

# ITRC Environmental Data Management Best Practices Guidance Team

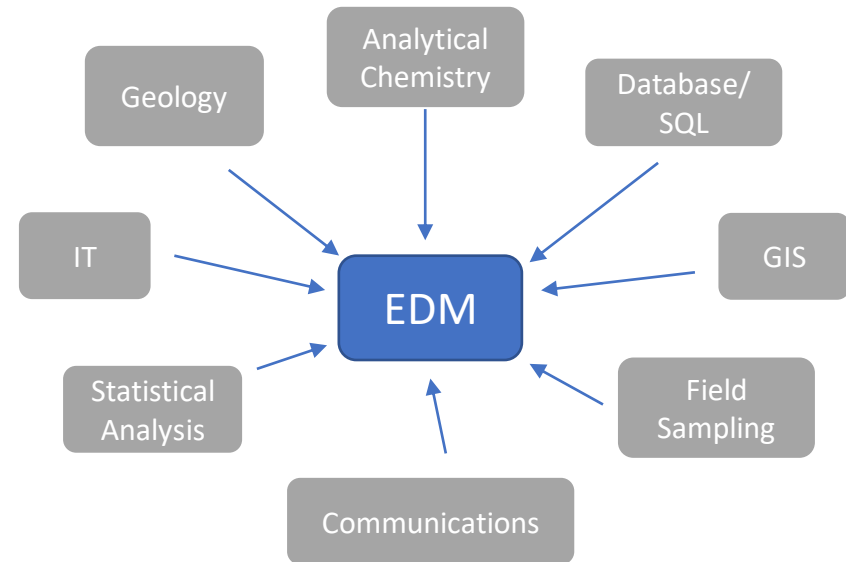
ICEDM Portland Fall 2022

**ICEDM**  
INTERNATIONAL CONFERENCE  
ENVIRONMENTAL DATA MANAGEMENT



# Why bother?

- Environmental Data can get real complex, real fast.
- Interdisciplinary
  - Data managers need a lot of ‘hats’
- Instruction manual not (always) included...
- While the landscape is changing, some best management principles will always apply.



# History – ICEDM 2016

Main slide from  
presentation by  
Kristen Brown

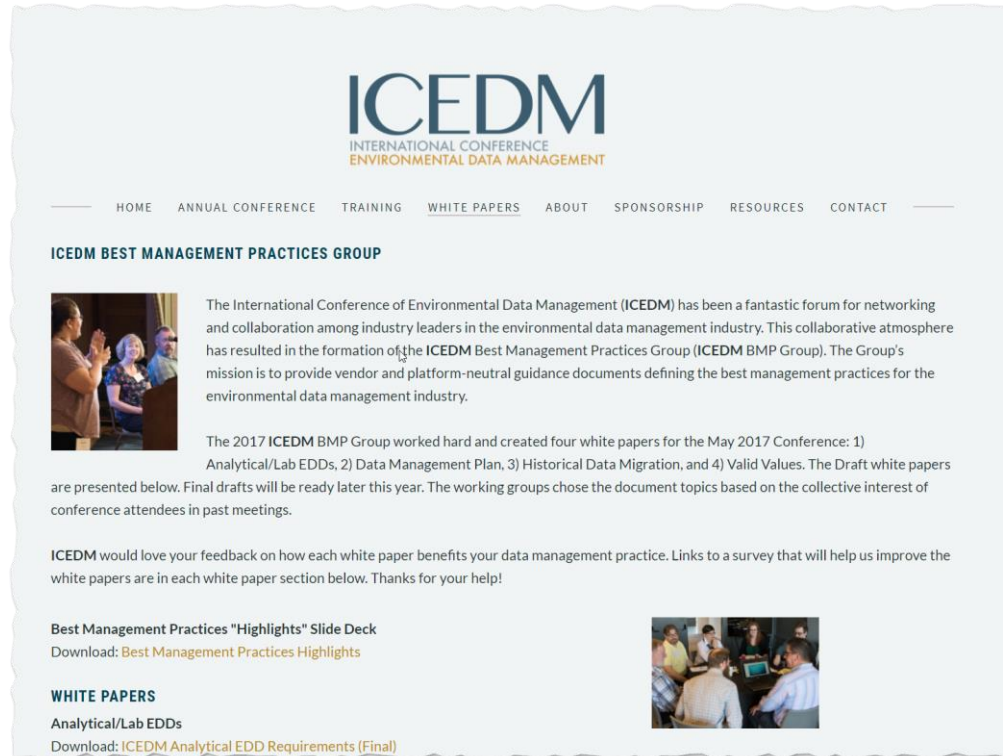


## 2016 BEST PRACTICES ROUND TABLE DISCUSSION

- Field Teams: Data Collection
- **Legacy/Historical Data**
- Standardizing Field Forms
- Security
- **Data Deliverable Formats**
- Define Terms
- Training
- Communication
- Team Definition
- Collection Method
- Audits
- Change Management/Audit Trail
- Needs Assessment
- Data Management Team
- Data Visualization
- Analytical:
  - Best Result
  - Qualifiers
  - Aggregated/Derived Data
  - Detected Data
- **Valid Values**
- Ethics
- Workflow
  - Defining Data System's Purpose
  - Validator
  - Laboratory
  - Field Crews
- Public Data Availability

