This Week in Science

Editorial
281 Planetary Fluids

Perspective
283 Sodium-Calcium Exchange in Excitable Cells: Fuzzy Space: W. J. Lederer, E. Niggl, R. W. Hadley

Letters

News & Comment
292 Stanford Erupts Over Indirect Costs
295 East Germany Struggles to Clean Its Air and Water
296 NIH: The Endless Search
297 Scientific Misconduct Cases Revealed
Bromley Promises Small Science Focus
298 Gordon & Breach Impanels a Journal Jury
299 How the United States Stacks Up in Key Technologies

Research News
300 A Generational Rift in Geophysics • Not So Irreconcilable Differences?
303 Is AIDS Dementia Due to Increases in Calcium?
304 Polymer Chemists Are Having a ROMP
305 "Hairy Enzymes" Stay in the Blood
306 Briefings: Update: RU 486 • Math Students Needed • Ordinary Is Beautiful • AIDS Meeting: Visas • The Dimmest "Star" • Social Science: NSF's Poor Relation • Changing U.S. Demography • Truth in Labeling

Articles
308 Atmospheric Dynamics of the Outer Planets: A. P. Ingersoll
316 The Dynamics of the Oceanic Subtropical Gyres: J. Pedlosky
323 Scales and Effects of Fluid Flow in the Upper Crust: L. M. Cathles III
329 Fluid Processes in Subduction Zones: S. M. Peacock
337 Mantle Oxidation State and Its Relationship to Tectonic Environment and Fluid Speciation: B. J. Wood, L. T. Bryndzia, K. E. Johnson
345 Paleomagnetism and the Nature of the Geodynamo: R. T. Merrill and P. L. McFadden
The Champagne Pool, named for its CO₂ bubbles, provides an interesting window into fluid processes beneath Waiotapu, the largest area of surface thermal activity in New Zealand. The pool occupies a 900-year-old hydrothermal explosion crater. Evaporation cools the surface waters from 100°C to about 75°C, producing the steam. Amorphous silica, blown by the wind to the sides, settles as an orange coating that contains 80 parts per million of gold and 175 parts per million of silver. See page 323. [Photograph by L. M. Cathles]
248 (4953)

Science 248 (4953), 279-391.

http://science.sciencemag.org/content/248/4953

http://www.sciencemag.org/help/reprints-and-permissions

Use of this article is subject to the Terms of Service

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title Science is a registered trademark of AAAS.