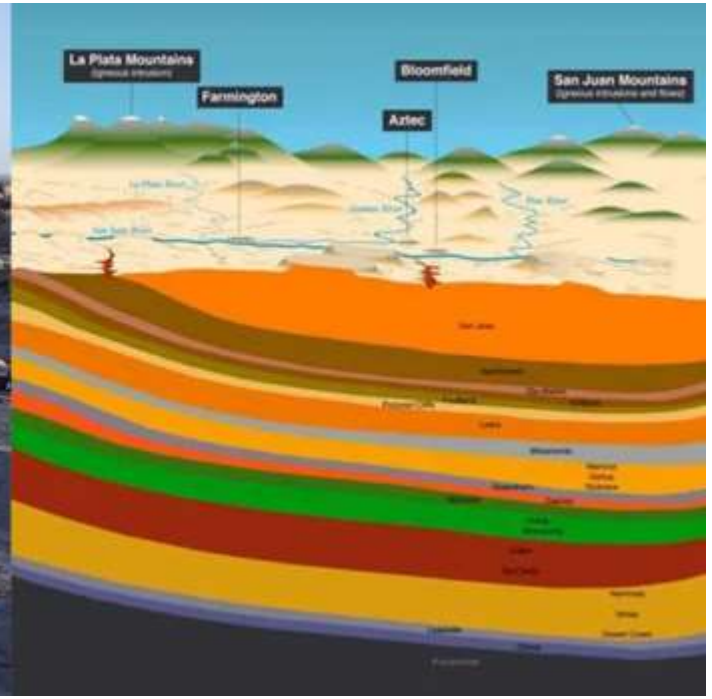
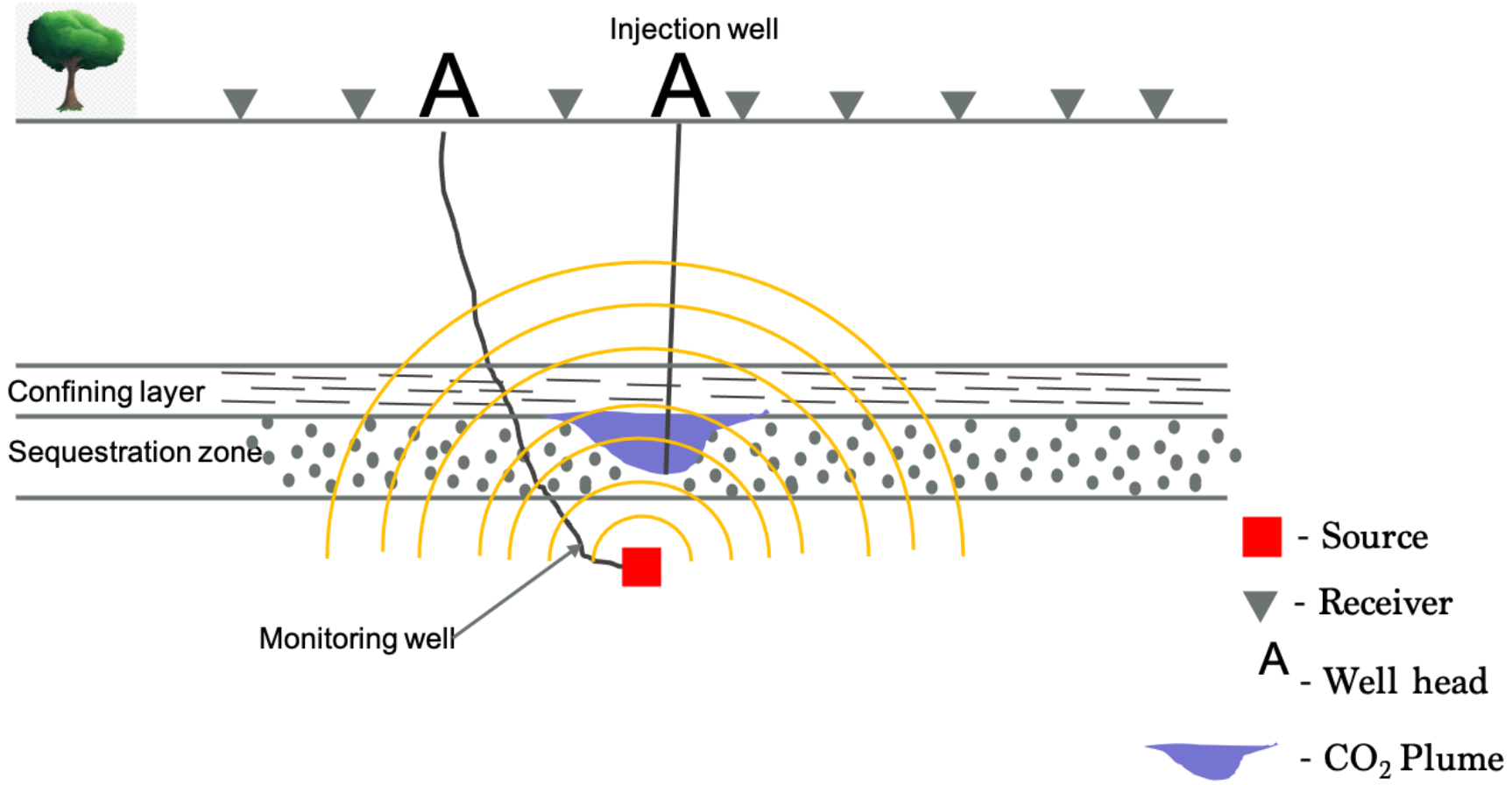
# DOWNHOLE SOURCE TOMOGRAPHY – FOCUSED PROJECT

