DALLOL VOLCANO, ETHIOPIA: A MULTI-RISK LOCAL AND GLOBAL STORY

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When dealing with volcanic processes and eruption dynamics, or tectonic processes where magmatism is involved it is impossible to separate the two, as they are part of the fundamental system related to plate tectonics.

With Plate tectonics reaching, or just passing 50 years of acceptance, I propose to go back to basics and to look at the whole system in this presentation and find the linkages, balances and main processes of the system that can then guide our research in a way that is possibly more holistic and thus more broadly useful.

I shall look at the global plate tectonic (and asthenosphere) system, and specific magma generation processes and sites with the tectonic setting. Then, I shall look at the interactions between magma (fluid) and solid / ductile lithosphere, within a generalised system that encompasses both divergent / convergent / transverse / neutral tectonic contexts.

Finally I shall consider the tectono-volcanic system in the edifice, and its links with the outside geologic environment.

This exercise is not only useful for us scientists to take stock of the system we study, but can also be used as a template for communicating the fundamental geological processes of our planet to lay users of all types.