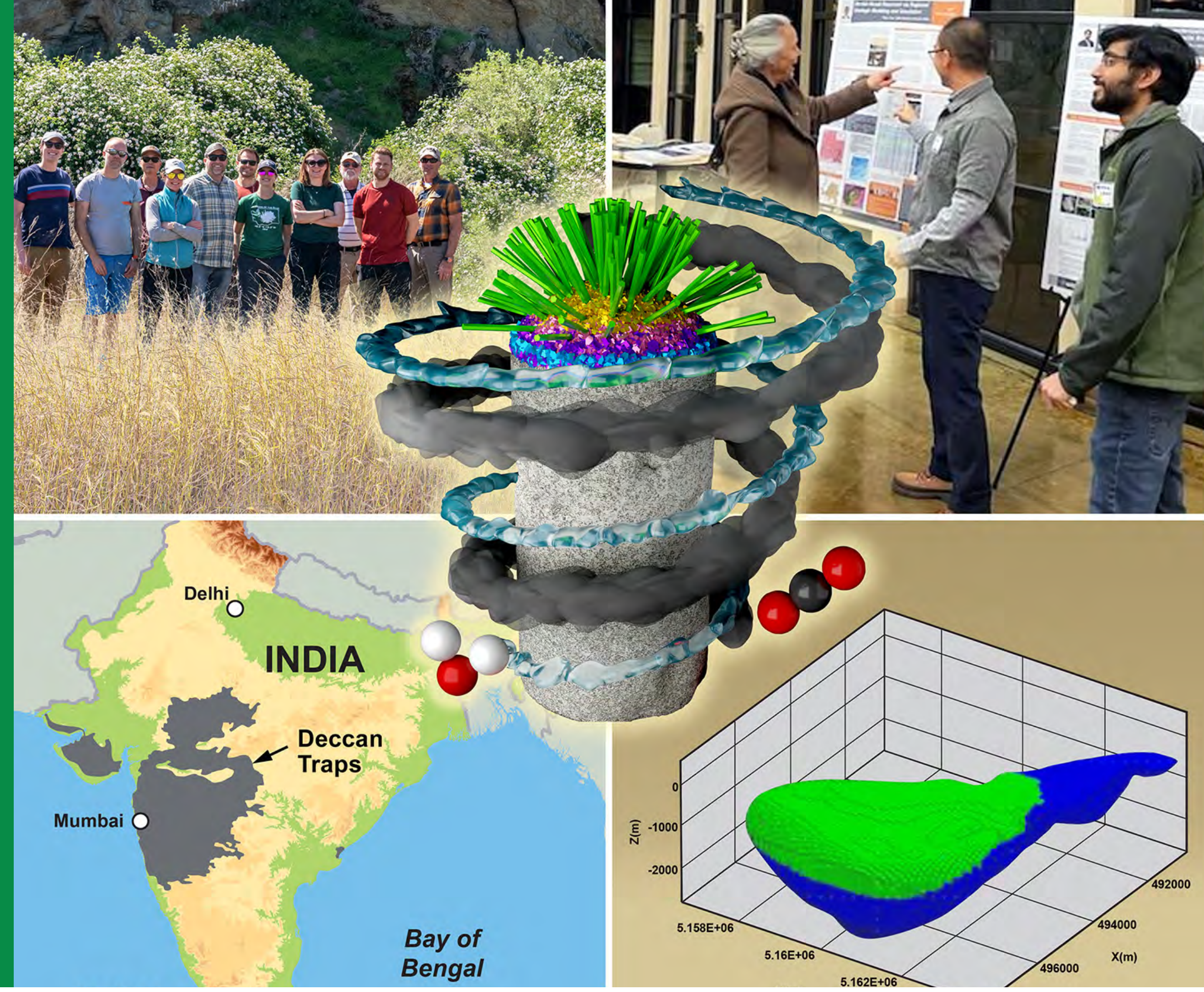


Basalt Mineralization Support

H. Todd Schaef, Casie Davidson, Emily Nienhuis, Nabajit Lahiri, Quin Miller, Stephanie DiRaddo, and Matt Villante



Integrated Mineralization Strategy

- Provide technical support and advising on FECM mineralization project new starts
- Develop methodologies for sample sharing from key field demonstration sites
- Socialize a sample protocol/characterization assay for projects to utilize



