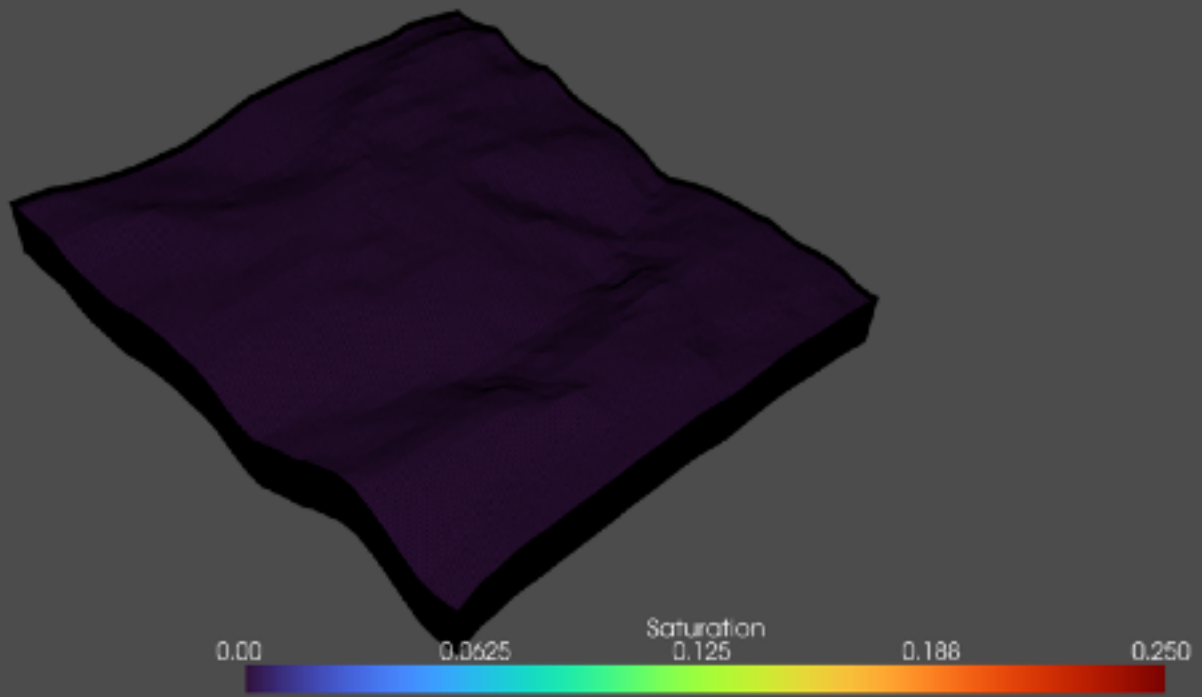
SLIM

ML4Seismic

CO_2 plume

Example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