

1. Record Nr.	UNINA9910254099503321
Titolo	Active Volcanoes of the Southwest Indian Ocean : Piton de la Fournaise and Karthala / / edited by Patrick Bachelery, Jean-François Lenat, Andrea Di Muro, Laurent Michon
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2016
ISBN	3-642-31395-7
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (434 p.)
Collana	Active Volcanoes of the World, , 2195-3589
Disciplina	551.21
Soggetti	Geology Natural disasters Geophysics Geology, Structural Geochemistry Social sciences Natural Hazards Geophysics/Geodesy Structural Geology Social Sciences, general
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	A brief history of the observation of Piton de la Fournaise central area -- Geodynamic setting of La Réunion Island -- The construction of La Réunion Island -- Geology and morphostructure of Piton de la Fournaise -- Erosion and volcanoclastic sedimentation at Piton de La Fournaise: from source to deep marine environment -- Magma paths at Piton de la Fournaise volcano -- Pre-historic explosive activity at Piton de la Fournaise volcano -- Fifteen years of intense eruptive activity (1998-2013) at Piton de La Fournaise volcano (La Réunion): A review -- Petrological and experimental constraints -- A review of the recent geochemical evolution of Piton de la Fournaise volcano, Réunion Island (1927-2010) -- Magma degassing at Piton de la Fournaise volcano --

Static and dynamic seismic imaging of Piton de la Fournaise -- Seismic monitoring at Piton de la Fournaise -- Ground deformation at Piton de la Fournaise (La Reunion Island), a review from 20 years of GNSS monitoring -- The March-April 2007 eruptions of Piton de la Fournaise as recorded by interferometric data -- Contribution of tiltmeters and extensometers to monitor Piton de la Fournaise activity -- A Geographical Information System for mapping eruption risk at Piton de la Fournaise, Reunion Island -- Perception of risk for volcanic hazard in Indian Ocean: La Réunion Island case study -- Groundwater resources: Conceptual models -- The volcanism of the Comores archipelago integrated at a regional scale -- Structure and history of Karthala -- Geochemical and Petrological aspects of Karthala -- Groundwater prospection in Grande Comore Island - Joint contribution of geophysical methods, hydrogeological times-series analysis and groundwater modelling -- Volcanic risk and crisis management on Grande Comore island.

Sommario/riassunto

Piton de la Fournaise and Karthala are both shield volcanoes in the southwest Indian Ocean. This publication summarizes the work done on these very active basaltic volcanoes. Piton de la Fournaise has a long history of scientific research and monitoring, encompassing much data collected during recent eruptions. It is certainly one of the most studied volcanoes in the world. The work presented in this monograph includes geological, geophysical, geochemical and petrological aspects, as well as studies on physical geography, natural hazards and the sociological and behavioural implications. The Karthala volcano may be less well known, but it serves as an interesting comparison to Piton de la Fournaise. Although situated close to the volcanoes of Hawaii, it differs from them by its more alkaline magmas and less frequent activity. It was also monitored for more than 25 years, producing extraordinary eruptions in recent years.