Reactive Transport Code Comparison Plan

Develop reactive transport code comparison plan, addressing:

- Implementation
- Timeline
- Problem sets
- Participant list (suggested)
- outcomes

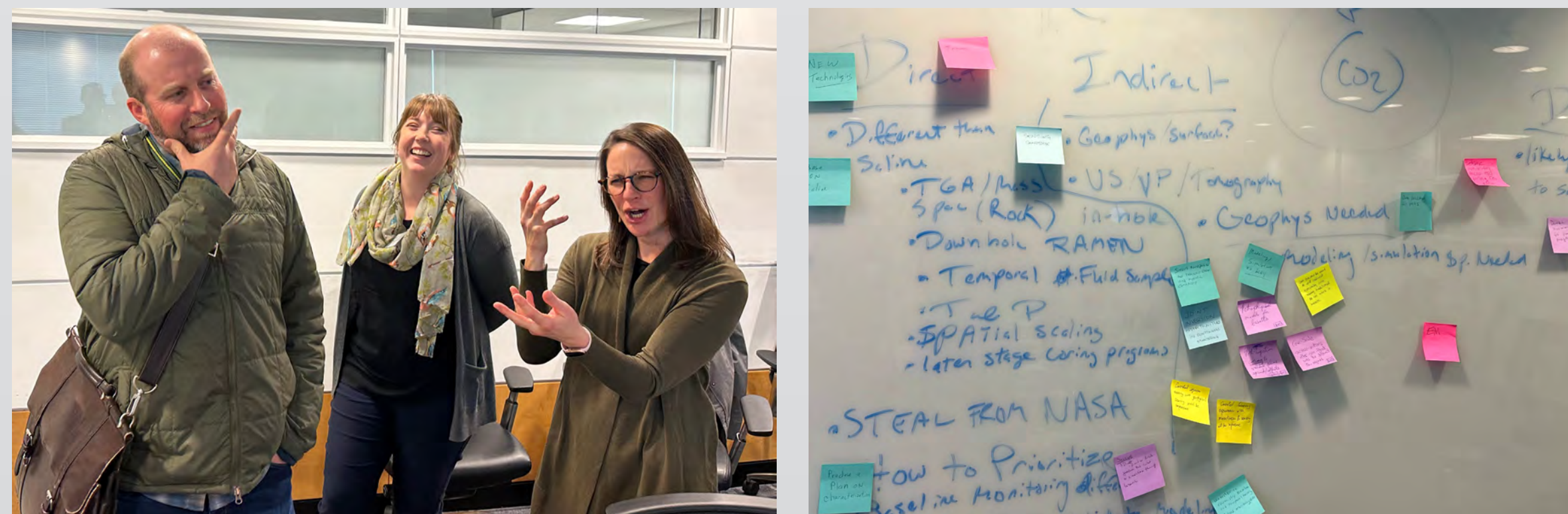
Outcomes

- A baseline for simulator verification using benchmark problems of increasing complexity.
- An established set of best practices or key parameters that contribute most to model discrepancy or uncertainty.
- A forum for discussing strategies for dealing with numerical challenges associated with modeling subsurface coupled CO₂ fluid flow and reactive processes.
- A means for identifying key physical and chemical processes that are not currently represented in existing simulators.

