

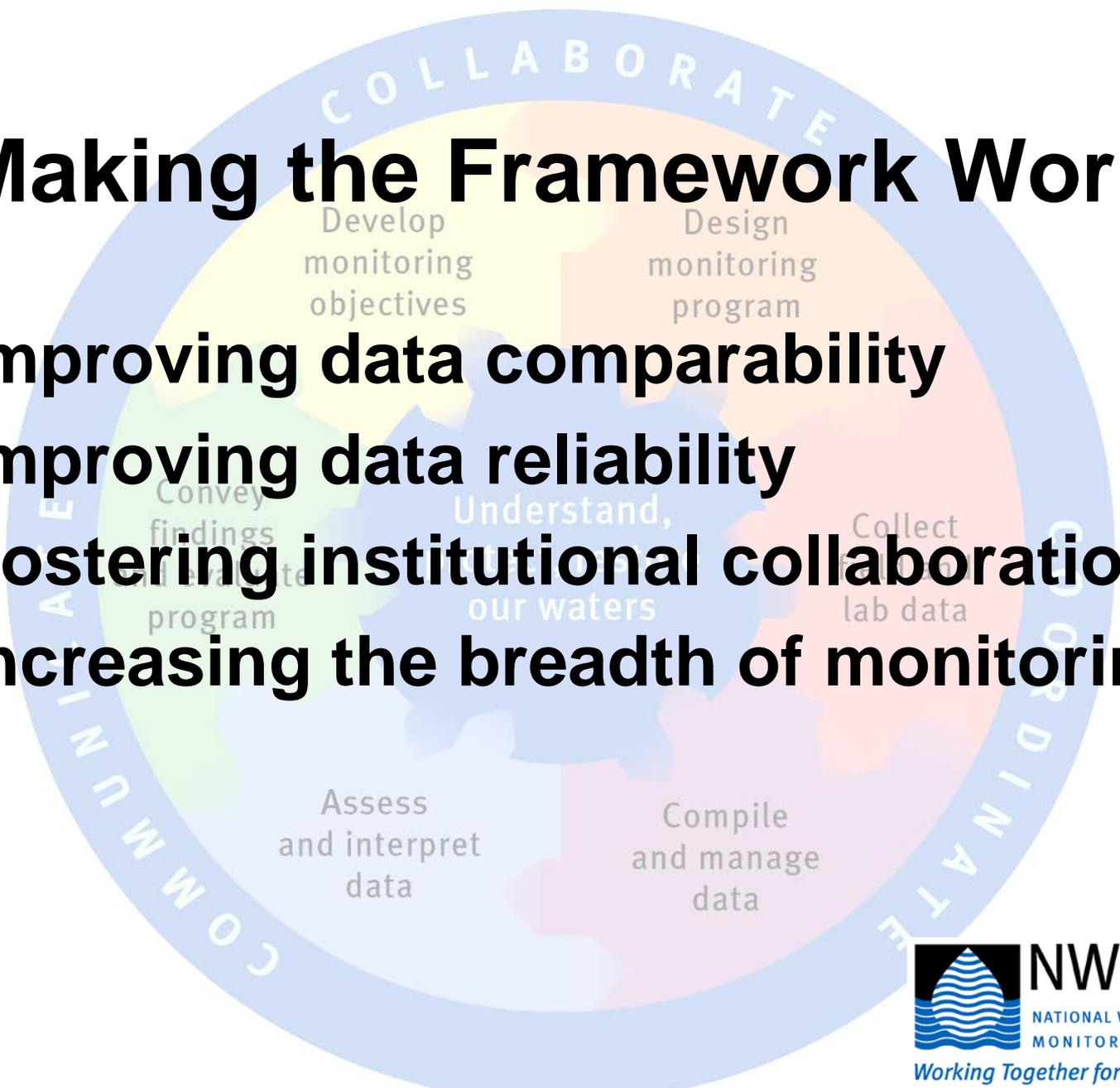
# Projects to Help Implement The Monitoring Council's Framework

March 26, 2003



# Making the Framework Work

- The Framework graphic depicts how monitoring should be done
- Council efforts address concerns that make following the framework
  - More certain
  - Better
  - More affordable
  - More valuable



# Making the Framework Work

- **Improving data comparability**
- **Improving data reliability**
- **Fostering institutional collaboration**
- **Increasing the breadth of monitoring**

# Improving Data Comparability

- **Established the National Environmental Methods Index (NEMI)**
- **Defined the list of data elements to describe monitoring results**
  - Results and metadata
- **Improving data reliability**
  - **Laboratory Accreditation**



# National Environmental Methods Index

- **Information to choose appropriate laboratory methods to meet one's monitoring objectives**
  - EPA approved methods prescribed in regulations are not enough
- **Reliable data is dependent upon:**
  - Method Precision   - Method Accuracy   - Detection Limits
- **Other interests:**
  - Instrumentation needed
  - Analytic costs