UNIVERSITY OF UTAH + PAULSSON INC



# The primary objective is to create a new method of monitoring $CO_2$ plumes

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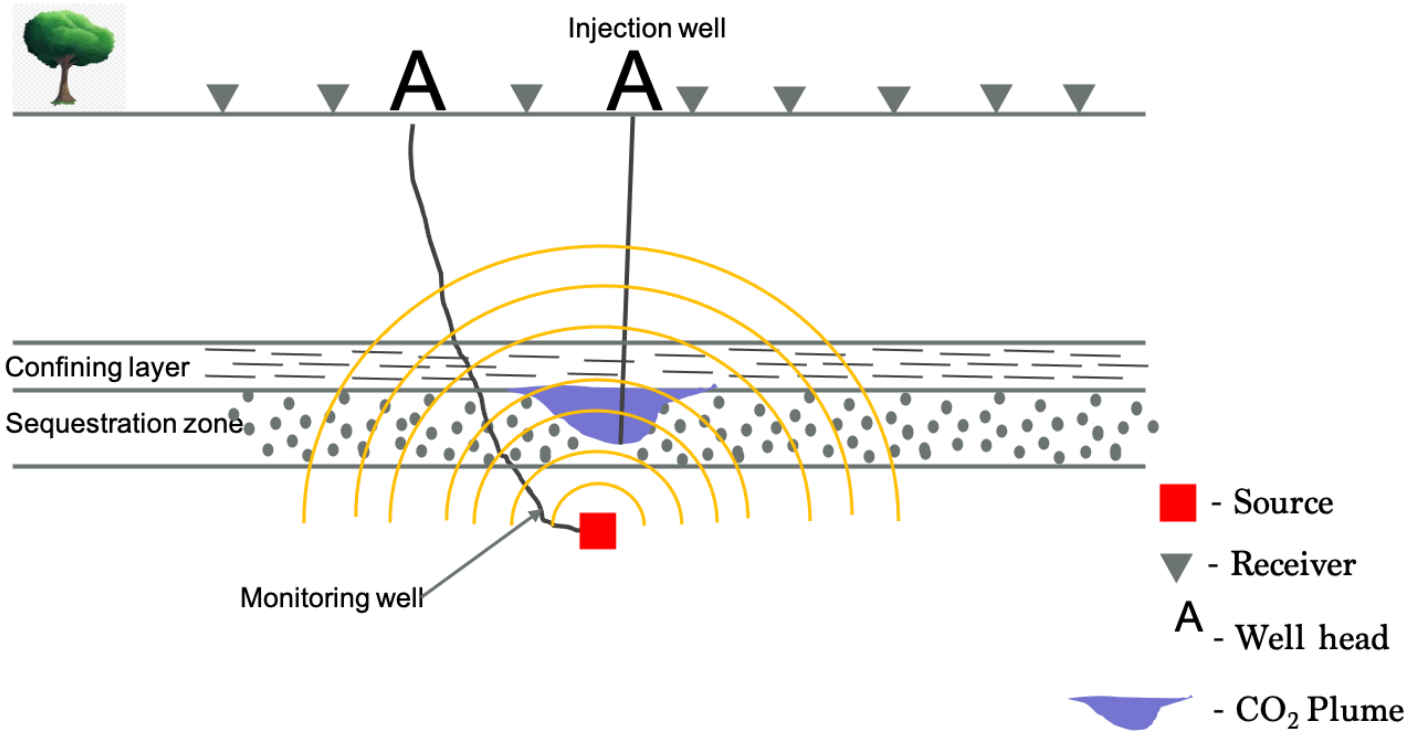
# There are 6 hypothesized advantages of this geometry

