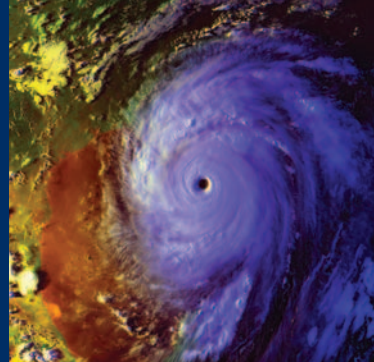


Elements

An International Magazine of Mineralogy, Geochemistry, and Petrology



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Thermodynamics of Earth Systems

Guest Editors: Pascal Richet, Grant S. Henderson, and Daniel R. Neuville



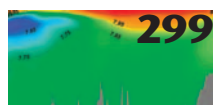
Thermodynamics: The Oldest Branch of Earth Sciences?

Pascal Richet, Grant S. Henderson, and Daniel R. Neuville



Thermodynamic Processes in the Moist Atmosphere

Andreas Bott



Use of Thermodynamics in Examining the Effects of Ocean Acidification

Frank J. Millero and Benjamin R. DiTrollo



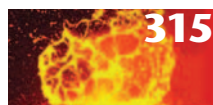
Water-Rock Interaction Processes Seen through Thermodynamics

Pierpaolo Zuddas



Using Equilibrium Thermodynamics to Understand Metamorphism and Metamorphic Rocks

Roger Powell and Tim Holland



Thermodynamics of Phase Equilibria in Magma

Pascal Richet and Giulio Ottonello



Thermodynamic Modeling of the Earth's Interior

Surendra K. Saxena

ABOUT THE COVER:

From the atmosphere to the mantle and core, Earth systems are strictly controlled by thermodynamic principles. Hurricanes, such as Katrina shown on the front cover, result from strong interactions between the ocean and atmosphere and are powered by the thermal energy stored in warm oceanic waters. AVHRR (Advanced Very High Resolution Radiometer) 3-channel color composite daytime image showing the eye of hurricane Katrina on August 28, 2005, just before it hit New Orleans.

COURTESY OF STEVEN BABIN AND RAY STERNER OF THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY

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Perspective: On Being a Student of Thermodynamics

Reid F. Cooper

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