air pollutants
- other air pollutants
- water pollutants
- land pollutants
- disposals and transfers of pollutants
- virtual globe maps

You can access the full collection of raw map files for your own use on our Open Maps page.

ACCESSING NPRI DATA PRODUCTS – OPEN DATA

IMPROVEMENTS TO OPEN DATA

- Clearer titles and descriptions
  - Reviewed in collaboration with a non-technical writer.
  - Include a short description of NPRI, a short description of the content of the page itself and links useful resources.

- Clearer file names
  - More understandable
  - Standardized nomenclature (when possible)
  - Bilingual titles for bilingual files

- Reviewed keywords
  - To ensure that the whole extent of NPRI is covered by the keywords, without adding unnecessary words

NEW AND IMPROVED DATA PRODUCTS

- New relational database
  - Smaller IT footprint, easier and faster queries
  - Streamlines the creation of Data Products
  - Enables more frequent data updates
  - Available on Open Data with its data dictionary
- New NPRI Data Search (demo)
  - Powered by an new API
  - Improved layout
  - More data
  - Improved search capabilities
  - Enables more frequent data updates
  - Web traffic analytics enabled
- Single Year Tables
  - More years available (5)

Critères de recherche

| Année du rapport de | Tout | à | Tout |

Nom de l'entreprise ou de l'installation ou ID de l'INRP

▾ Recherche avancée

Nom de la substance
ⓘ Entrer au moins deux caractères pour afficher les options.

Catégorie de rejet / élimination / transfert

Province

Communauté

Code postal

Secteur industriel clé

SCIAN

🔍 Rechercher   Réinitialiser

FUTURE WORK

- Updated and new data product-specific tutorials (2020)

- Transform and load historical data in the new data base (2020)

- Continue to track data user feedback and web analytics to inform the annual improvement process.

- Application programming interface (API)

  – Develop and publish documentation

  – Add to the [Government of Canada API Store](#)

- Add NPRI data to the Open Science and Data Platform

- Explore data visualisation tools

- Explore tools and formats for data linkages

THANK YOU!

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SUPPLEMENTARY INFORMATION
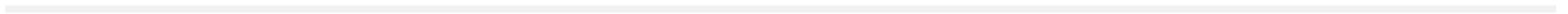
DATA QUALITY MANAGEMENT ACTIVITIES

- **Relevance: data meets the needs of users**
  - Stakeholder and data user consultations
  - Review of the NPRI substances list
  - Website analytics to inform web development
- **Accuracy & Reliability: data describes what it measures and can be combined confidently with other information**
  - Annual quality control process (e.g. sectoral engagement)
  - Reporting tools (e.g., guide, toolbox, questions and answers)
- **Completeness: expected data are described**
  - Sector and substance coverage analysis
  - Compliance promotion
- **Understandability: supplementary information and metadata are available**
  - Contextual information
  - Frequently asked questions
  - Guide for using and interpreting NPRI data
- **Accessibility: data is made available in a number of formats**
  - Formats such as online data search, downloadable datasets and map layers
- **Timeliness: data is published on schedule**
  - Annual publication of NPRI data (i.e. preliminary and reviewed data)

OPEN DATA

- Open Data is defined as structured data that is machine-readable, freely shared, used and built on without restrictions.

