Selected Publications from the Utilization of Carbon and other Energy Gases – Geologic Research and Assessments Project

Open Access Journal Publications

Assessing gas leakage potential into coal mines from shale gas well failures: Inference from field determination of strata permeability responses to longwall-induced deformations [2021, Natural Resources Research] (https://doi.org/10.1007/s11053-021-09859-9)

Computational methodology to analyze the effect of mass transfer rate on attenuation of leaked carbon dioxide in shallow aquifers [2021, Acta Polytechnica] (https://doi.org/10.14311/AP.2021.61.0077)


Microbial community composition of a hydrocarbon reservoir 40 years after a CO₂ enhanced oil recovery flood [2018, FEMS Microbiology Ecology] (https://doi.org/10.1093/femsec/fiy153)


Chemical and isotopic evidence for CO₂ charge and migration within Bravo Dome and potential CO₂ leakage to the southwest [2017, Energy Procedia] (http://dx.doi.org/10.1016/j.egypro.2017.03.1428)

Mantle and crustal gases of the Colorado Plateau: Geochemistry, sources, and migration pathways [2017, Geochimica et Cosmochimica Acta] (http://dx.doi.org/10.1016/j.gca.2017.05.017)

3D Pressure-limited approach to model and estimate CO₂ injection and storage capacity: saline Mount Simon Formation [2017, Greenhouse Gases Science and Technology] (http://dx.doi.org/10.1002/ghg.1701)

A method for examining the geospatial distribution of CO₂ storage resources applied to the Pre-Punta Gorda Composite and Dollar Bay reservoirs of the South Florida Basin, U.S.A. [2016, Marine and Petroleum Geology] (http://dx.doi.org/10.1016/j.marpetgeo.2016.06.010)


Impact of formation water geochemistry and crude oil biodegradation on microbial methanogenesis [2016, Organic Geochemistry] (http://dx.doi.org/10.1016/j.orggeochem.2016.05.008)

Risk, liability, and economic issues with long-term CO2 storage—A review [2016, Natural Resources Research] (http://dx.doi.org/10.1007/s11053-016-9303-6)


Environmental drivers of differences in microbial community structure in crude oil reservoirs across a methanogenic gradient [2016, Frontiers in Microbiology] (http://dx.doi.org/10.3389/fmicb.2016.01535)

Surface monitoring of microseismicity at the Decatur, Illinois, CO2 sequestration demonstration site [2015, Seismological Research Letters] (http://dx.doi.org/10.1785/0220150062)


Fate of injected CO2 in the Wilcox Group, Louisiana, Gulf Coast Basin: Chemical and isotopic tracers of microbial-brine-rock-CO2 interactions [2014, Applied Geochemistry] (https://doi.org/10.1016/j.apgeochem.2014.09.015)

Significance of carbon dioxide density estimates for basin-scale storage resource assessments [2014, Energy Procedia] (http://dx.doi.org/10.1016/j.egypro.2014.11.543)


Seismic monitoring at the Decatur, IL, CO2 sequestration demonstration site [2014, Energy Procedia] (http://dx.doi.org/10.1016/j.egypro.2014.11.461)

New insights into the Nation’s carbon storage potential [2012, Earth & Space Science News] (http://dx.doi.org/10.1029/2012EO260001)

Other Journal Publications

Potential Pb+2 mobilization, transport, and sequestration in shallow aquifers impacted by multiphase CO₂ leakage: A natural analogue study from the Virgin River Basin in Southwest Utah [2021, Petroleum Geoscience] (https://doi.org/10.1144/petgeo2020-109)

Modeling geologic sequestration of CO₂ in a deep saline carbonate reservoir with T2CPI, a new tool for reactive transport modeling [2020, American Association of Petroleum Geologists Environmental Geosciences] (https://doi.org/10.1306/eg.08061919003)


Zone identification and oil saturation prediction in a waterflooded field: Residual oil zone, East Seminole Field, Texas, USA, Permian Basin [2018, Society of Petroleum Engineers] (https://doi.org/10.2118/190170-MS)


A stagey for low cost development of incremental oil in legacy reservoirs [2016, Society of Petroleum Engineers] (https://doi.org/10.2118/179997-MS)

CO₂ retention values in enhanced oil recovery [2015, Journal of Petroleum Science and Engineering] (http://dx.doi.org/10.1016/j.petrol.2015.03.012)

U.S. Geological Survey Publications

CO2 utilization and related reports

Dataset of helium concentrations in United States wells [2021] (https://doi.org/10.5066/P92QL79J)

