Record Nr. UNINA9910830269003321 Climate forcing of geological hazards [[electronic resource] /] / edited **Titolo** by Bill McGuire and Mark Maslin Pubbl/distr/stampa Hoboken, : John Wiley & Sons, [2013] **ISBN** 1-118-48269-7 1-299-15881-1 1-118-48264-6 1-118-48266-2 Descrizione fisica 1 online resource (327 p.) Altri autori (Persone) McGuireBill <1954-> MaslinMark 363.34/1 Disciplina 363.341 551 Soggetti Climatic changes Natural disasters Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia "Originating from a theme issue published in Philosophical transactions Note generali A: mathematical, physical and enginering sciences". Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Title page; Copyright page; Contents; List of contributors; Preface; 1: Hazardous responses of the solid Earth to a changing climate; Summary; Introduction; Climate change as a driver of geological and geomorphological hazards at glacial-interglacial transitions; Projected future climate changes and the potential for a geospheric response; Climate forcing of hazards in the geosphere; High latitude regions; Ocean basins and margins; Mountainous terrain; Volcanic landscapes; Conclusions; Acknowledgements; References 2: Projected future climate changes in the context of geological and geomorphological hazardsSummary; Introduction; Climate change research: informing mitigation and adaptation; Modelling the climate; Emission scenarios; Climate change projections; Using climate projections to inform mitigation and adaptation; Regional climate change; Climate forcing of hazards in the geosphere; Global oceans; High-latitude regions: Mountain regions: Volcanic landscapes:

Conclusions; Acknowledgements; References; 3: Climate change and collapsing volcanoes: evidence from Mount Etna, Sicily; Summary IntroductionLateral collapse at Mount Etna; Flank failure and watershed abandonment at Mount Etna; Cosmogenic 3He exposure dating of channel abandonment at Mount Etna; Results and interpretations; Implications of exposure ages for the formation of the Valle del Bove; Nature of the collapse mechanism; Conclusion; Acknowledgements; References; 4: Melting ice and volcanic hazards in the twenty-first century; Summary; Introduction; What are hazards for ice- and snow-covered volcanoes, and where are they found?; Hazards for ice- and snow-covered volcanoes

Pertubation of ice and snow by volcanic activity Explosive eruptions; Edifice instability and collapse; How is ice thickness on volcanoes currently changing?; Ice thinning due to climate change; Ice thinning due to volcanic and geothermal activity: How has ice recession affected volcanic activity in the past?; Evidence for accelerated volcanism triggered by deglaciation; Edifice collapse triggered by ice recession; How does the rate and extent of current ice melting compare with past changes?: How might hazards be affected by melting of ice and snow? Ice unloading may encourage more explosive eruptionsIce unloading and increased melting may trigger edifice stability; Melting of ice and snow may decrease the likelihood and magnitude of meltwater floods; What are the likely effects of twenty-first century climate change on hazards at ice-covered volcanoes?; Increased magma production and eruption in Iceland?; Increased magma production and eruption globally?; Potential effects on volcanic hazards; Was the 2010 eruption of Eyjafjallajokull triggered by climate change?; Gaps in our knowledge and targets for future research Future work required

## Sommario/riassunto

"This book addresses a wide range of issues relating to the ways in which climate change may force geological and geomorphological hazards"--Provided by publisher.