

PROBLEM

Extensive research over the past 30 years has greatly improved our understanding of environmental issues; however, much of this information resides in the academic community and research community.

- Not easy to access
- Search engines don't always identify the most current/accurate information
- Too much information online
- Journals and technical reports are not quickly or easily understood by all

SOLUTION

The Environmental Wiki (Enviro Wiki, formerly ER Wiki) is developed with support from ESTCP. It is basically a Wikipedia for Environmental subjects

- Familiar Wikipedia Format
- Readily Accessible
- Compilation of Research
- Extensive Peer Review
- Links to References
- Easily Updated Platform
- Summaries of Current Knowledge
- Written by internationally recognized experts from academia and industry

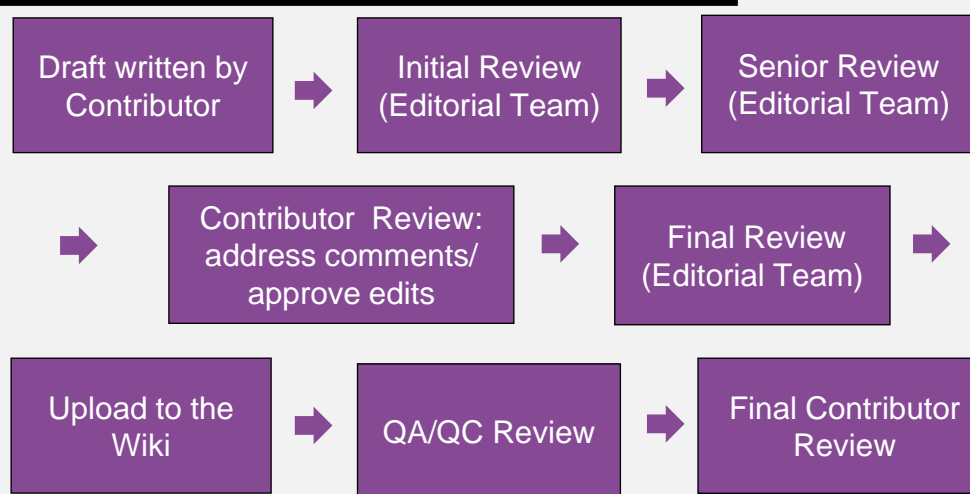
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- Monitored Natural Attenuation
- Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)
- Regulatory Issues and Site Management
- Remediation Technologies
- Soil & Groundwater Contaminants

WIKI PROCESS



ADDITIONAL DOCUMENTS

Each category page contains a section for additional documents that may or may not be referenced in an applicable article, but we found them to be either of high value, hard to find on the internet or both!

ENVIRO WIKI

THE CURRENT ENVIRO WIKI INCLUDES:

- 115 articles on mainly Environmental Restoration related topics
- More than 1,600 external links
- 874 reference documents saved within

THE QUALITY OF THE EXISTING ATICLES ARE EXPANDED BY:

- Adding more visuals (i.e., short (2-3 min) videos, illustrative graphics,
- Updating the technical content to ensure the articles remain current
- Providing greater depth
- Providing contrasting/alternative perspective(s) for emerging issues

REFERENCES

Each article contains:

Linked References

- Secure DOI links,
- Links to sources, i.e. ESTCP/SERDP documents
- PDF's housed on the wiki

“See Also” Section

- Relevant online resources not referenced in the text
- Links to YouTube, websites, and access to software

EXAMPLE ARTICLES

1,2,3-Trichloropropane

1,2,3-Trichloropropane (TCP) is a chlorinated volatile organic compound (CVOC) that has been used in chemical production processes, in agriculture, and as a solvent, resulting in point and non-point source contamination of soil and groundwater. TCP is mobile and highly persistent in soil and groundwater. TCP is not currently regulated at the national level in the United States, but maximum contaminant levels (MCLs) have been developed by some states. Current treatment methods for TCP are limited and can be cost prohibitive. However, some treatment approaches, particularly *in situ* chemical reduction (ISCR) with zero valent zinc (ZVZ) and *in situ* bioremediation (ISB), have recently been shown to have potential as practical remedies for TCP contamination of groundwater.