# 2017 - BMP White Papers!!

- <http://www.icedm.net/icedm-bmp-group>
- 4 final, 1 in draft
  - Analytical EDDs
  - Data Management Plans
  - Historical Data Migration
  - Valid Values
  - Field Data (very draft)




The screenshot shows the ICEDM website page for the Best Management Practices Group. The page features the ICEDM logo at the top, which includes the text "INTERNATIONAL CONFERENCE ENVIRONMENTAL DATA MANAGEMENT". Below the logo is a navigation menu with links for HOME, ANNUAL CONFERENCE, TRAINING, WHITE PAPERS, ABOUT, SPONSORSHIP, RESOURCES, and CONTACT. The main heading is "ICEDM BEST MANAGEMENT PRACTICES GROUP". There are two paragraphs of text, each accompanied by a small image. The first image shows a group of people at a conference, and the second image shows a group of people working together around a table. The text describes the formation of the ICEDM BMP Group and the creation of four white papers for the May 2017 Conference. It also includes a call to action for feedback on the white papers and a link to a survey. At the bottom, there is a section for "WHITE PAPERS" with a link to download the "Analytical/Lab EDDs" white paper.

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ENVIRONMENTAL DATA MANAGEMENT

HOME ANNUAL CONFERENCE TRAINING WHITE PAPERS ABOUT SPONSORSHIP RESOURCES CONTACT

**ICEDM BEST MANAGEMENT PRACTICES GROUP**


 The International Conference of Environmental Data Management (ICEDM) has been a fantastic forum for networking and collaboration among industry leaders in the environmental data management industry. This collaborative atmosphere has resulted in the formation of the ICEDM Best Management Practices Group (ICEDM BMP Group). The Group's mission is to provide vendor and platform-neutral guidance documents defining the best management practices for the environmental data management industry.

The 2017 ICEDM BMP Group worked hard and created four white papers for the May 2017 Conference: 1) Analytical/Lab EDDs, 2) Data Management Plan, 3) Historical Data Migration, and 4) Valid Values. The Draft white papers are presented below. Final drafts will be ready later this year. The working groups chose the document topics based on the collective interest of conference attendees in past meetings.

ICEDM would love your feedback on how each white paper benefits your data management practice. Links to a survey that will help us improve the white papers are in each white paper section below. Thanks for your help!

Best Management Practices "Highlights" Slide Deck  
Download: [Best Management Practices Highlights](#)

**WHITE PAPERS**  
Analytical/Lab EDDs  
Download: [ICEDM Analytical EDD Requirements \(Final\)](#)



# 2019: ICEDM Atlanta

- Genesis of Idea to Propose EDM Team to ITRC
- Idea – to re-invigorate the BMP process and add other users and exposure that ITRC brings to the table.
- An... evolution? a supplement? to the existing -AND EXCELLENT- ICEDM White Papers.



# ITRC – ANOTHER Acronym?



- Interstate Technology and Regulatory Council (ITRC)
  - <https://itrcweb.org/>
- Part of ECOS – (Environmental Council of the States)
  - National, nonprofit, nonpartisan association representing the state and territorial environmental commissioners.
- **Takeaway:**
- STATE LED teams – must have Team leaders from State Enviro Agencies
- State focused, but ‘industry’ folks are welcomed via the Industry Affiliates Program (IAP) for a sliding fee to the firm.

# ITRC – EDM Team



- Proposal Accepted Fall 2020
  - Thanks Meghan Eschbaugh & Chris Neumiller
  - Thanks to ICEDM and many others for support!
- Team Kickoff – January 2021
- State Team Leads:
  - Doug Morrison – NYS DEC
  - Brian Pointer – NC DEQ (me)



