

## ITRC Product List 2012-2024

Since 1995, ITRC has been developing innovative guidance documents and products to tackle environmental challenges while protecting human health and the environment. This product list represents the products developed by ITRC since 2012. Documents and products older than 2012 can be found on ITRC's website on the [Guidance & Documents webpage](#).

Updated January 2024

Title	Description
<b>Advanced Site Characterization (ASC)</b>	
<i>Implementing Advanced Site Characterization Tools</i> (December 2019) <a href="https://asct-1.itrcweb.org/">https://asct-1.itrcweb.org/</a>	Designed to help evaluate & select ASCTs to support site conceptual model and remedial strategy development and refinement.
<i>Implementing Advanced Site Characterization Tools Video Series</i> (March 2020) <a href="#">Available on ITRC's YouTube Channel</a>	Six videos ranging from 90 seconds to seven minutes to accompany the different sections in the guidance document.
<b>Bioavailability in Contaminated Soil (BCS)</b>	
<i>Bioavailability in Contaminated Soil</i> (November 2017) <a href="http://bcs-1.itrcweb.org/">http://bcs-1.itrcweb.org/</a>	Addresses lead, arsenic, and polycyclic aromatic hydrocarbons for the incidental ingestion of soil.
<b>Contaminants of Emerging Concern (CEC)</b>	
<i>Contaminants of Emerging Concern</i> (December 2023) <a href="http://bcs-1.itrcweb.org/">http://bcs-1.itrcweb.org/</a>	The framework is meant to help environmental regulatory agencies and other stakeholders identify examples of CEC monitoring programs; evaluate potential hazard by systematically applying key CEC characteristics; communicate real and perceived risk from CEC to the public; and understand how laboratory analytical methods can be used in the identification process.
<b>Contaminated Sediments (CS)</b>	
<i>Remedy Selection for Contaminated Sediments</i> (August 2014) <a href="http://www.itrcweb.org/contseds_remedy-selection">http://www.itrcweb.org/contseds_remedy-selection</a>	Presents a remedy selection framework for contaminated sediments to help project managers evaluate remediation technologies and develop remediation alternatives based on site-specific data.
<b>Environmental Data Management (EDM)</b>	
<i>Environmental Data Management Best Practices</i> (December 2023) <a href="https://edm-1.itrcweb.org/">https://edm-1.itrcweb.org/</a>	Includes Fact Sheets, Subtopic Sheets, Checklists, Case Studies, Interactive Tools, and Supporting Documents. The web-based nature of this document lends itself to updating key information in this continually evolving subject.
<b>Environmental Molecular Diagnostics (EMD)</b>	
<i>EMD – New Site Characterization and Remediation Enhancement Tools</i> (April 2013) <a href="http://www.itrcweb.org/emd-2/">www.itrcweb.org/emd-2/</a>	Describes a group of advanced and emerging techniques used to analyze biological and chemical characteristics of environmental samples.
<b>Ethylene Oxide Emissions (EtO)</b>	
<i>Ethylene Oxide Emissions Guidance</i> (December 2023) <a href="http://www.eto-1.itrcweb.org">www.eto-1.itrcweb.org</a>	This guide is intended to help states and other interested parties improve their management of EtO and communicate better about EtO.

