Special Issue

CO_2 Geological Storage: Fluid–Rock Interactions and Geochemical Modeling

Message from the Guest Editors

CO2 is a very soluble gas, and once injected into a deep geological reservoir as a supercritical fluid, it can fill the rock pore space, partially dissolve in formation waters, and react with the hosting rock, remaining, hopefully, permanently trapped. These processes can act at different time scales, ranging from hours to tens of thousands of years, and need to be carefully evaluated during feasibility studies. Fluid–rock reactions and related changes in petrophysical properties of the reservoir can be predicted by numerical models, which are also able to quantify the efficiency of trapping mechanisms and simulate possible leakage scenarios throughout the caprock. This Special Issue aims to collect novel research and focuses on both fluids' geochemistry and geochemical or reactive transport modeling applied to CO2 geological reservoirs. Papers covering fluid–rock laboratory experiments, improvement of thermodynamic datasets, reaction path and kinetic reaction rate studies from experiments, test sites, and CO2 natural analogues will be welcome.

Guest Editors

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Message from the Editor-in-Chief

Minerals welcomes submissions that report basic and applied research in mineralogy. Research areas of traditional interest are mineral deposits, mining, mineral processing and environmental mineralogy. The journal footprint also includes novel uses of elemental and isotopic analyses of minerals for petrology, geochronology and thermochronology, thermobarometry, ore genesis and sedimentary provenance. Contributions are encouraged in emerging research areas such as applications of quantitative mineralogy to the oil and gas, manufacturing, forensic science, climate change, geohazard and health sectors.

Editor-in-Chief

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