# ITRC – EDM Team - Formation

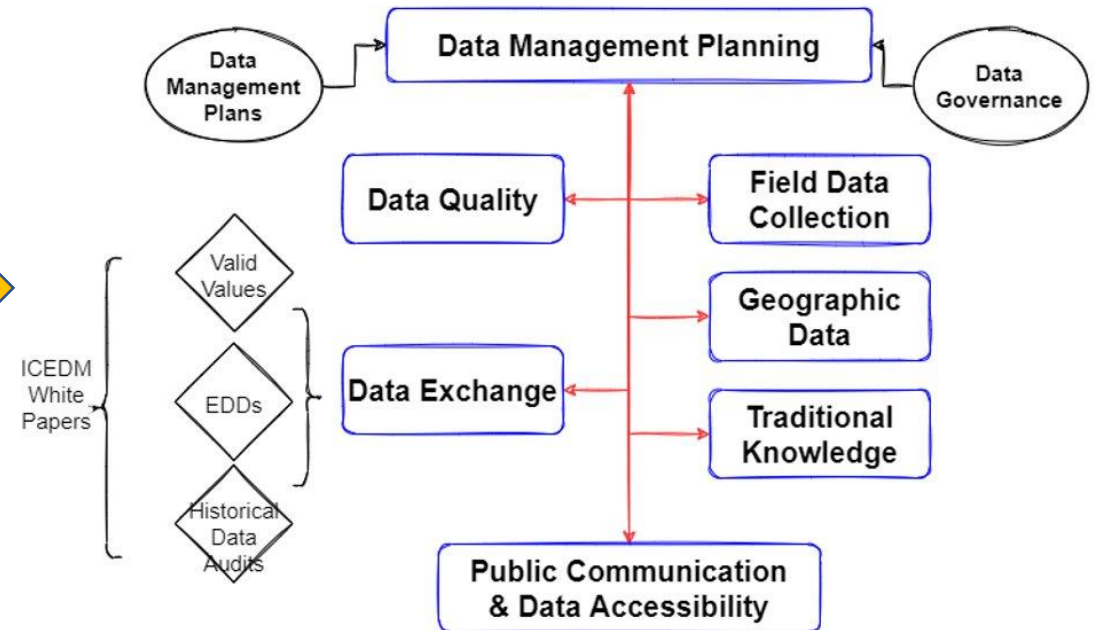
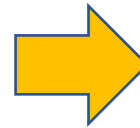
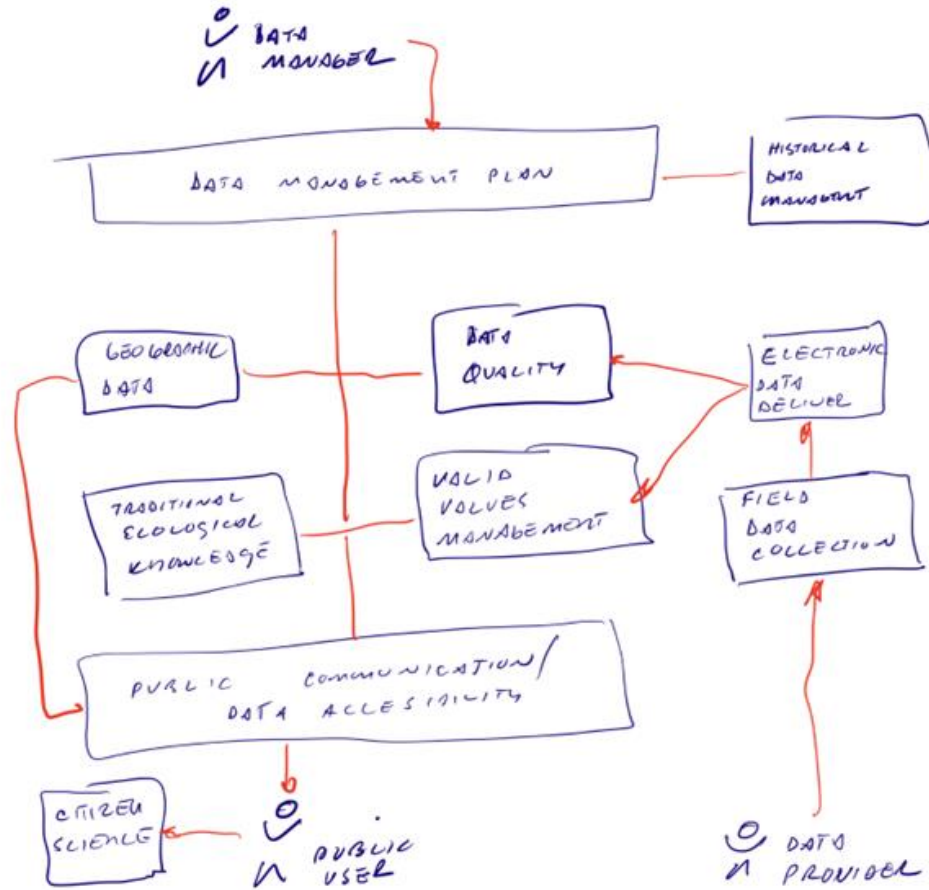


- Started during COVID.
- Meetings 100% virtual to start off.
- Membership fluctuated from 2-400 total
- Core working group of 40-80