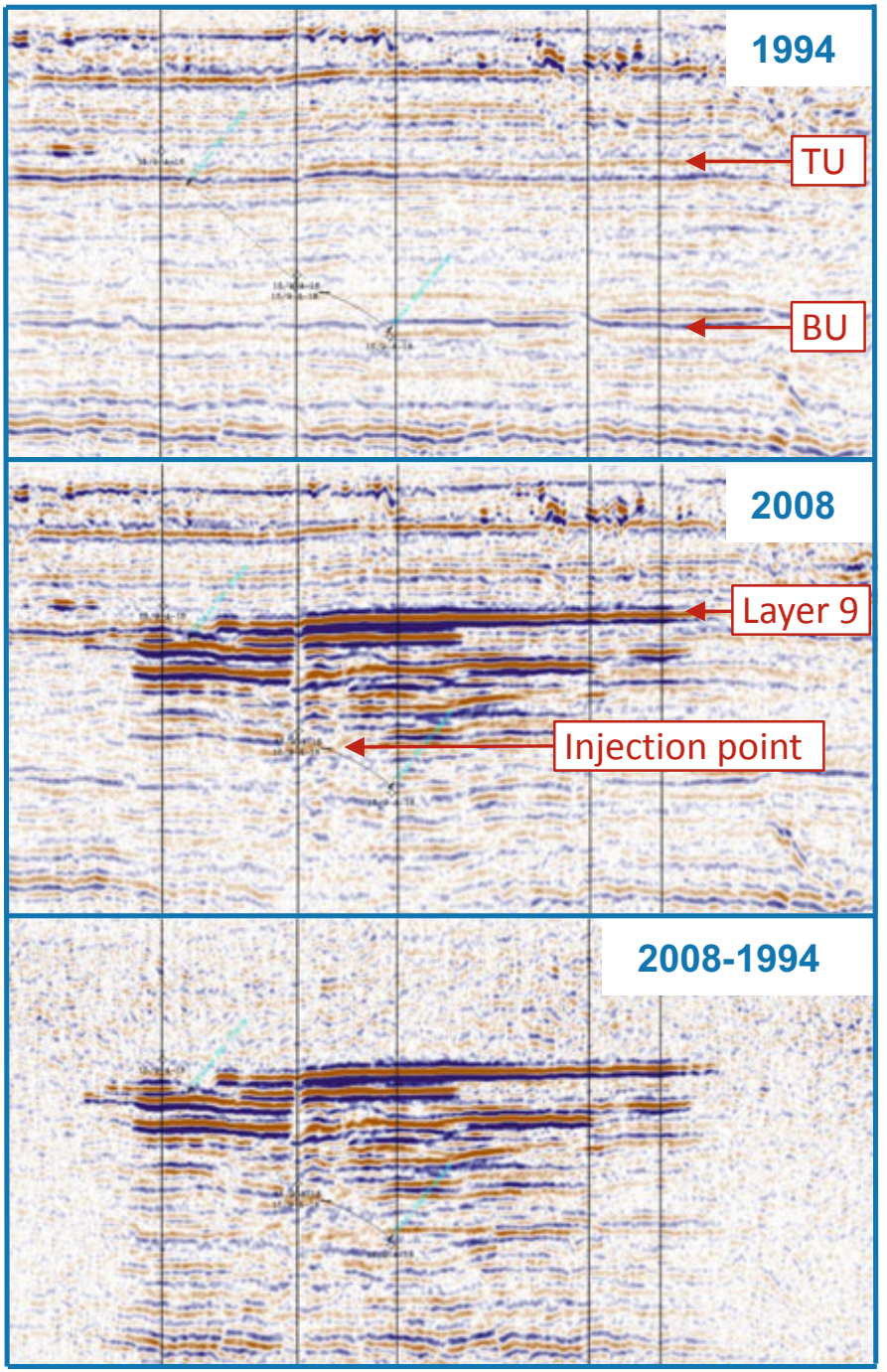
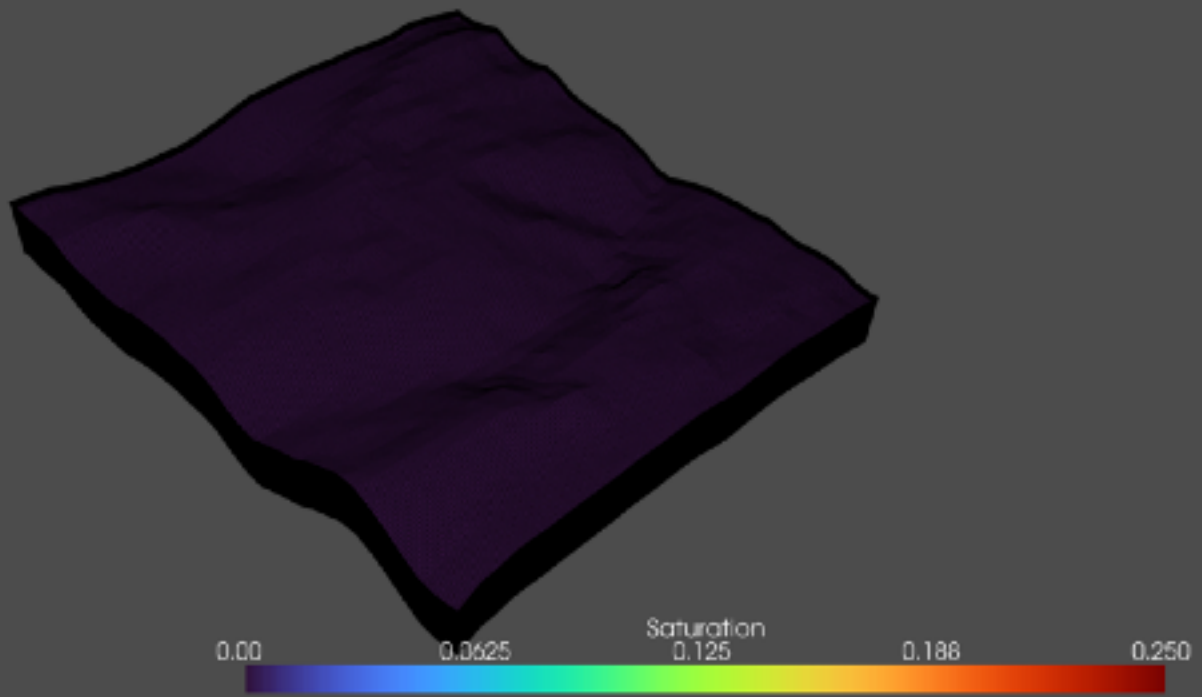
0.0625
0.125
0.188
0.250