# National Environmental Methods Index

## Quick Search Results

4 Methods were found in NEMI that match your search criterion

Analyte:

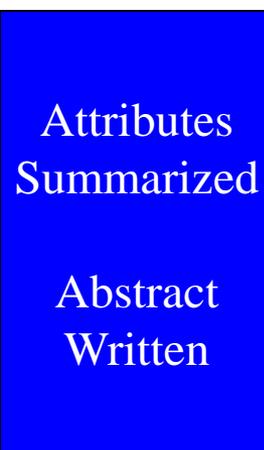
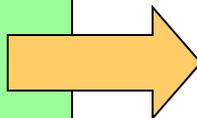
Method Number	Method Source & Descriptive Name	Detection level/ Reporting Units & Type	Performance Data			Relative Cost Instrumentation
			Accuracy	Percent False +/-	Precision	
<a href="#">440.0</a> (Click for summary)	<a href="#">EPA-NERL</a> Elemental C and N by Combustion and Thermal Conductivity	.01 <a href="#">mg/L</a>  <a href="#">MDL</a>	N/A		13 RSD (ML)	<a href="#">1</a>  <a href="#">EA</a>
<a href="#">4500-NorqB</a> (Click for summary)	<a href="#">STD METH</a> Macro-Kjeldahl Method	<a href="#">mg/L</a>	97 % Rec (SL)		N/A	<a href="#">1</a>  <a href="#">TITR</a>
<a href="#">D5176</a> (Click for summary)	<a href="#">ASTM</a> Chemically Bound Nitrogen in Water	.5 <a href="#">mg/L</a>  <a href="#">RNGE</a>	91 % Rec (ML)		14 RSD (ML)	<a href="#">11</a>  <a href="#">PCD</a>
<a href="#">I-5553</a> (Click for summary)	<a href="#">USGS</a> Nitrogen, ammonia plus organic, total-in-bottom-material, dry wt, titration	10 <a href="#">mg/kg</a>  <a href="#">RL</a>	N/A		12	<a href="#">1</a>  <a href="#">TITR</a>



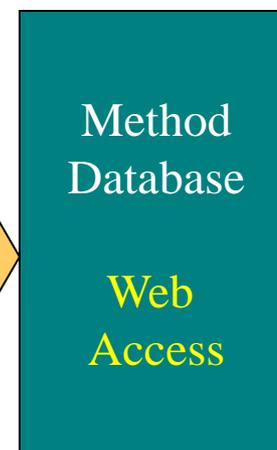
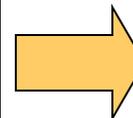
# National Environmental Methods Index

## 700 +Methods From:

- EPA
- USGS
- DOE
- DOD
- USACE
- Four Standards Organizations
- Instrument Firms



EPA



USGS



# Water Quality Data Elements

- **The data fields that should be included with the results in order that data can be:**
  - Shared with others
  - Preserved for future use in any organization
- **99 metadata elements to be collected from project planners, field personnel, and laboratories**
- **Adopted by ACWI; recommended to all entities engaged in water quality data collection**



# Making the Framework Work

- **Improving Data Reliability**
- **Fostering institutional collaboration**
  - **State and Regional Monitoring Councils**
- **Increasing the breadth of monitoring**
  - **Watershed components**
- **National Monitoring Conference**

# Improving Data Reliability

- **Goes beyond choosing the appropriate laboratory method**
- **Standard field methods**
- **Laboratory accreditation**

# Laboratory Accreditation

- **Regulators require laboratory inspections and proof of competence**
- **Accrediting organizations, including states, have competed for recognition and fees**
- **The Council has backed an EPA system of state accreditation**

# Laboratory Accreditation

- **Qualified personnel**
- **Calibration practices**
- **Quality assurance and quality control procedures**
- **Data reviews**



# Fostering Institutional Collaboration

- **Helping to establish state and regional monitoring councils**
- **The National Water Quality Monitoring Conference**

# State and Regional Monitoring Councils

Lake Michigan Monitoring Coordination Council

Colorado Water Quality  
Monitoring Council



VWMC

MWMC  
MONTANA WATER MONITORING COUNCIL



Metropolitan Washington  
Council of Governments



# Increasing the Breadth of Monitoring

- **Understanding and describing water is not just about water quality**
- **The Council is focusing on additional watershed components:**
  - **Flow**
  - **Ground water**
  - **Land uses**
  - **Atmospheric deposition**

# **The National Water Quality Monitoring Conference**

- **The Conference is a national forum to showcase and explore comparable methods and strategies for improving water quality monitoring, assessment, and reporting**
- **About 425 people attended each conference in 1998, 2000, and 2002**