1. Time-lapse
2. Three-dimensional
3. Direct waves
4. Higher frequency content = greater spatial resolution
5. Frequency swept source
6. Different source locations

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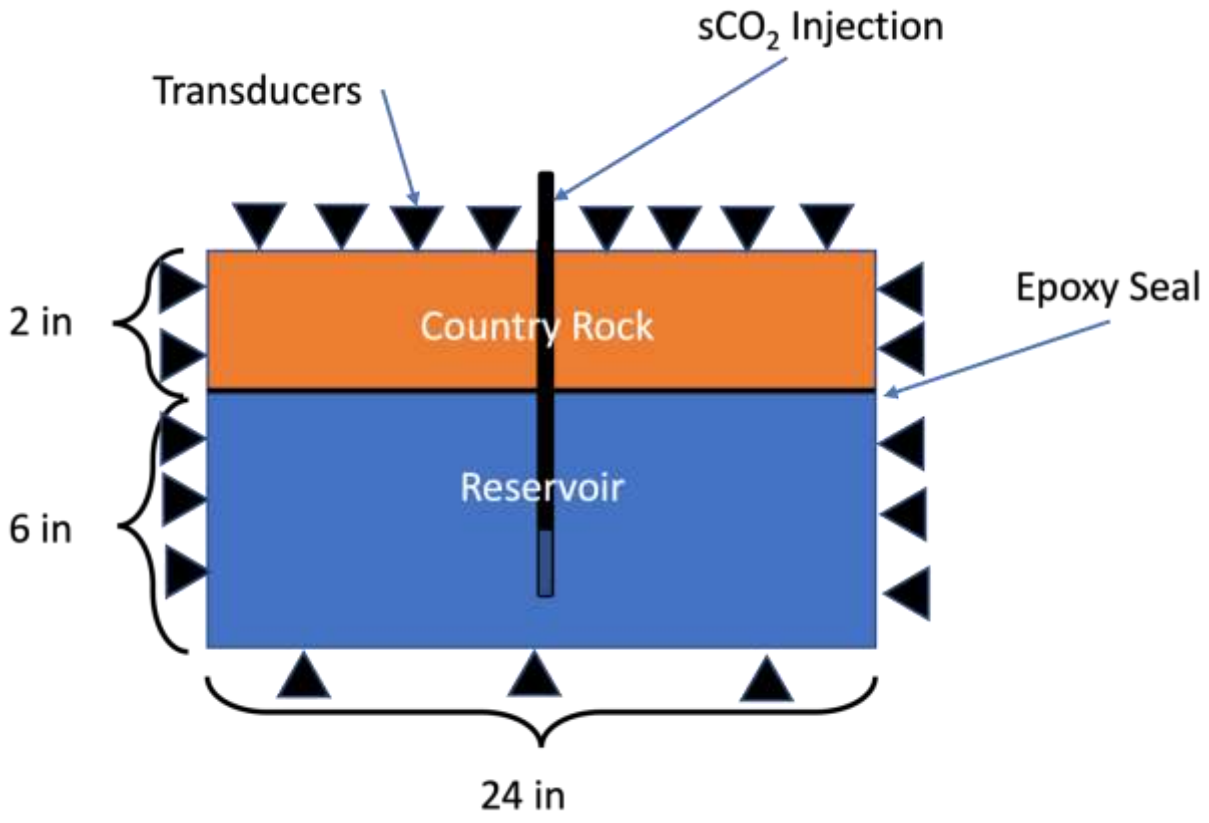
Because of cost, we will start with the design of laboratory experiments



