

U.S. DOE's National Risk Assessment Partnership



Pittsburgh, PA August 2023



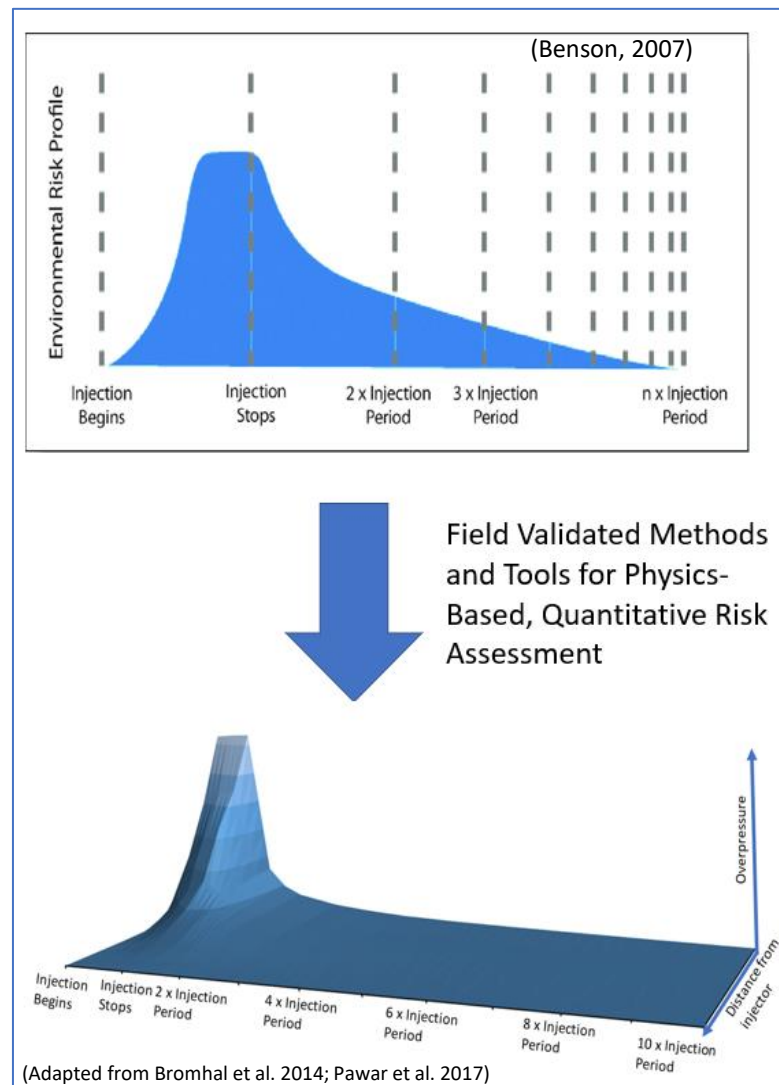
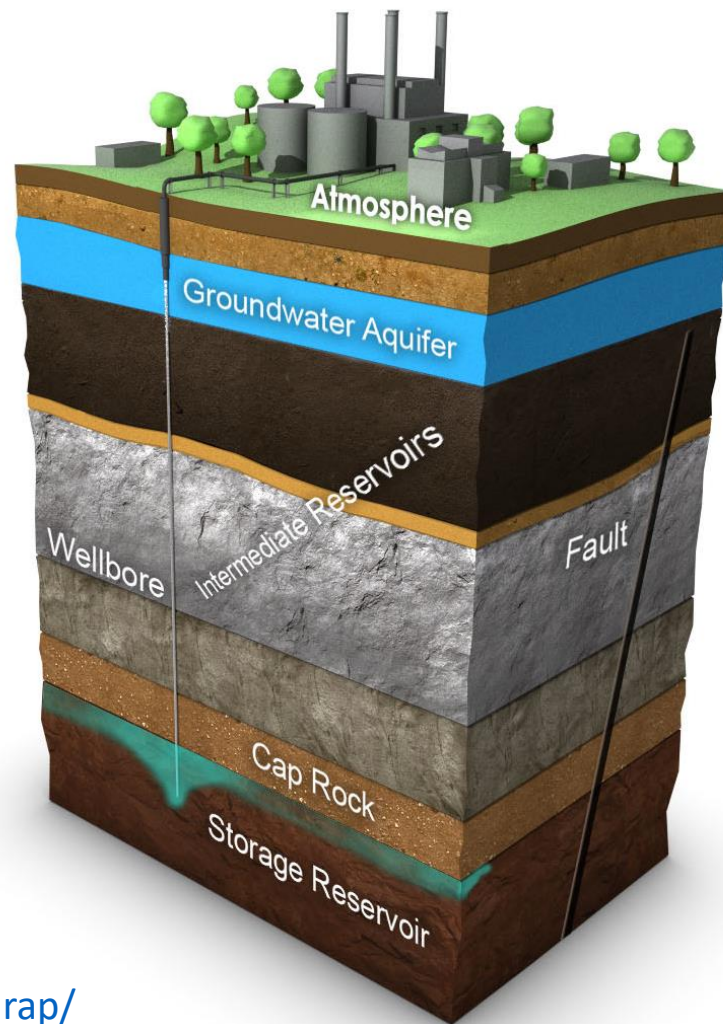
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NRAP leverages DOE's capabilities to quantitatively assess and manage long-term environmental risks amidst geologic uncertainty and variability.