- Canada's Open Data Principles

Completeness	Primacy	Timeliness	Ease of Physical and Electronic Access	Machine Readability
Non-discrimination	Use of Commonly Owned Standards	Licensing	Permanence	Usage Costs
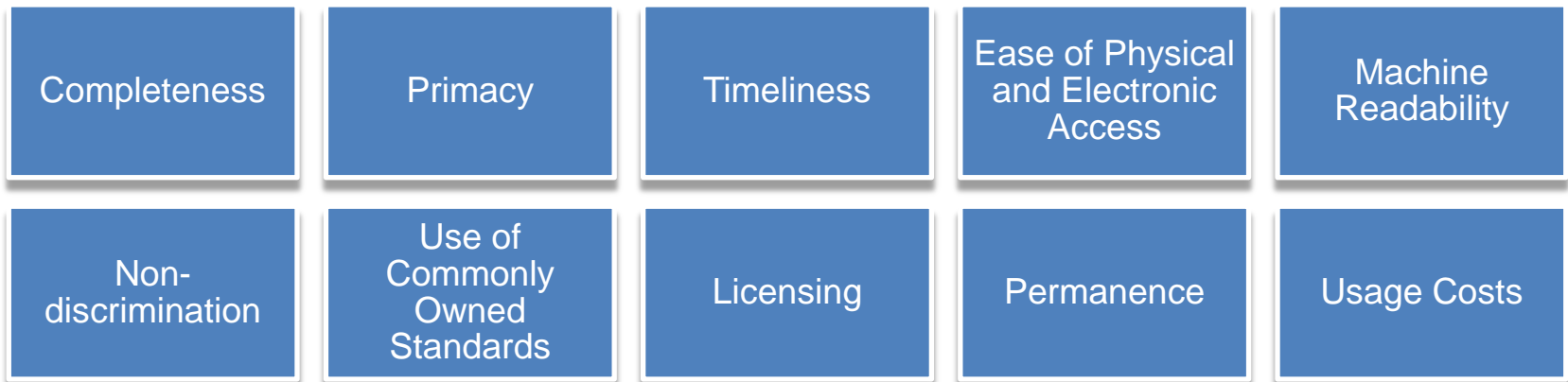
IMPROVEMENTS TO OPEN DATA

Single year data tables by facility – releases, transfers and disposals

Description

The National Pollutant Release Inventory (NPRI) is Canada's public inventory of pollutant releases (to air, water and land), disposals and transfers for recycling.

Each file contains facility-reported data listed by facility and substance for a given year. Data are presented in a table and can be filtered.
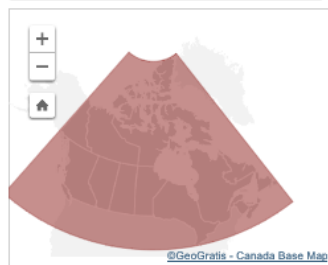
Please consult the following resources to enhance your analysis:
- Guide on using and Interpreting NPRI Data: https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/using-interpreting-data.html
- Access additional data from the NPRI, including datasets and mapping products: https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/tools-resources-data/exploredata.html

► Instructions: Map Navigation

©GeoGratis - Canada Base Map

Geographic Extent
-141 41.68, -52.62 83.11

Geographic Scope
National (CA)

Time Period
2015-01-01 - 2018-12-31

Data Resources

Dataset

NPRI-INRP_DataDonnees_2018.xlsx	XLS
NPRI-INRP_DataDonnees_2018.csv	CSV
NPRI-INRP_DataDonnees_2017.xlsx	XLS
NPRI-INRP_DataDonnees_2017.csv	CSV
NPRI-INRP_DataDonnees_2016.xlsx	XLS
NPRI-INRP_DataDonnees_2016.csv	CSV

Select Action ⌄ Apply

Status: Submitted (View Published)

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Openness rating:	★★★☆☆

Data Classification

Function

Assess Toxicity, Manage and Monitor for Environmental Presence of Hazardous Substances and Waste

Sub-Function

Plans and Reports for Hazardous Substances

Theme

Inventory, Reporting, Pollutant, Pollution, Release, Emission, Transfer, Disposal, Recycling, Air, Land, Water, Facility, Location, Map, Database, NAICS code, Industry type, Chemical substance, Stack, Criteria air contaminant, CAC, Polycyclic aromatic hydrocarbon, PAH, Dioxin, Furan, Hexachlorobenzene, HCB, Carbon monoxide, CO, Nitrogen oxide, NOx, Sulphur dioxide, SO2, Particulate matter, Volatile organic compound, VOC, Isomer

GC Core Subject Thesaurus

Pollution, Pollution prevention, Environmental programs

Topic category

Environment

Information Category

Pollution and Waste, Air, Water, Air - Quality, Water - Quantity