# ITRC – EDM Team - Evolution



# ITRC – EDM Team - Evolution



## Environmental Data Management Best Practices

**Introduction and Overview**

**Data Management Planning**

**Data Quality**

**Geospatial Data**

**Traditional Ecological  
Knowledge**

**Public Communications  
and Data Accessibility**

**Environmental Data  
Management Systems**

**Field Data Collection**

**Data Exchange**

**Case Studies**

**Supporting Documents**





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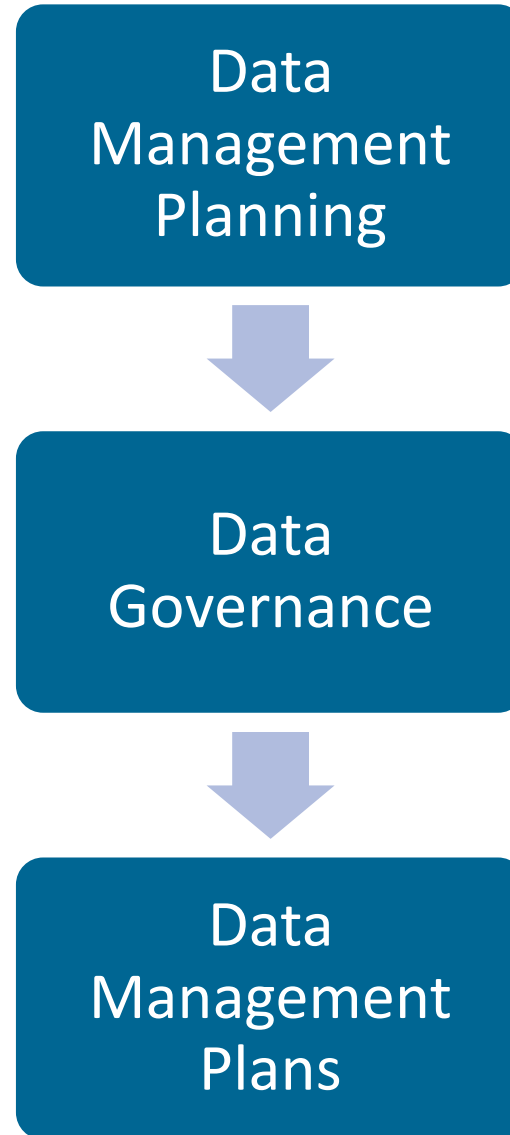
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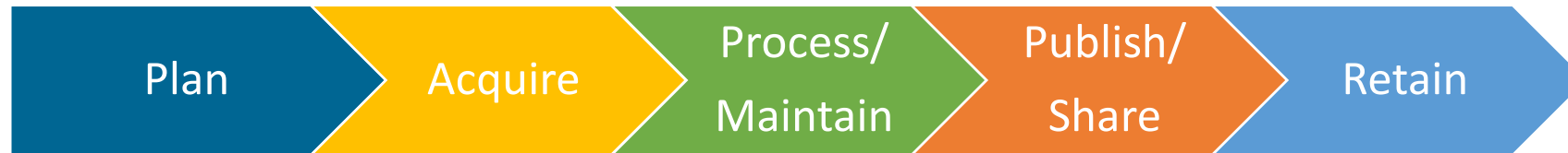
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## Data Lifecycle







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# Data Quality Dimensions



**Figure 4-1. Categories of key data dimensions.**



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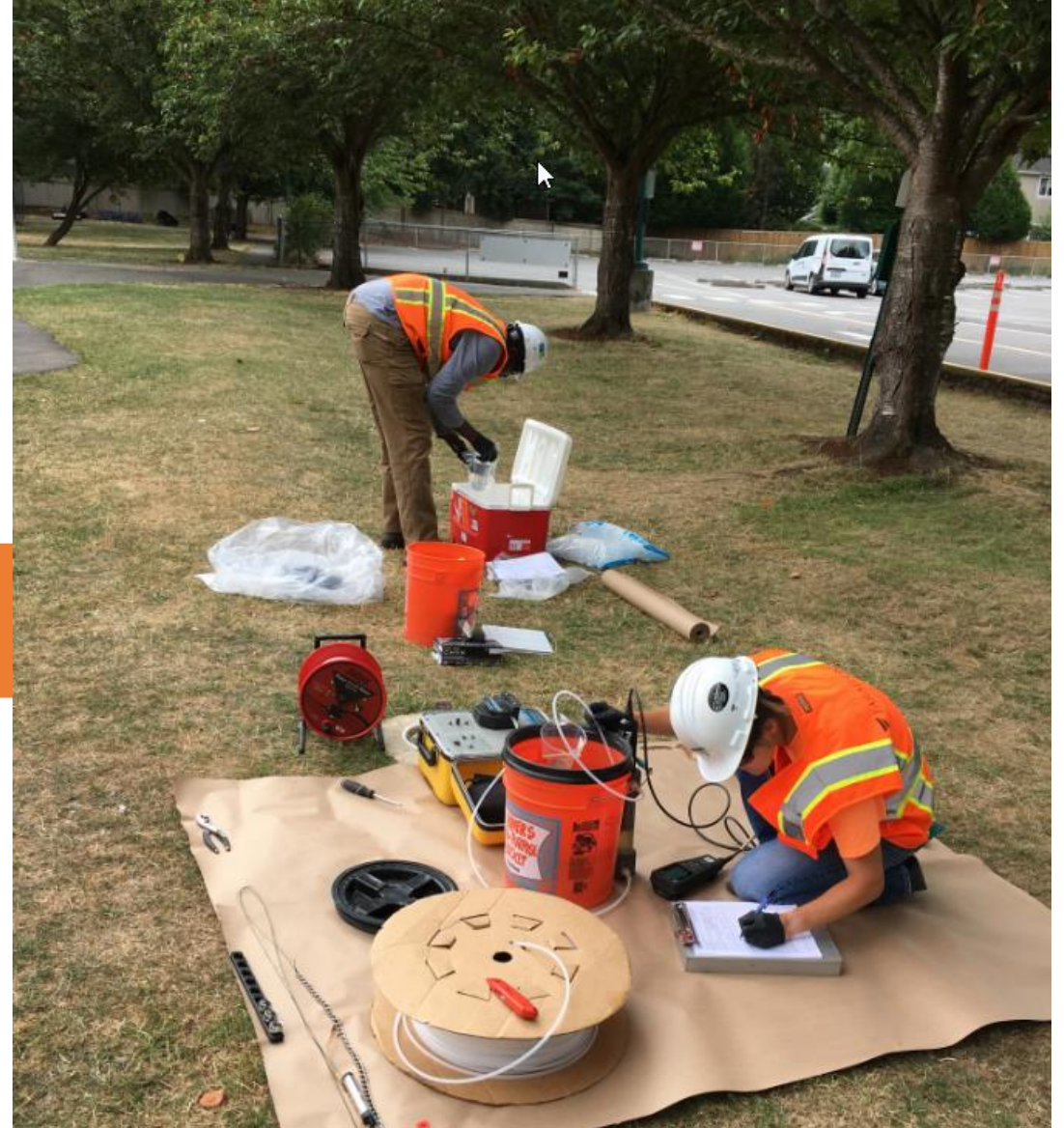