Technical Team



NRAP Website: <https://edx.netl.doe.gov/nrap/>

Evolving Focus of NRAP

- Phase I (2010–2016) - Risk Assessment and Uncertainty Quantification
- Phase II (2017–2022) - Risk Management and Uncertainty Reduction
- Phase III (2022 – 2027) – Supporting CCS deployment.

NRAP Phase III Objective:

Maturing practical, useable tools and methods to quantitatively **assess and manage risks and liability** for geologic carbon storage at **site and basin scales**, and **promoting their application** for permitting and risk-related decision support to enable geologic carbon storage commercial deployment.

NRAP has developed Recommended Practices for :

Containment assurance / leakage risk assessment

NRAP Recommended Practices for Containment Assurance and Leakage Risk Quantification

21 December 2022

U.S. DEPARTMENT OF ENERGY | NATIONAL ENERGY TECHNOLOGY LABORATORY

Office of Fossil Energy and Carbon Management
DOE/NETL-2022/3344
NRAP-TRS-I-002-2022

Thomas et al. 2022

Induced seismicity risk management

Recommended Practices for Managing Induced Seismicity Risk Associated with Geologic Carbon Storage

2 December 2021

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Office of Fossil Energy
NRAP-TRS-I-001-2021
DOE/NETL-2021/2839

Templeton et al. 2021

Stress state characterization

NRAP Recommended Practices for Stress State Characterization at Geologic Carbon Storage Sites

September 2023

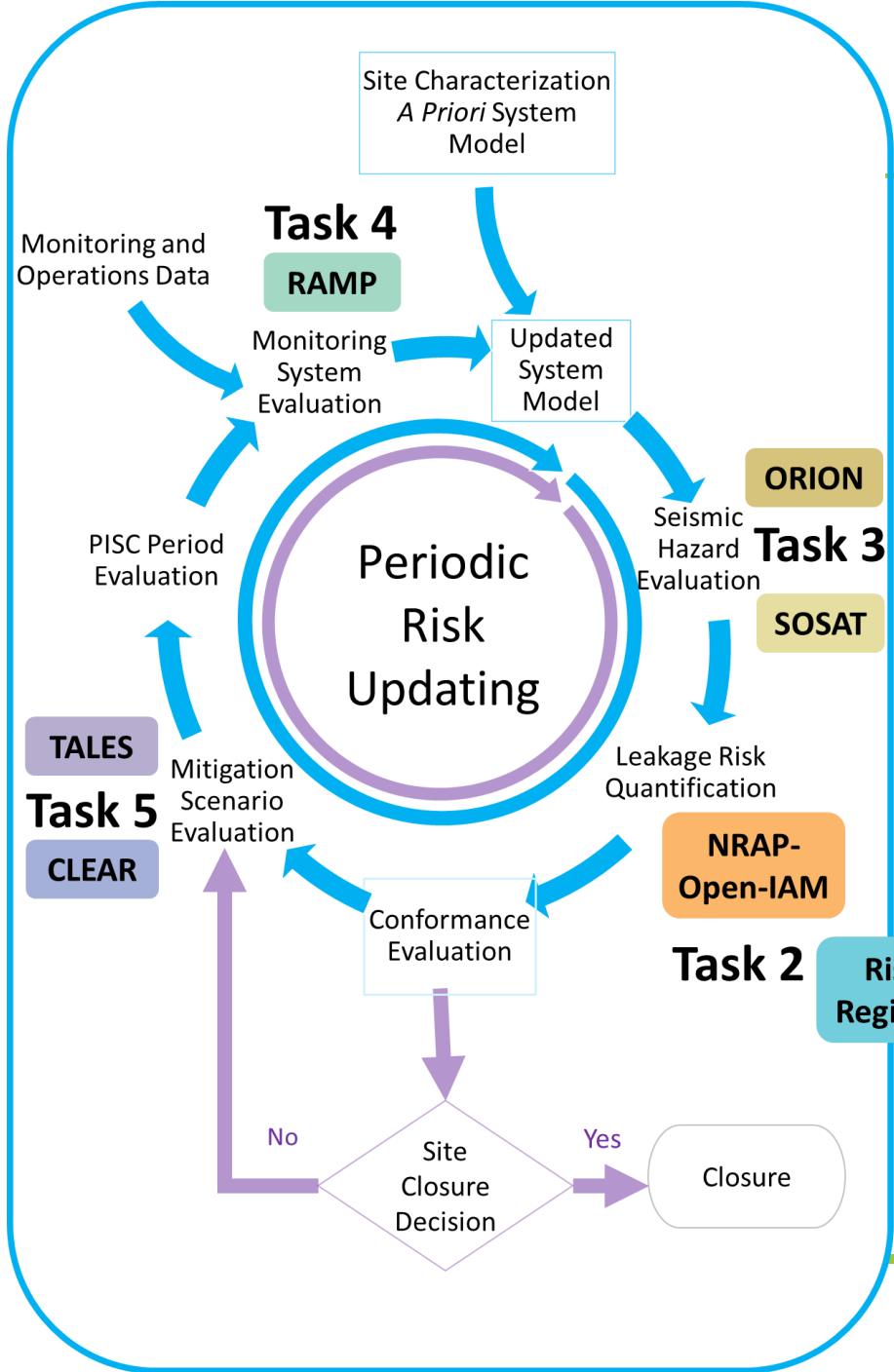
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forthcoming