CO₂ Mineralization Working Group

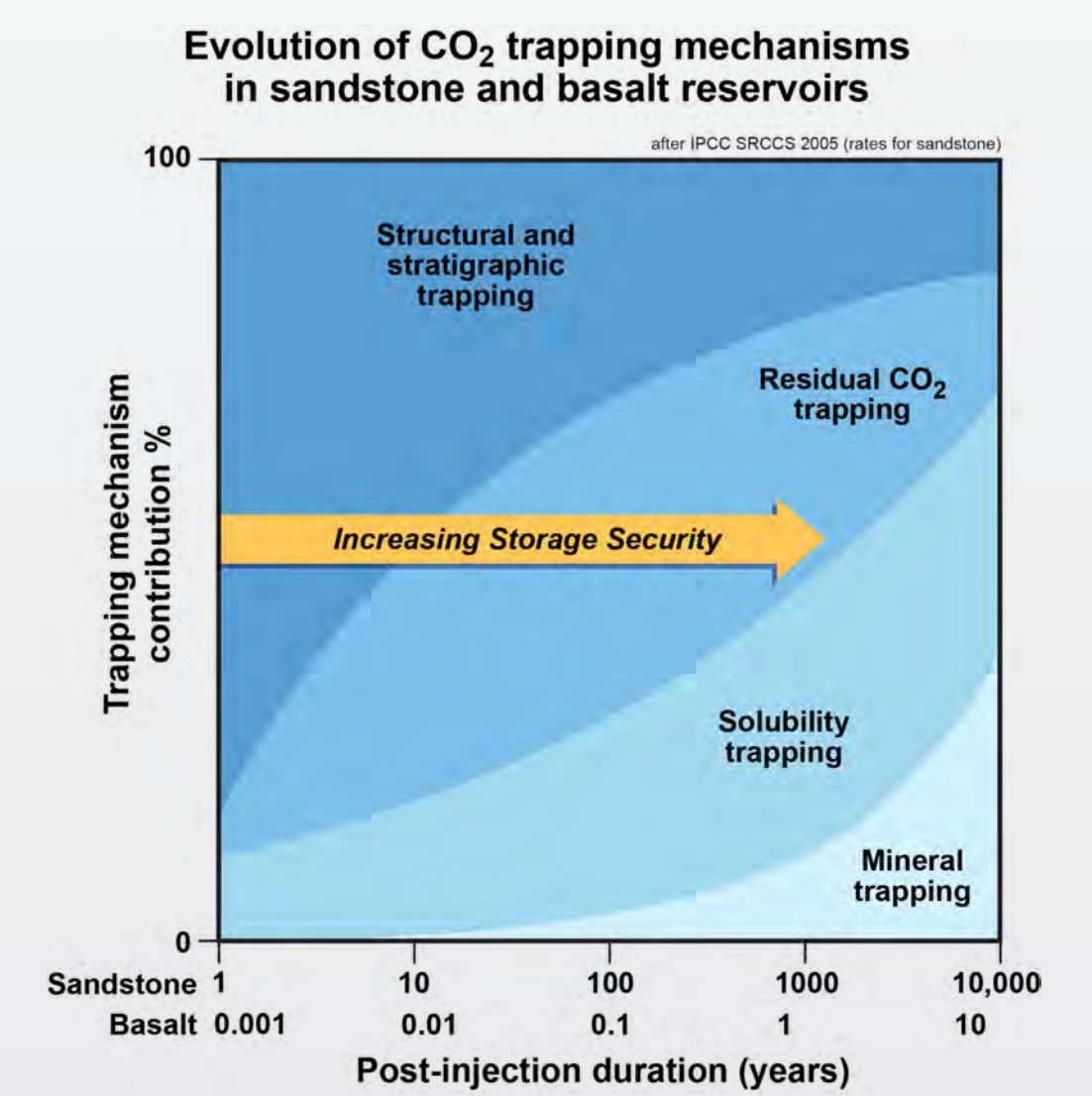
Outcomes to facilitate Commercial Deployment

- **Linking scales** – integrating across scales and analytical spaces
- **Sample database** – Develop diverse set of reactive reservoir rock samples acquired and characterized under consistent protocols
- **Basalt toolkit** – develop, publish, and evolve a set of best practices, tools and characterization methodologies
- **Simulation ecosystem** – integrate bench- and field-scale experiments with a new open-source ecosystem of reservoir simulation tools
- **CarbonSTORE test field** – test injection strategies & monitoring techniques; validate reaction kinetics and products; build consensus for MRV approaches; lower cost drilling techniques
- **CarbonSAFE field projects** – a growing set of CarbonSAFE projects in reactive reservoirs will leverage learnings from efforts above CarbonSTORE to provide large-scale injection project data essential to refine and validate the set of tools available for in situ mineralization storage
- **Class VI** – Demonstrate any mineralization-related reductions in AOR (with associated risk/cost reductions).