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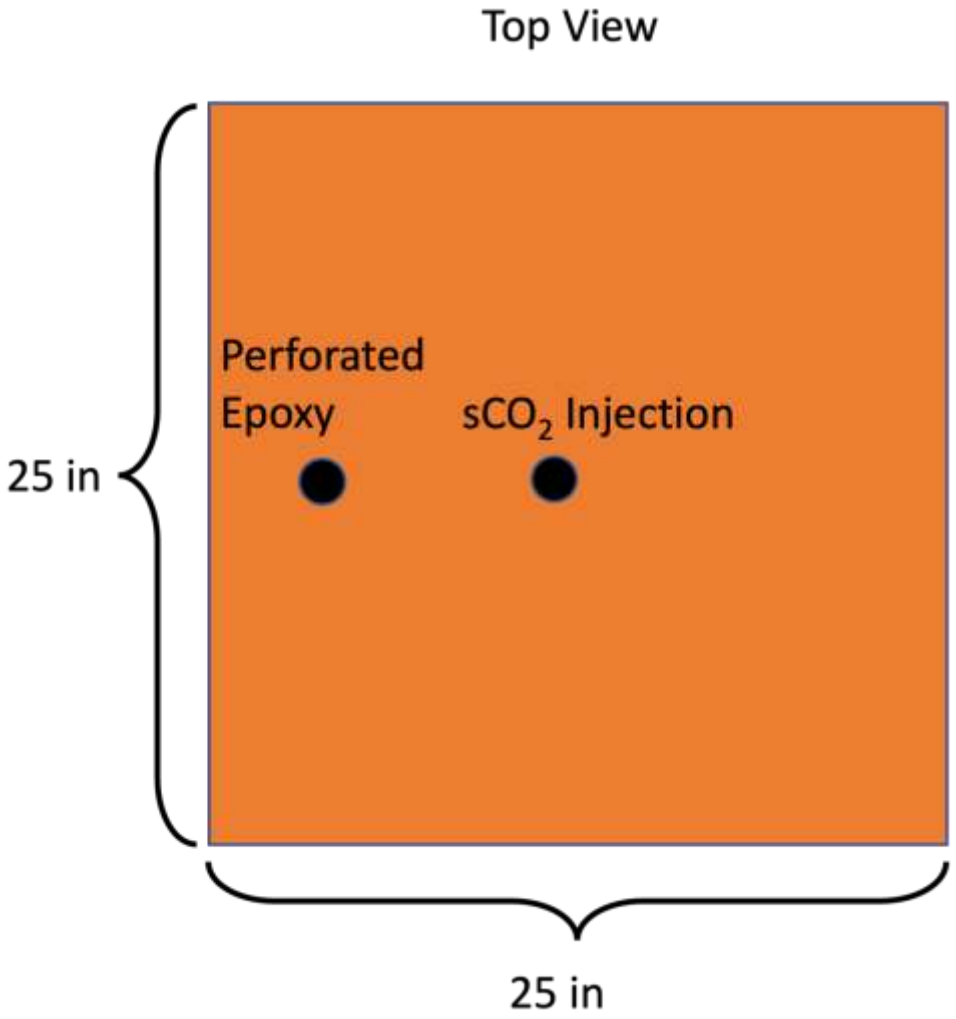
