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Sommario/riassunto	Published by the American Geophysical Union as part of the Geophysical Monograph Series, Volume 178.Hydrothermal systems at oceanic spreading centers reflect the complex interactions among transport, cooling and crystallization of magma, fluid circulation in the crust, tectonic processes, water-rock interaction, and the utilization of hydrothermal fluids as a metabolic energy source by microbial and macro-biological ecosystems. The development of mathematical and numerical models that address these complex linkages is a fundamental part the RIDGE 2000 program that attempts to quant