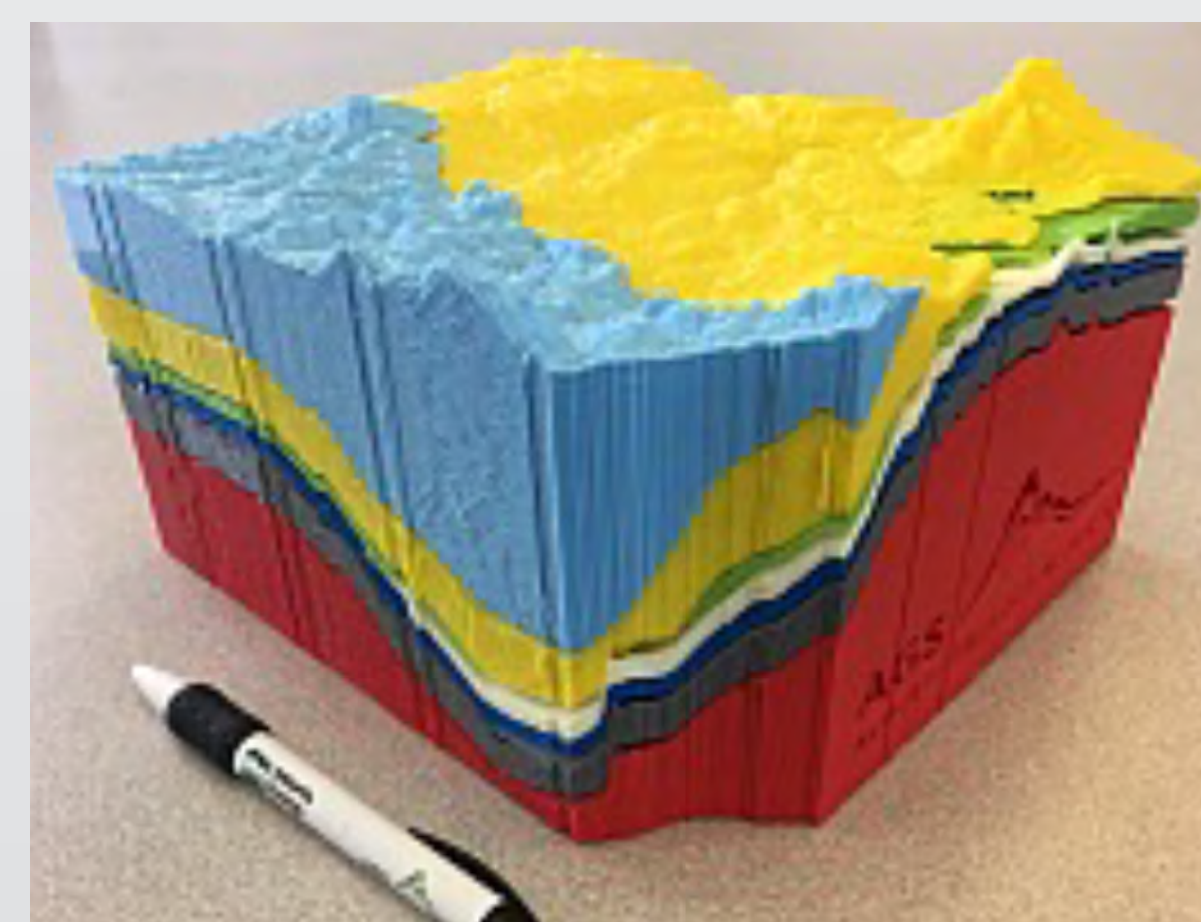
Carbon Storage in India

- Participated in Carbon Storage workshop in India
 - National Storage Resource Assessments – Basalt/Saline/EOR
 - Developing Site Specific Storage Facilities – Basalt/Saline
 - Risk Assessment and monitoring, reporting, and verification of stored CO₂
 - Best Practices
 - Regulatory needs and approaches
 - Stakeholder perspectives – Government of India + industry
- Outcomes
 - Solidifying commitment to collaborate on advancing geological storage
 - Identified specific topics of mutual interest for collaboration