1994
TU
BU
2008
Layer 9
Injection point
2008-1994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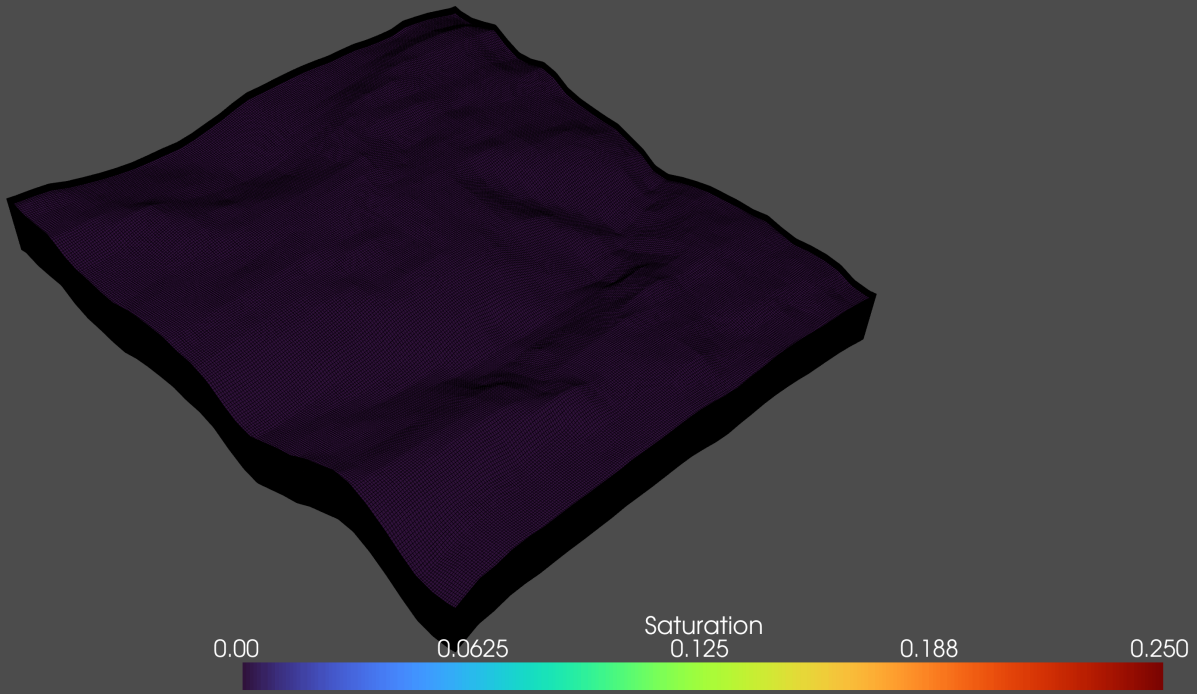
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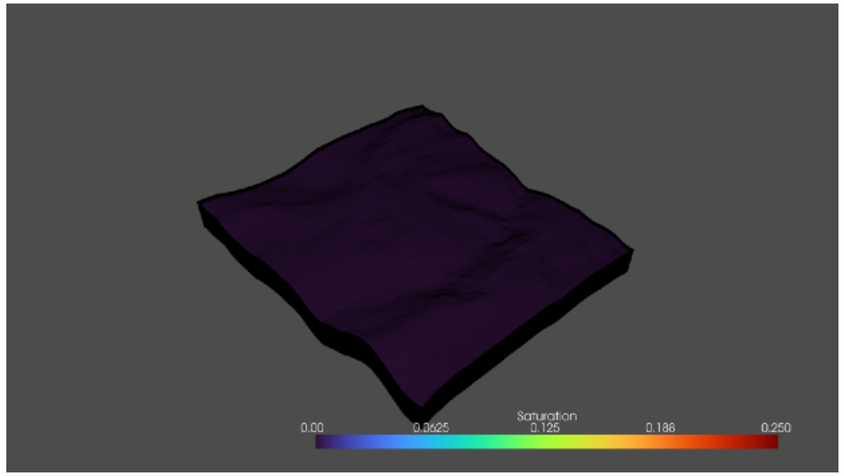
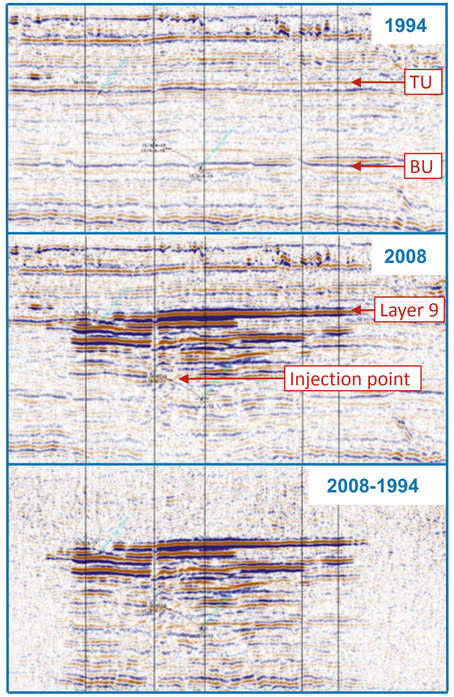
0.188
0.250