Title	Description
<b>Fractured Rock (FracRx)</b>	
<i>Characterization and Remediation in Fractured Rocks</i> (December 2017) <a href="http://fracturedrx-1.itrcweb.org/">http://fracturedrx-1.itrcweb.org/</a>	Explains the processes controlling contaminant fate and transport in fractured rock, as well as innovative approaches to managing these sites.
<b>Geospatial Analysis for Optimization (GRO)</b>	
<i>Geospatial Analysis for Optimization at Environmental Sites</i> (November 2016) <a href="http://www.itrcweb.org/gro-1">http://www.itrcweb.org/gro-1</a>	Illustrates practical application of geospatial analyses to support optimization activities.
<b>Green and Sustainable Remediation (GSR)</b>	
<i>Sustainable Resilient Remediation</i> (April 2021) <a href="https://srr-1.itrcweb.org/">https://srr-1.itrcweb.org/</a>	Updates the Green and Sustainable Remediation: A Practical Framework document and includes a strong resilience component to address the increasing threat of extreme weather events and wildfires.
<b>Groundwater Statistics and Monitoring Compliance (GSMC)</b>	
<i>Statistical Tools for the Project Life Cycle</i> (December 2013) <a href="http://www.itrcweb.org/gsmc-1/">www.itrcweb.org/gsmc-1/</a>	Support environmental project managers who review or use statistical calculations for reports, who make recommendations or decisions based on statistics, or who must demonstrate compliance for groundwater projects.
<b>Geophysical Classification for Munitions Response (GCMR)</b>	
<i>Geophysical Classification for Munitions Response</i> (August 2015) <a href="http://www.itrcweb.org/gcmr-2/">www.itrcweb.org/gcmr-2/</a>	Explains the process of geophysical classification, describes its benefits and limitations, and most importantly discusses the information and data needed by regulators to monitor and evaluate the use of the technology.
<b>Harmful Cyanobacterial Blooms (HCB)</b>	
<i>Strategies for Preventing and Managing Harmful Cyanobacterial Blooms</i> (March 2021) <a href="https://hcb-1.itrcweb.org/">https://hcb-1.itrcweb.org/</a>	This guidance focuses strategies for identification, monitoring and response to unique aspects of planktonic harmful cyanobacterial blooms.
<i>Strategies for Preventing and Managing Harmful Cyanobacterial Blooms: Learn to Identify Cyanobacteria Blooms</i> (November 2021) <a href="#">Available on ITRC's YouTube Channel</a>	Produced by ITRC's Harmful Cyanobacterial Blooms (HCB) Team with support from the Lake Champlain Basin Program, this video walks through different types of cyanobacteria and offers guidance on best management and safety practices involving harmful blooms.
<i>Strategies for Preventing and Managing Benthic Harmful Cyanobacterial Blooms</i> (March 2022) <a href="https://hcb-2.itrcweb.org/">https://hcb-2.itrcweb.org/</a>	This guidance focuses on strategies for identification, monitoring and response to unique aspects of benthic harmful cyanobacterial blooms.
<b>Hydrocarbons (HYD)</b>	
<i>Hydrocarbons Training: Effective Application of ITRC Guidance Documents</i> (October 2022) <a href="https://hyd-1.itrcweb.org/">https://hyd-1.itrcweb.org/</a>	A series of interactive, team-based workshops to help people fully utilize ITRC's three petroleum documents (LNAPL, PVI, and TPH) holistically.

Title	Description
<b>Incremental Sampling Methodology (ISM)</b>	
Incremental Sampling Methodology (February 2012) <a href="http://www.itrcweb.org/ism-1/">http://www.itrcweb.org/ism-1/</a>	Helps regulators, consultants, industry, and stakeholders in understanding the principles, application, and implementation of Incremental Sampling Methodology (ISM). The website provides users with information on advantages and limitations of ISM, how to develop an ISM approach, establishing decision units, field implementation, laboratory processing and analysis issues, data assessment, and regulatory considerations. Case studies are provided to aid users in how ISM has been implemented at various sites.
Incremental Sampling Methodology Update (October 2020) <a href="https://ism-2.itrcweb.org/">https://ism-2.itrcweb.org/</a>	This updated Incremental Sampling Methodology (ISM-2) web-based document builds upon the 2012 version (ISM-1) and reflects advancements in technology, practices to measure progress and details what obstacles are still being encountered in the ensuing eight years.
<b>Institutional Controls (IC)</b>	
Long-Term Contaminant Management Using Institutional Controls (December 2016) <a href="http://institutionalcontrols.itrcweb.org/">http://institutionalcontrols.itrcweb.org/</a>	Focuses on long-term contaminant management using institutional controls (ICs).
<b>Integrated DNAPL Site Characterization (ISC)</b>	
Integrated DNAPL Site Characterization and Tools Selection (April 2015) <a href="http://www.itrcweb.org/DNAPL-ISC_tools-selection/">http://www.itrcweb.org/DNAPL-ISC_tools-selection/</a>	A resource to inform regulators, responsible parties, other problem holders, consultants, community stakeholders, and other interested parties of the critical concepts related to characterization approaches and tools for collecting subsurface data at DNAPL sites.
<b>Light Non-Aqueous Phase Liquid (LNAPL)</b>	
LNAPL Update (March 2018) <a href="https://lnapl-3.itrcweb.org/">https://lnapl-3.itrcweb.org/</a>	Provides a framework for assessing the performance of innovative methane detection technologies.
<b>Managed Aquifer Recharge (MAR)</b>	
Managed Aquifer Recharge Guidance (December 2023) <a href="https://mar-1.itrcweb.org">https://mar-1.itrcweb.org</a>	
<b>Methane</b>	
Evaluation of Innovative Methane Detection Technologies (September 2018) <a href="https://methane-1.itrcweb.org">https://methane-1.itrcweb.org</a>	Provides a framework for assessing the performance of innovative methane detection technologies.
<b>Microplastics</b>	
Microplastics (February 2023) <a href="https://mp-1.itrcweb.org/">https://mp-1.itrcweb.org/</a>	Provides information on ecological effects, mitigation, and abatement strategies to environmental distribution of Microplastics.