Related Article(s):

- Anaerobic Bioremediation
- *In Situ* Chemical Reduction (ISCR)
- *In Situ* Chemical Oxidation (ISCO)



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- 1 Introduction
- 2 Environmental Fate
- 3 Occurrence
- 4 Regulation

PFAS Ex Situ Water Treatment

Well-developed *ex situ* treatment technologies applicable to treatment of *perfluoroalkyl and polyfluoroalkyl substances* (PFAS) in drinking water and non-potable groundwater include membrane filtration (reverse osmosis or RO and nanofiltration or NF), activated carbon adsorption (granular and powdered), and anion exchange. However, these technologies are less demonstrated for removal of PFAS from more complex matrices such as wastewater and leachate. There are also a variety of separation and destructive technologies in various stages of development. Some of these processes may also be applicable to more complex matrices including wastewater and landfill leachate.

Related Article(s):

- Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)
- PFAS Transport and Fate
- PFAS Sources

Contents [hide]

- 1 Established PFAS Treatment Technologies
 - 1.1 Membrane Filtration
 - 1.2 Activated Carbon Adsorption

Downscaled High Resolution Datasets for Climate Change Projections

Global climate models (GCMs) have generated projections of temperature, precipitation and other important climate change parameters with spatial resolutions of 100 to 300 km. However, higher spatial resolution information is required to assess threats to individual installations or regions. A variety of “downscaling” approaches have been used to produce high spatial resolution output (datasets) from the global climate models at scales that are useful for evaluating potential threats to critical infrastructure at regional and local scales. These datasets enable development of information about projections produced from various climate models, about downscaling to achieve desired locational specificity, and about selecting the appropriate dataset(s) to use for performing specific assessments. This article describes how these datasets can be accessed and used to evaluate potential climate change impacts.

Related Article(s):

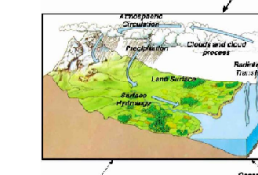
- Climate Change Primer

Contributor(s):

Dr. Rao Kotarmathi

Key Resource(s):

- Use of Climate Information for Decision-Making and Impacts Research: State of our Understanding^[1]
- Applying Climate Change Information to Hydrologic and Coastal Design of Transportation Infrastructure, Design Practices^[2]
- Statistical Downscaling and Bias Correction for Climate Research^[3]
- Downscaling Techniques for High-Resolution Climate Projections: From Global Change to Local Impacts^[4]



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- 1 Downscaling of Global Climate Models
- 2 Methods for Downscaling
- 3 Uncertainty in Projections
- 4 References
- 5 See Also

Downscaling of Global Climate Models

Some communities and businesses have begun to improve their resilience to climate change by building adaptation plans based on national scale climate datasets (National Adaptation Plans^[5]), regional datasets (New York State Flood Risk Management Guidance^[6]), and datasets generated at local spatial resolutions. Resilience to the changing climate has also been identified by the US Department of Defense (DoD) as a necessary part of the installation planning and basing process (DoD Report on Effects of a Changing Climate^[6]). More than 79 installations were identified as facing potential threats from climate change. The threats faced due to changing climate include recurrent flooding, droughts, desertification, wildfires and thawing permafrost.

Assessing the threats climate change poses at regional and local scales requires data with higher spatial resolution than is currently available from global climate models. Global-scale climate models typically have spatial resolutions of 100 to 300 km, and output from these models needs to be spatially and/or temporally disaggregated in order to be useful in performing assessments at smaller scales. The process of producing higher spatial-temporal resolution climate model output from coarser global climate model outputs is referred to as “downscaling” and results in climate change projections (datasets) at scales that are useful for evaluating potential threats to regional and local communities and businesses. These datasets provide information on temperature, precipitation and a variety of other climate variables for current and future climate conditions under various greenhouse gas (GHG) emission scenarios. There are a variety of web-based tools available for accessing these datasets to evaluate potential climate change impacts at regional and local scales.

GET INVOLVED

We Need
**YOUR
 HELP!**

The Wiki strives to be complete, comprehensive and eventually, the “go-to” website for environmental information. The best way we can think to achieve this is to use community involvement.

Review the website and let us know what you think at www.feedback.enviro.wiki



Enviro Wiki



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