## Data Lifecycle

Plan

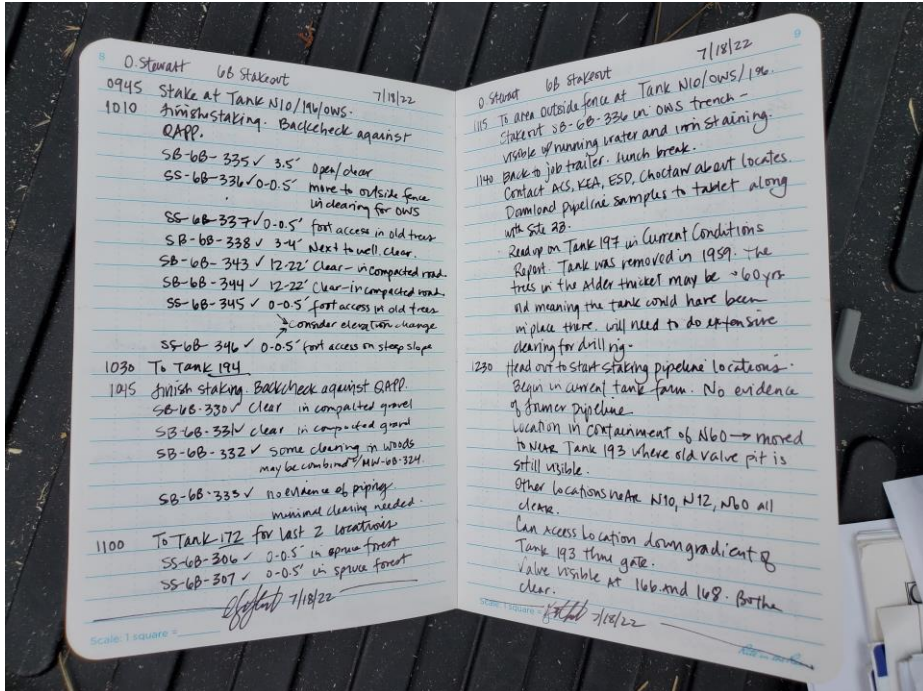
Acquire

Process/  
Maintain





# PAPER OR PLASTIC?

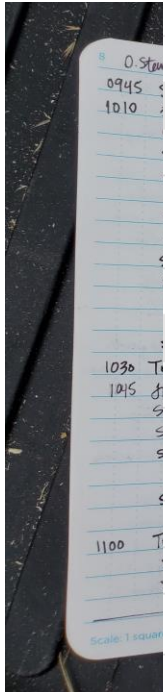




# PAPER OR PLASTIC?

## INTERACTIVE DECISION

### TREE!



d	u	c	a	e	i	g
Late technology adopters	Early technology adopters	Experienced Field Staff	Inexperienced Field Staff	Internal company/agency	External company/agency	Auto-Sampler

6 How much money do you have to spend on development?

a	b	c	d	e	f	g
< \$150	\$150 - \$1,000	\$1,000 - \$10,000	\$10,000 - \$50,000	> \$50,000	It depends on the savings	Forms already developed

7 How much money do you have to spend on equipment?

a	b	c	d	e	f
< \$150	\$150 - \$1,000	\$1,000 - \$10,000	\$10,000 - \$50,000	> \$50,000	I already have the equipment

Answer:

**Suggest digital, but can consider paper**



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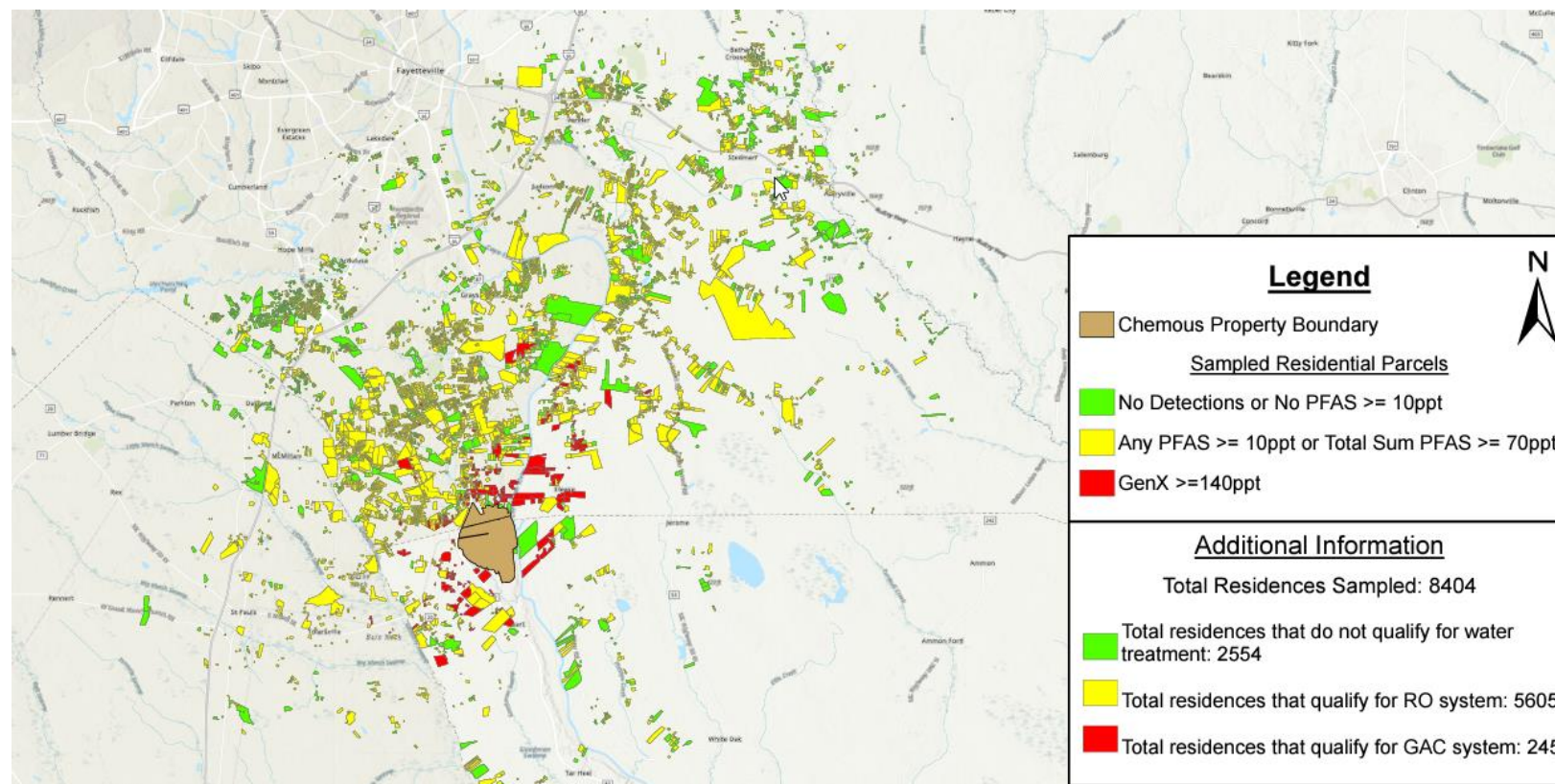
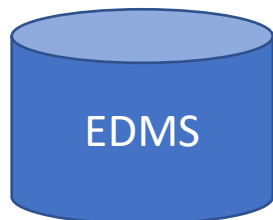
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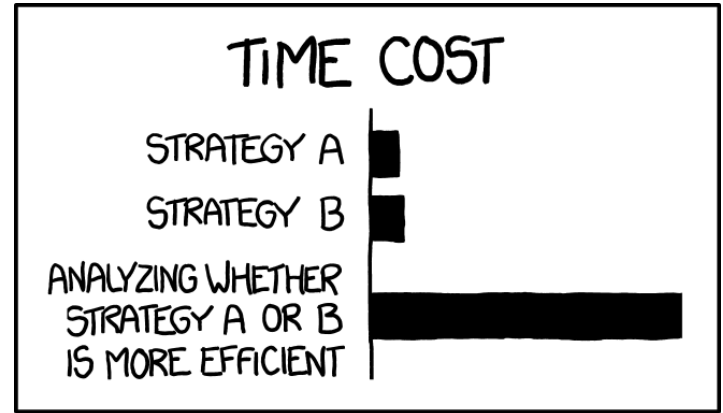
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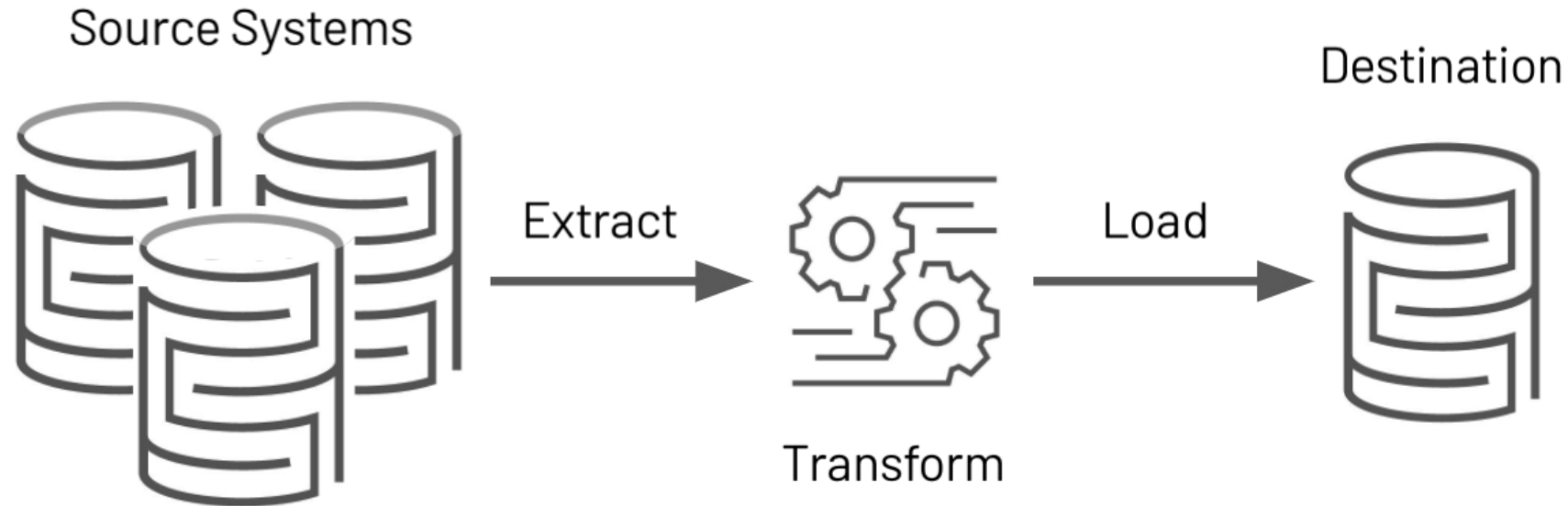
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THE REASON I AM SO INEFFICIENT