Title	Description
<b>Optimizing Injection Strategies and In-situ Remediation Performance (OIS-ISRP)</b>	
<i>Optimizing Injection Strategies and In-situ Remediation Performance</i> (February 2020) <a href="https://ois-isrp-1.itrcweb.org/">https://ois-isrp-1.itrcweb.org/</a>	Comprehensive guidance on common in situ remediation challenges, including remedial design, implementation, and monitoring.
<b>Per- and Polyfluoroalkyl Substances (PFAS)</b>	
<i>Per- and Polyfluoroalkyl Substances Fact Sheets</i> (August 2022) <a href="https://pfas-1.itrcweb.org/fact-sheets/">https://pfas-1.itrcweb.org/fact-sheets/</a>	Fact sheets that summarize the latest science and emerging technologies for PFAS. Fact sheets are also available in Spanish.
<i>Per- and Polyfluoroalkyl Substances Explainer Videos</i> (November 2019) <a href="#">Available on ITRC's YouTube Channel</a>	The PFAS team created nine introductory explainer videos to accompany the online guidance document. These videos range from three to six minutes in length.
<i>Per- and Polyfluoroalkyl Substances Training Modules</i> (April 2020) <a href="#">Available on ITRC's YouTube Channel</a>	The PFAS team published recorded training modules on ITRC's YouTube channel to accompany the various sections in the online guidance document. These training modules range from 13 to 30 minutes in length.
<i>Per- and Polyfluoroalkyl Substances</i> (June 2020) <a href="https://pfas-1.itrcweb.org/">https://pfas-1.itrcweb.org/</a>	The PFAS documents provide technical resources for addressing environmental releases of Per- and Polyfluoroalkyl Substances (PFAS). The team has updated the original Guidance document to include a brand-new section on Surface Water Quality and significant revisions for Ecological Risk Assessment, a broad expansion in the discussion of PFAS in several contexts, including naming conventions, bioaccumulation, treatment technologies and sampling and analytical methods, and revisions that clarify information, provide new references for current text, and recognize significant new document releases from federal agencies and state organizations.
<b>Performance-Based Optimization of Pump &amp; Treat Systems (P&amp;T)</b>	
<i>Performance-Based Optimization of Pump &amp; Treat Systems</i> (June 2023) <a href="https://pt-1.itrcweb.org/">https://pt-1.itrcweb.org/</a>	Provides comprehensive guidance and a systemic, adaptive framework for the optimization of Pump & Treat systems. The document can be used during any part of the project life cycle, including evaluation, optimization, and transition phases, and will also help users address sustainability and resiliency issues as well as regulatory and stakeholder considerations.
<b>Remediation Management of Complex Sites (RMCS)</b>	
<i>Remediation Management of Complex Sites</i> (November 2017) <a href="http://rmcs-1.itrcweb.org/">http://rmcs-1.itrcweb.org/</a>	Provides readers with practical steps to manage the remediation process at complex sites where remediation progress is uncertain, and remediation is not anticipated to achieve closure or even long-term management within a reasonable time frame.