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Office of Fossil Energy
NRAP-TRS-III-00X-2021
DOE/NETL-XXXX/XXXX

Burghardt et al. forthcoming

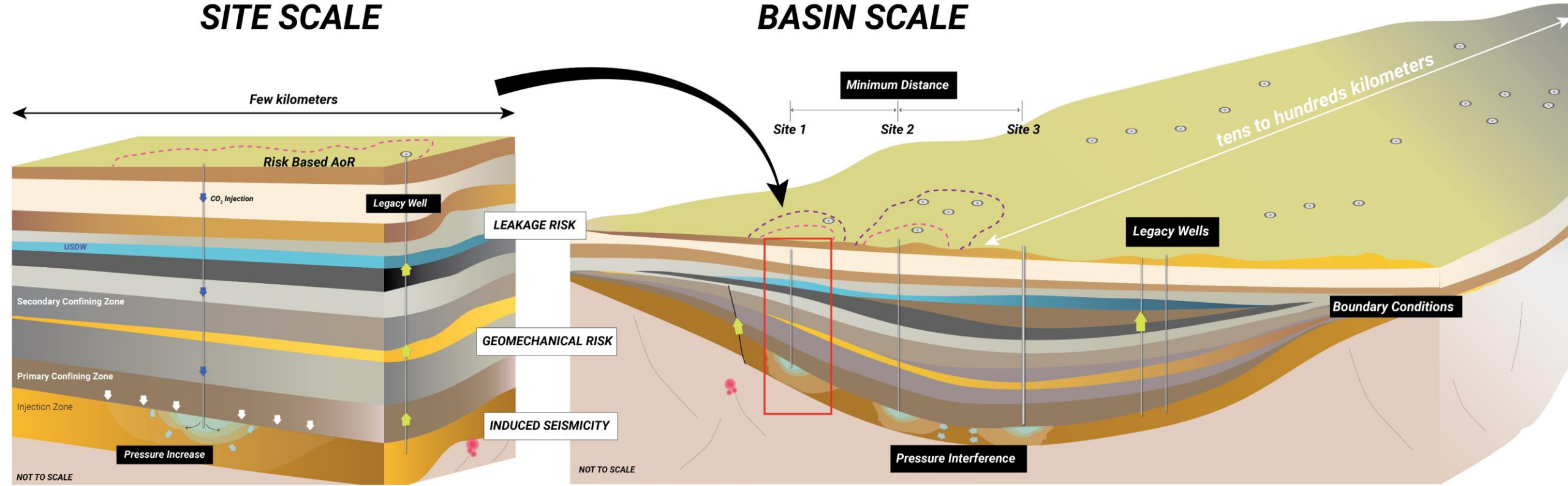


Tasks 2-5 develop numerical tools to facilitate permitting and support decision making related to multiple aspects of risk management.

Tasks 6 employs NRAP tools to determine the potential increased risk due to the operation of multiple CO₂ storage operations in the same basin.

SITE SCALE

BASIN SCALE





Thank you!

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NRAP Website: <https://edx.netl.doe.gov/nrap/>

NRAP Tools: <https://edx.netl.doe.gov/group/nrap-toolset>