Model of groundwater flow, gas migration, and reactive transport in the Virgin River Basin, SW Utah [2021] (https://doi.org/10.5066/P9ZSPA9D)

Compositional analysis of formation water geochemistry and microbiology of commercial and carbon dioxide-rich wells in the southwestern United States [2020] (https://doi.org/10.3133/sir20205037)

ATR data from interaction of kerogen with brine-saturated supercritical carbon dioxide (CO2) and its implications to geologic carbon sequestration and enhanced oil/gas recovery (2018) [2019] (https://doi.org/10.5066/P96lUH2)

Preliminary GIS representation of deep coal areas for carbon dioxide storage in the contiguous United States and Alaska [2019] (https://doi.org/10.3133/ofr20181178)

Geospatial data for a preliminary GIS representation of deep coal areas for carbon dioxide storage in the contiguous United States and Alaska [2019, USGS Data Release] (https://doi.org/10.5066/P90GDHSZ)

Carbon dioxide mineralization feasibility in the United States [2019] (https://doi.org/10.3133/sir20185079)


Material balance approach for determining oil saturation at the start of carbon dioxide enhanced oil recovery [2018] (https://doi.org/10.3133/ofr20181146)

Overview of a comprehensive resource database for the assessment of recoverable hydrocarbons produced by carbon dioxide enhanced oil recovery [ver. 1.1, 2018] (https://dx.doi.org/10.3133/tm7C16)

Microbiology of the greater Bravo Dome region [2018] (https://doi.org/10.5066/F76M361R)

Physical properties of sidewall cores from Decatur, Illinois [2017] (https://doi.org/10.3133/ofr20171094)
Three approaches for estimating recovery factors in carbon dioxide enhanced oil recovery [2017] (https://dx.doi.org/10.3133/sir20175062)

Play-level distributions of estimates of recovery factors for a miscible carbon dioxide enhanced oil recovery method used in oil reservoirs in the conterminous United States [2016] (https://dx.doi.org/10.3133/ofr20151239)

Profiles of reservoir properties of oil-bearing plays for selected petroleum provinces in the United States [2016] (https://dx.doi.org/10.3133/ofr20151195)

Carbon dioxide storage in unconventional reservoirs workshop—Summary of recommendations [2015] (https://dx.doi.org/10.3133/ofr20151079)


Migration rates and formation injectivity to determine containment time scales of sequestered carbon dioxide [2012] (https://pubs.usgs.gov/of/2012/1062/)


Geologic CO2 Sequestration Interactive Web Map (https://co2public.er.usgs.gov/viewer/)

**National Assessment of Geologic Carbon Dioxide Storage Reports**

National assessment of geologic carbon dioxide storage resources—Allocations of assessed areas to Federal lands, 2015 (https://doi.org/10.3133/sir20155021)

National assessment of geologic carbon dioxide storage resources—Results [2013] (http://pubs.usgs.gov/circ/1386/)

National assessment of geologic carbon dioxide storage resources—Data [2013] (http://pubs.usgs.gov/ds/774/)

National assessment of geologic carbon dioxide storage resources—Summary [2013] (http://pubs.usgs.gov/fs/2013/3020/)

National Assessment of Geologic Carbon Dioxide Storage Assessment Methodologies
A probabilistic assessment methodology for carbon dioxide enhanced oil recovery and associated carbon dioxide retention [2019] (https://doi.org/10.3133/sir20195115)


Geologic Framework for the National Assessment of Carbon Dioxide Storage Resources Open-File Reports

Geologic framework for the national assessment of carbon dioxide storage resources [2012] (https://doi.org/10.3133/ofr20121024)


Chapter F: Arkoma Basin, Kansas Basins, and Midcontinent Rift Basin study areas [2013] (http://dx.doi.org/10.3133/ofr20121024F)


Chapter H: U.S. Gulf Coast [2014] (http://dx.doi.org/10.3133/ofr20121024H)

Chapter I: Alaska North Slope and Kandik Basin, Alaska [2014] (http://dx.doi.org/10.3133/ofr20121024I)

Chapter K: Permian and Palo Duro Basins and Bend Arch-Fort Worth Basin [2015] (https://dx.doi.org/10.3133/ofr20121024K)

Chapter L: South Florida Basin [2015] (http://dx.doi.org/10.3133/ofr20121024L)

Chapter M: Southern Rocky Mountain Basins [2016] (http://dx.doi.org/10.3133/ofr20121024M)

Chapter N: Atlantic Coastal Plain and Eastern Mesozoic Rift Basins [2018] (https://doi.org/10.3133/ofr20121024N)