## ETL Process





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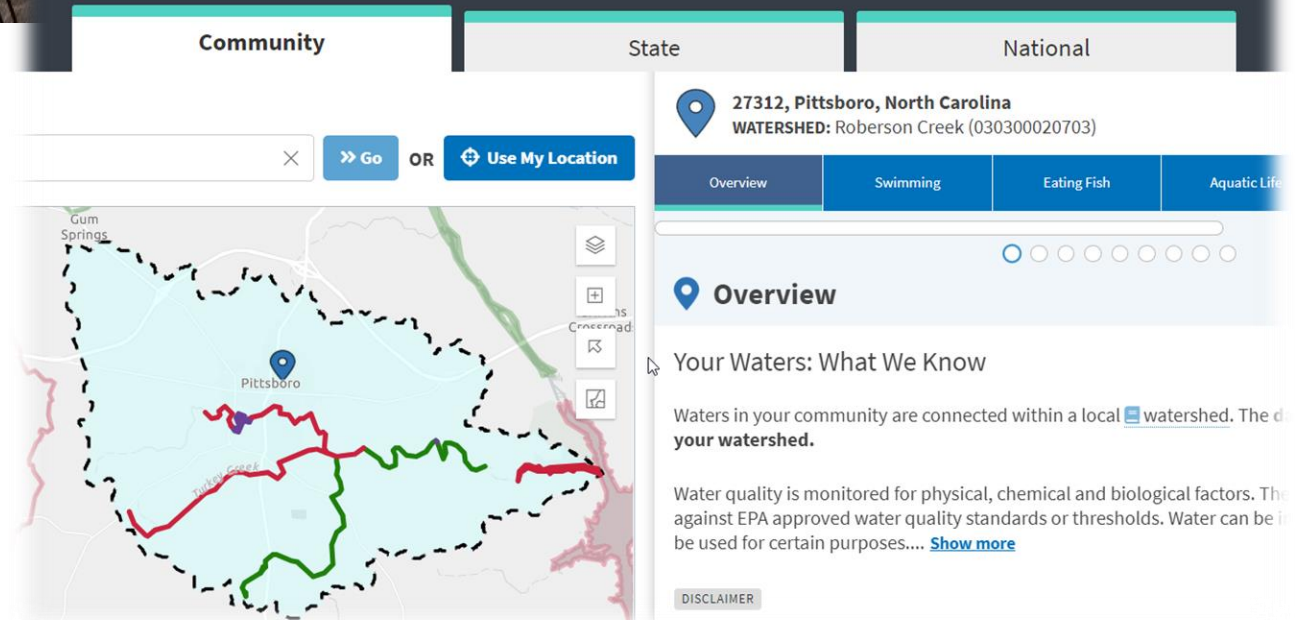
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- *Findable*
- *Accessible*
- *Interoperable*
- *Reusable*



**How's My Waterway?**  
Informing the conversation about your waters.





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# But wait, there's more!!