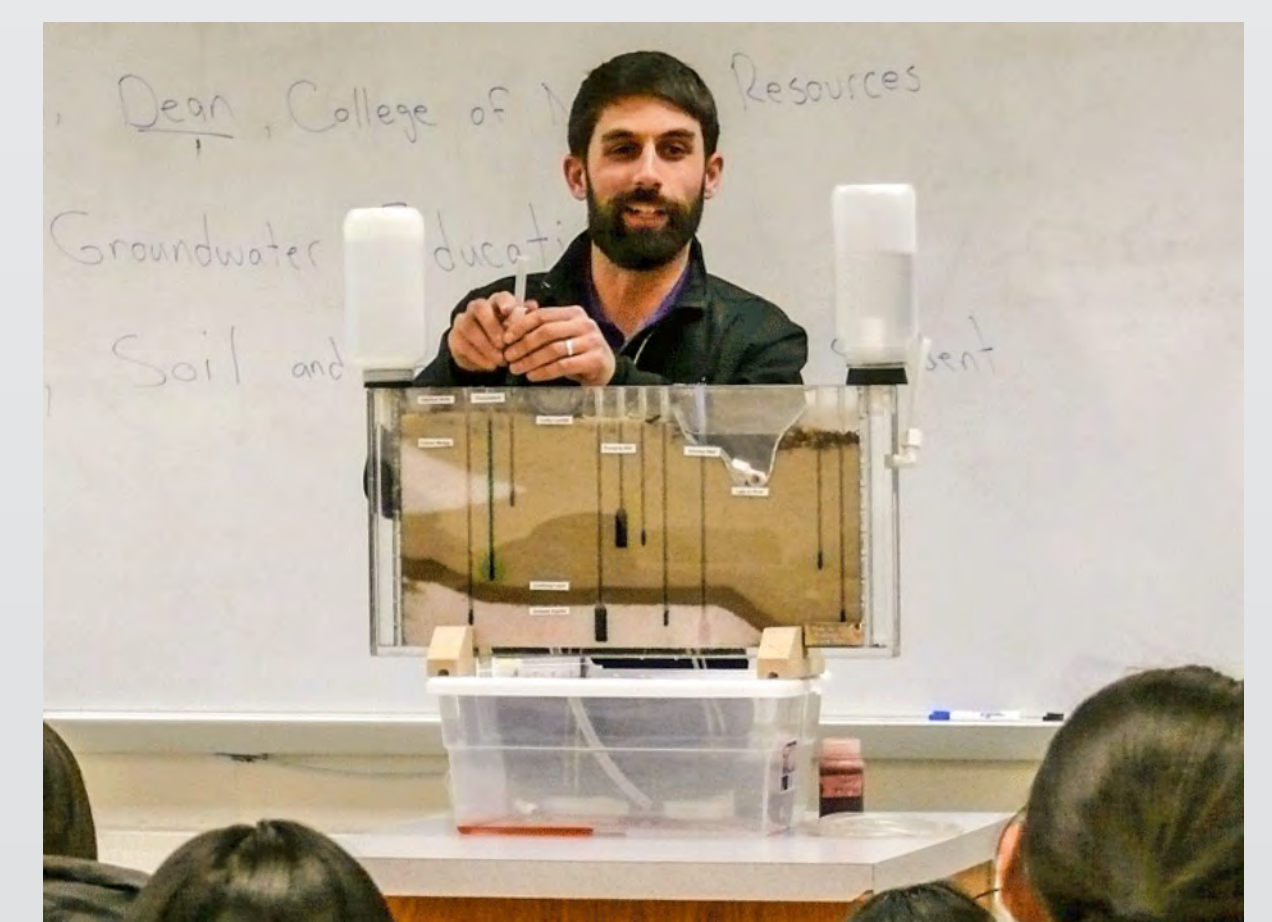


Geology 101 Education Tool Set

- Developing educational tools for the FECM team to use in community engagement events.



3D puzzle of the subsurface showing how aquifers stack between overburden and layers of caprock.



Ant farm subsurface injection demonstration.



Flow Pods: portable, zero-waste demo of porosity, permeability & flow velocity.