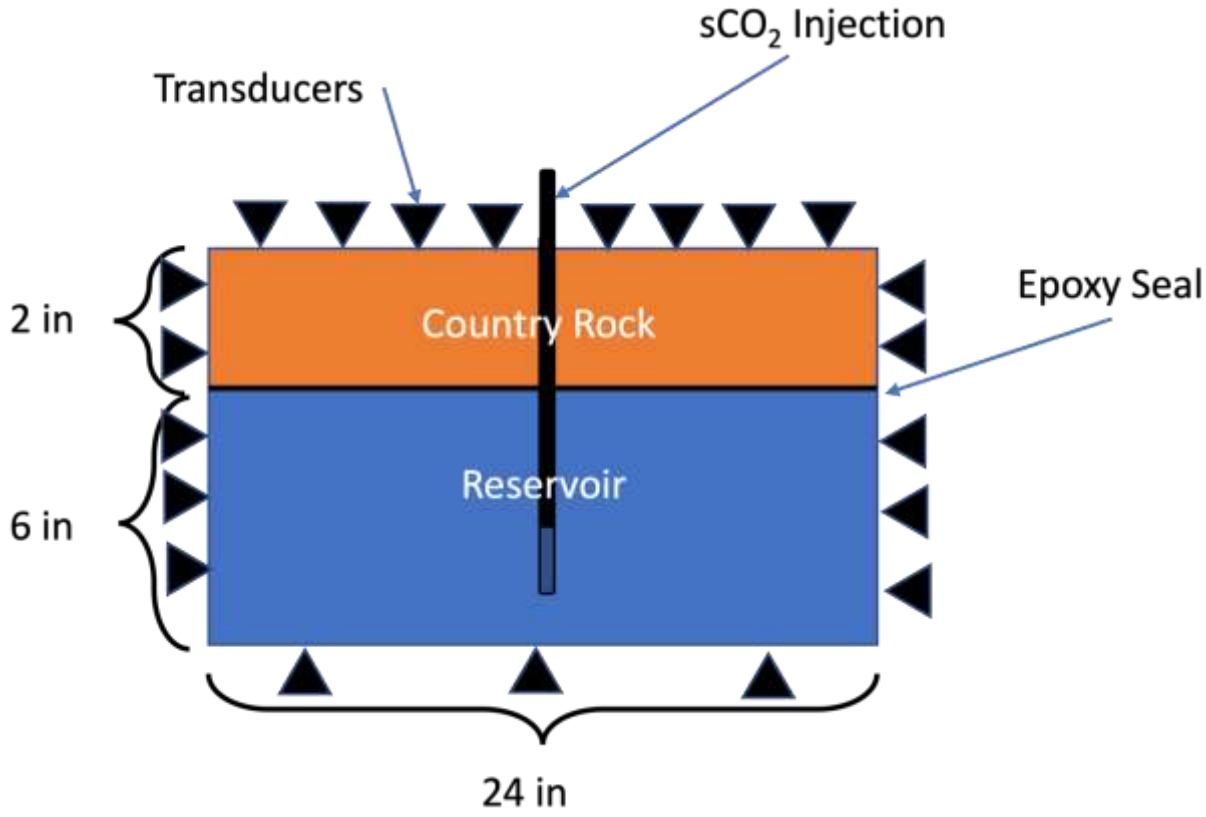
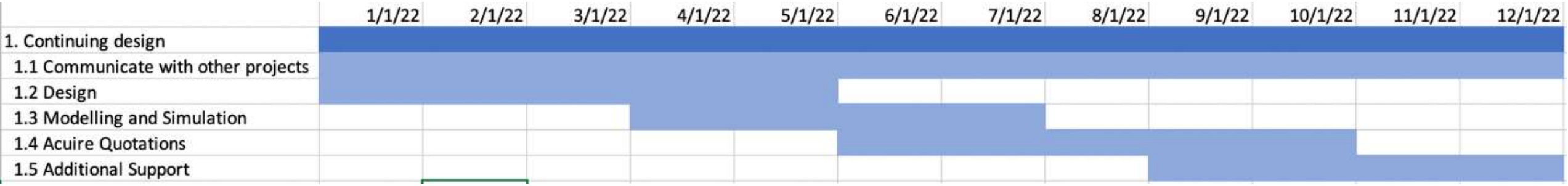