Title	Description
<b>Remediation Risk Management (RRM)</b>	
<i>Using Remediation Risk Management to Address Groundwater Cleanup Challenges at Complex Sites</i> (January 2012) <a href="#">Available in PDF Format</a>	Applies the framework of project risk management for site remediation to identify and manage such challenges.
<b>Risk Communication (RCT)</b>	
<i>Risk Communication Toolkit</i> (June 2020) <a href="https://rct-1.itrcweb.org/">https://rct-1.itrcweb.org/</a>	This interactive toolkit is designed to aid state personnel, lead organizations, and stakeholders in understanding and communicating emerging environmental issues and concerns - detailing relevant strategies and tools.
<b>Risk (RISK)</b>	
<i>Decision Making at Contaminated Sites: Issues and Options in Human Health Risk Assessment</i> (January 2015) <a href="http://www.itrcweb.org/risk-3">http://www.itrcweb.org/risk-3</a>	Assists effective decision-making among project managers and decision makers tasked with developing or reviewing risk assessments for contaminated sites using site-specific approaches, scenarios, and parameters.
<b>Sediment Cap (SD)</b>	
<i>Sediment Cap Chemical Isolation: Design, Construction, and Monitoring Approach</i> (September 2023) <a href="https://sd-1.itrcweb.org">https://sd-1.itrcweb.org</a>	As a supplement to the ITRC's 2014 Contaminated Sediments Remediation guidance document, SD-1 provides more details regarding the design, construction, modeling, and long-term monitoring and maintenance of the chemical isolation.
<b>Soil Background and Risk Assessment (SBR)</b>	
<i>Soil Background and Risk Assessment</i> (December 2021) <a href="https://sbr-1.itrcweb.org/">https://sbr-1.itrcweb.org/</a>	Provides a consensus-based comprehensive and defensible framework for establishing soil background and using soil background in risk assessments
<i>Soil Background and Risk Assessment Training Videos</i> (July 2022) <a href="#">Available on ITRC's YouTube Channel</a>	The Soil Background and Risk Assessment team created four short training videos to accompany the online guidance document that are available on ITRC's YouTube channel.
<b>Stormwater (Stormwater)</b>	
<i>Stormwater Best Management Practices Performance Evaluation</i> (October 2018) <a href="https://stormwater-1.itrcweb.org/">https://stormwater-1.itrcweb.org/</a>	Stormwater Best Management Practices Performance Evaluation.
<i>Stormwater Best Management Practices Introductory Videos</i> (September 2018) <a href="#">Available on ITRC's YouTube Channel</a>	The Stormwater Best Management Practices team created four introductory training videos to accompany the online Guidance Document that are available on ITRC's YouTube channel.
<b>Tire Anti-Degradants (6PPD)</b>	
<i>What We Know: 6PPD and 6PPD-quinone</i> (September 2023) <a href="http://6ppd.itrcweb.org/FocusSheet">6ppd.itrcweb.org/FocusSheet</a>	This Focus Sheet offers a first look at Tire Anti-Degradants and their forthcoming guidance document.
<b>TPH Risk (TPHRisk)</b>	

Title	Description
<p><i>TPH Risk Evaluation at Petroleum-Contaminated Sites</i> (November 2018) <a href="https://tphrisk-1.itrcweb.org">https://tphrisk-1.itrcweb.org</a></p>	<p>Presents the current science for evaluating TPH risk at petroleum-contaminated sites.</p>
<b>Unexploded Ordnance (UXO)</b>	
<p><i>Quality Considerations for Multiple Aspects of Munitions Response Sites</i> (April 2018) <a href="https://qcmr-1.itrcweb.org/">https://qcmr-1.itrcweb.org/</a></p>	<p>Presents quality considerations for munitions response (MR) projects.</p>
<b>Vapor Intrusion (VI)</b>	
<p><i>Technical Resources for Vapor Intrusion Mitigation</i> (December 2020) <a href="https://vim-1.itrcweb.org/">https://vim-1.itrcweb.org/</a></p>	<p>Technical Resources for Vapor Intrusion Mitigation (VIM) is designed to aid state regulators in understanding various mitigation strategies, how they are installed and fundamentally work, and what factors to consider as part of the review process.</p>
<b>1,4 Dioxane (14DX)</b>	
<p><i>1,4 Dioxane</i> (March 2020) <a href="https://14d-1.itrcweb.org/">https://14d-1.itrcweb.org/</a></p>	<p>ITRC has developed a resource to summarize the latest science and emerging technologies for 1,4-Dioxane.</p>