1.	Record Nr.	UNISA996418276303316
	Titolo	Advances in Hydroinformatics [[electronic resource]] : SimHydro 2019 - Models for Extreme Situations and Crisis Management / / edited by Philippe Gourbesville, Guy Caignaert
	Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2020
	ISBN	981-15-5436-6
	Edizione	[1st ed. 2020.]
	Descrizione fisica	1 online resource (XVII, 1077 p. 621 illus., 541 illus. in color.)
	Collana	Springer Water, , 2364-6934
	Disciplina	627
	Soggetti	Engineering geology Engineering—Geology Foundations Hydraulics Hydrology Computer mathematics Computer simulation Geoengineering, Foundations, Hydraulics Hydrology/Water Resources Computational Science and Engineering Simulation and Modeling
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Sommario/riassunto	This book features a collection of extended papers based on presentations given at the SimHydro 2019 conference, held in Sophia Antipolis in June 2019 with the support of French Hydrotechnic Society (SHF), focusing on "Which models for extreme situations and crisis management?" Hydraulics and related disciplines are frequently applied in extreme situations that need to be understood accurately before implementing actions and defining appropriate mitigation measures. However, in such situations currently used models may be partly irrelevant due to factors like the new physical phenomena involved, the scale of the processes, and the hypothesis included in the different

numerical tools. The availability of computational resources and new capacities like GPU offers modellers the opportunity to explore various approaches to provide information for decision-makers. At the same time, the topic of crisis management has sparked interest from stakeholders who need to share a common understanding of a situation. Hydroinfomatics tools can provide essential information in crises; however, the design and integration of models in decision-support systems require further development and the engagement of various communities, such as first responders. In this context, methodologies, guidelines and standards are more and more in demand in order to ensure that the systems developed are efficient and sustainable. Exploring both the limitations and performance of current models, this book presents the latest developments based on new numerical schemes, high-performance computing, multiphysics and multiscale methods, as well as better integration of field-scale model data. As such, it will appeal to practitioners, stakeholders, researchers and engineers active in this field.