# There are 5 subtasks and 2 deliverables

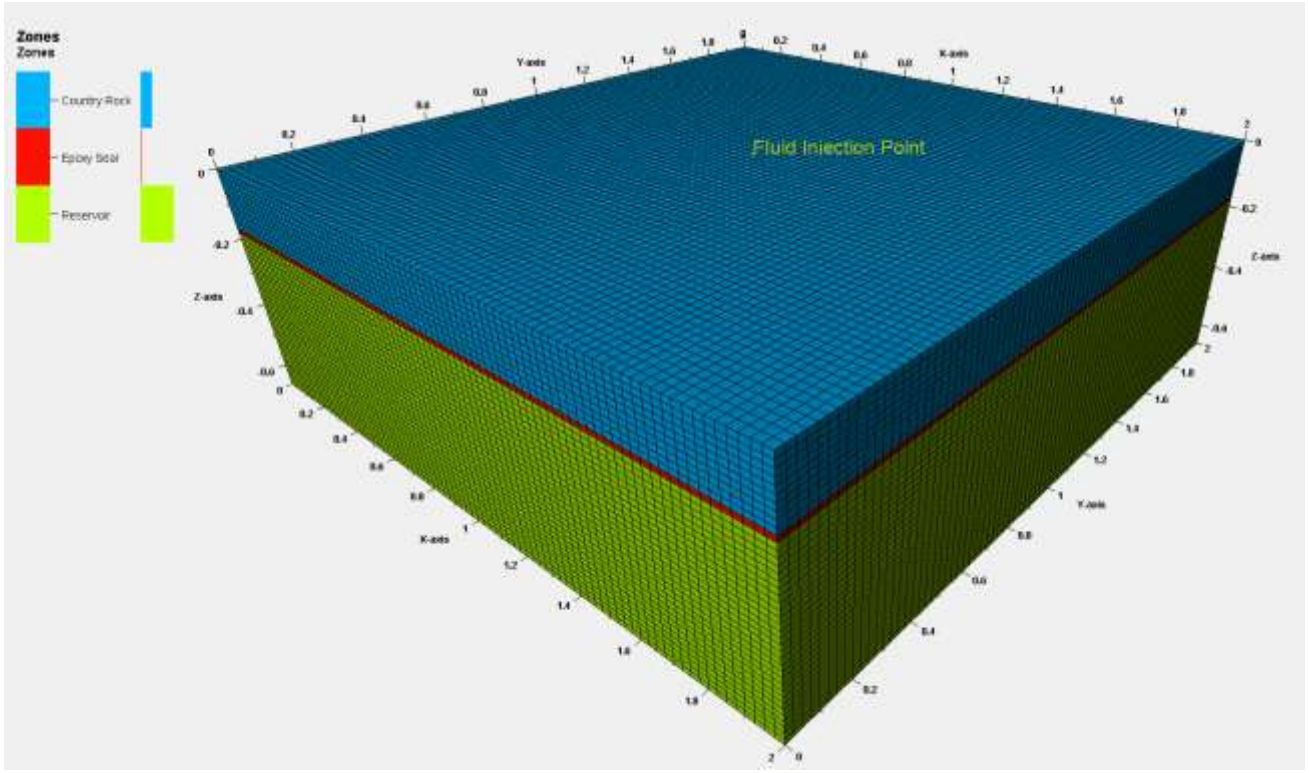
Subtask 1.1: Communicate with other CCUS projects about the needs of plume monitoring (SWP/CarbonSAFE/etc.)
Subtask 1.2: Design the experiment
Subtask 1.3: Modeling and simulation of the experiment
Subtask 1.4: Acquire quotations (SNL and SLB)
Subtask 1.5: Acquire additional funding to run the experiments