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# Documents – Timeline

- Completed internal and external reviews in late Aug 2022
- Currently (Sept 2022) in final technical editor review
- Expected final publication onto as a web-based document in

**LATE 2022**



Once published, can be found at <https://itrcweb.org/>

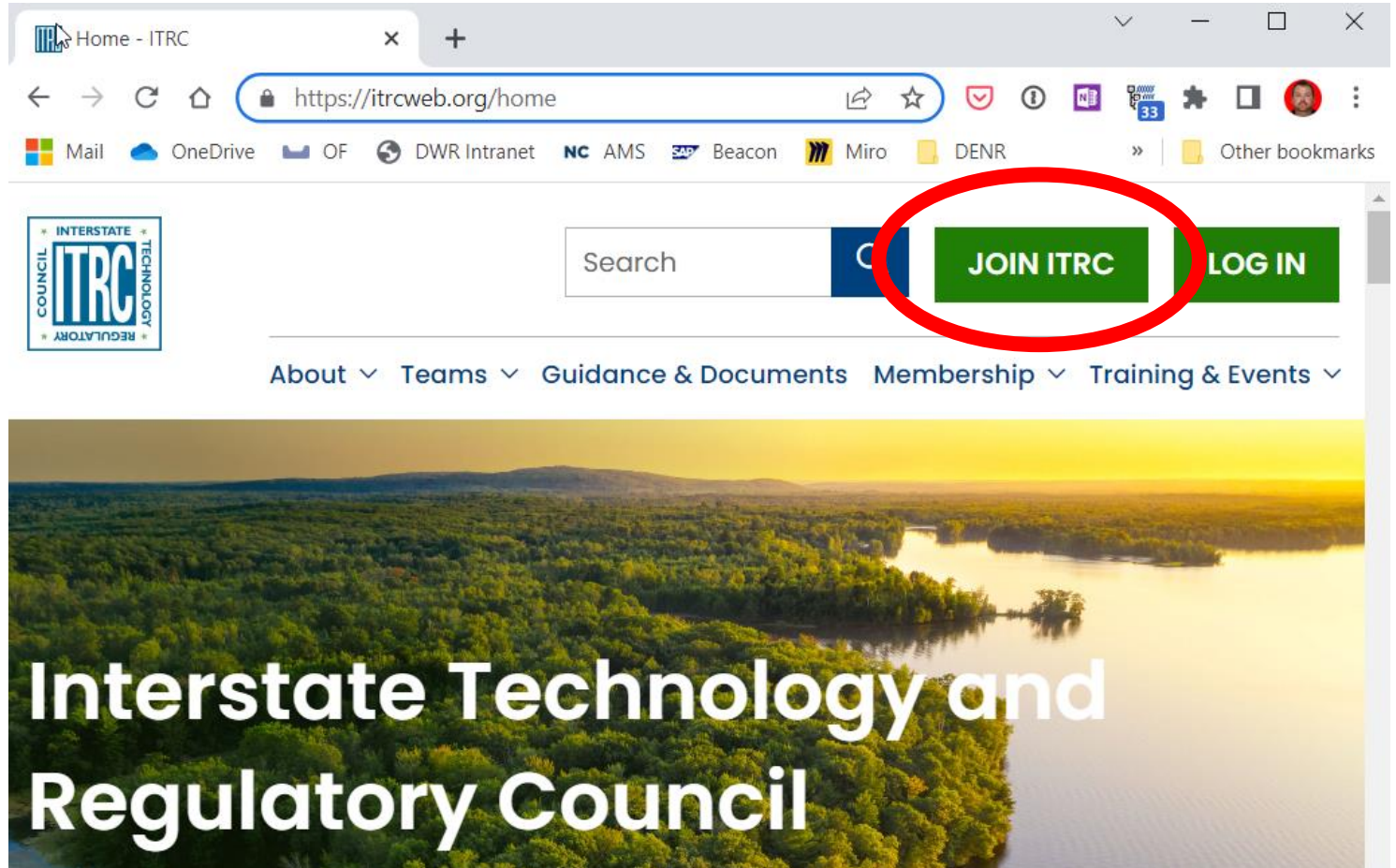
Can't wait?... Join the ITRC team!





# Can't wait?... Join the ITRC team!

- Joining the ITRC EDM team gives you access to the drafts!
- <https://itrcweb.org/>
- Most of the work of the team is done, but there's still a little more to do with...



The screenshot shows a web browser window with the URL <https://itrcweb.org/home>. The browser's address bar and toolbar are visible at the top. Below the browser, the ITRC logo is on the left, and a search bar is in the center. To the right of the search bar are two green buttons: "JOIN ITRC" and "LOG IN". The "JOIN ITRC" button is circled in red. Below the buttons is a navigation menu with links for "About", "Teams", "Guidance & Documents", "Membership", and "Training & Events". At the bottom of the page is a large banner image of a forested landscape with a lake, overlaid with the text "Interstate Technology and Regulatory Council".

# ITRC EDM Team – Training Products

- Supplements and augments the documents
- Introductory Overview Video
- 4 Roundtable/Recorded Events
  - Field Data/Emergency Response Scenario
  - Data Quality Discussion
  - Elements of Data Exchange
  - Traditional Ecological Knowledge Discussion
- To be recorded and/or released throughout 2023.

What does the future hold for this effort?...

- Afternoon Roundtable discussion



# Thank You!

- ITRC – Patty Reyes, Board members and support staff.
- Our PA – Steve Brauner
- ICEDM – Sarah and Dan 😊
- Our subgroup Leaders!
- Authors and core contributors!



# Questions?

- Contact me at:  
[brian.pointer@ncdenr.gov](mailto:brian.pointer@ncdenr.gov)
- Join ITRC -  
<https://itrcweb.org/teams/active/edm>