Example

CO_2 plume





CO_2 at depth

- CO_2 is stored at depths >800m to ensure that CO_2 is in a dense form
- This is also important for storage security, because storage seals become more effective with depth
- CO_2 properties are highly variable, f(P,T)

At standard conditions (ISA) (1.013 Bar & 15°C)

- 1 m^3 of CO_2 has a mass of 1.87 kg
- 1bscf = 28.32 x10^6 m^3
- Mass of 1bscf = 52959.5 tonnes
- Mass of 1MMscf = 52.96 tonnes
- So a single well injecting 20 MMscf per day is injecting about 1000 tonnes of CO_2 per day

scf - standard-cubic feet
1 MMscf 10^6 scf
1 Bscf - 10^9 scf
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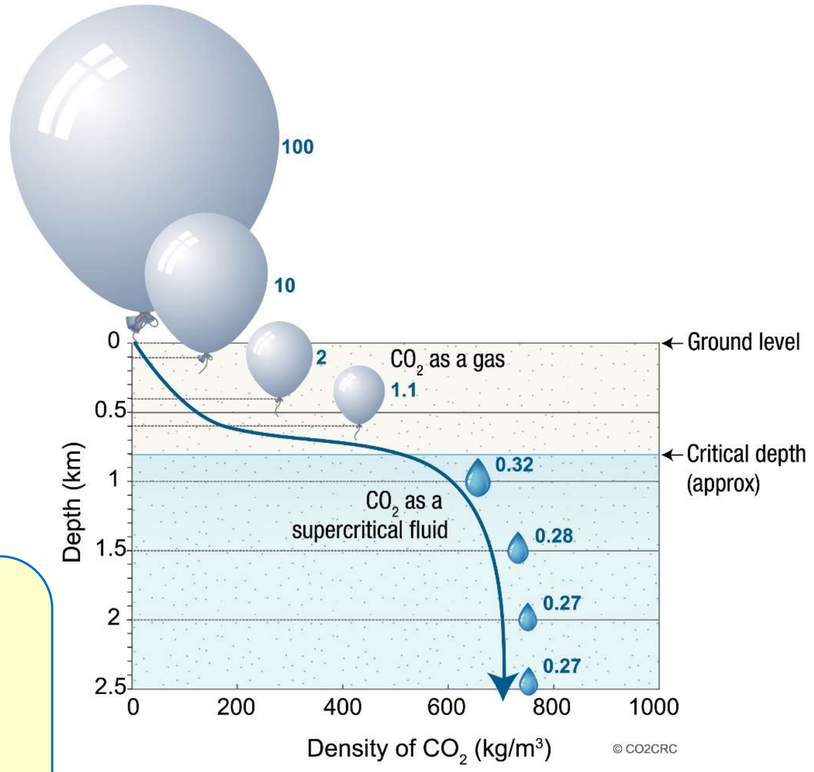

Simplified CO_2 density versus depth diagram (from CO2CRC)

NB. Gas engineers tend to work in standard cubic feet (scf) while CO_2 projects prefer to report mass

http://www.uigi.com/co2_quantity_convert.html

from Philip Ringrose