## Deliverables

1. Experimental design report (July 31st, 2022)
2. Application for additional funding (December 31st, 2022)

# We have preliminary results from the simulation



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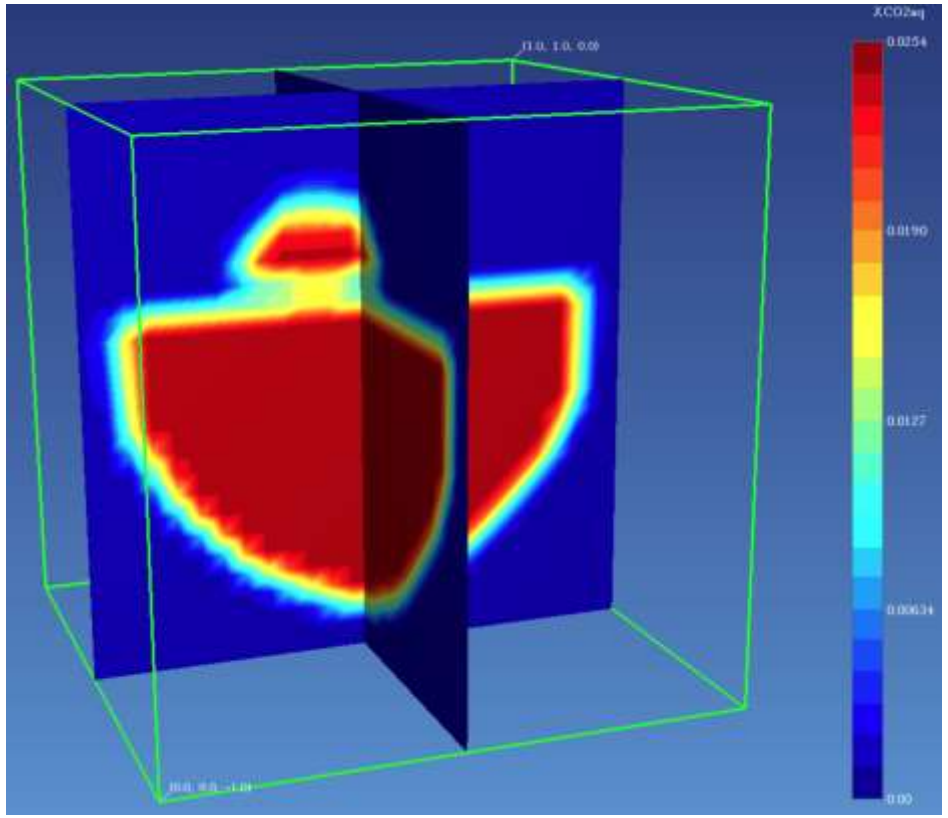
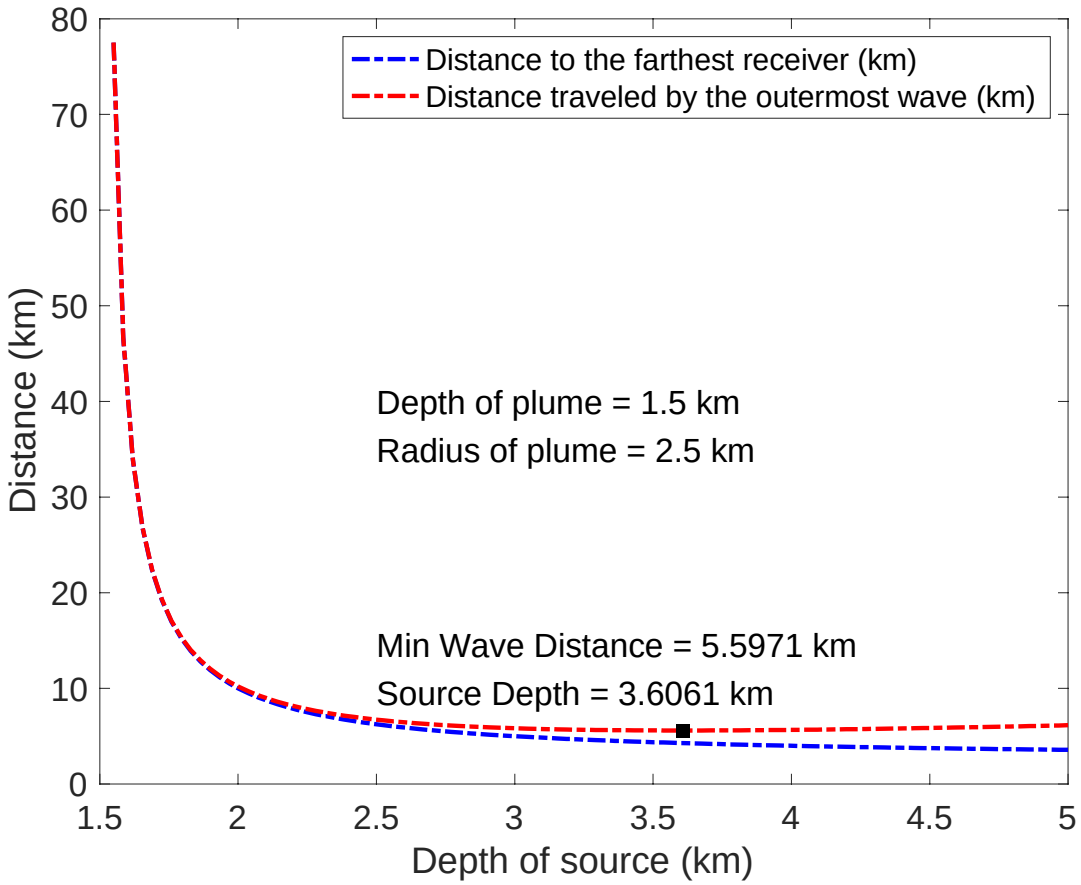


# When it is time for the field scale, we will need to carefully select our site



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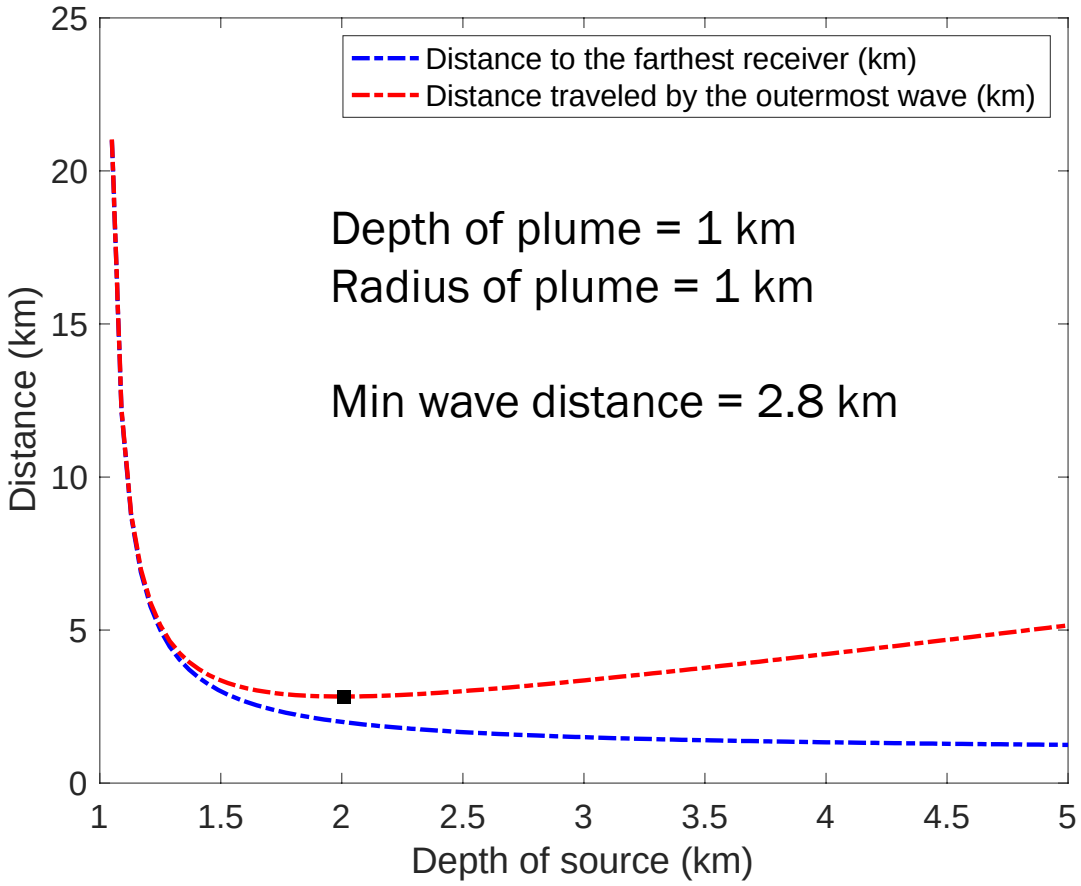

Thank you