

# Contents

## Part I   Environments and Exposures

<b>Mapping Environments and Exposures of the World</b> . . . . .	3
Fang Lian, Chunqin Zhang, Hongmei Pan, Man Li, Wentao Yang, Yongchang Meng, Jian Fang, Weihua Fang, Jing'ai Wang, and Peijun Shi	

## Part II   Earthquake, Volcano and Landslide Disasters

<b>Mapping Earthquake Risk of the World</b> . . . . .	25
Man Li, Zhenhua Zou, Guodong Xu, and Peijun Shi	
<b>Mapping Volcano Risk of the World</b> . . . . .	41
Hongmei Pan and Peijun Shi	
<b>Mapping Landslide Risk of the World</b> . . . . .	57
Wentao Yang, Lingling Shen, and Peijun Shi	

## Part III   Flood and Storm Surge Disasters

<b>Mapping Flood Risk of the World</b> . . . . .	69
Jian Fang, Mengjie Li, and Peijun Shi	
<b>Mapping Storm Surge Risk of the World</b> . . . . .	103
Shao Sun, Jiayi Fang, and Peijun Shi	

## Part IV   Sand-dust Storm and Tropical Cyclone Disasters

<b>Mapping Sand-dust Storm Risk of the World</b> . . . . .	115
Huimin Yang, Xingming Zhang, Fangyuan Zhao, Jing'ai Wang, Peijun Shi, and Lianyou Liu	
<b>Mapping Tropical Cyclone Wind Risk of the World</b> . . . . .	151
Weihua Fang, Chenyan Tan, Wei Lin, Xiaoning Wu, Yanting Ye, Shijia Cao, Wanmei Mo, Ying Li, Yi Li, Yuping Wu, Guobin Lin, and Yang Yang	

**Part V Heat Wave and Cold Wave Disasters**

**Mapping Heat Wave Risk of the World** . . . . . 169  
Mengyang Li, Zhao Liu, Weihua Dong, and Peijun Shi

**Mapping Cold Wave Risk of the World** . . . . . 189  
Lili Lu, Zhu Wang, and Peijun Shi

**Part VI Drought Disasters**

**Mapping Drought Risk (Maize) of the World** . . . . . 211  
Yuanyuan Yin, Xingming Zhang, Han Yu, Degen Lin,  
Yaoyao Wu, and Jing'ai Wang

**Mapping Drought Risk (Wheat) of the World**. . . . . 227  
Xingming Zhang, Hao Guo, Weixia Yin, Ran Wang, Jian Li,  
Yaojie Yue, and Jing'ai Wang

**Mapping Drought Risk (Rice) of the World** . . . . . 243  
Xingming Zhang, Degen Lin, Hao Guo, Yaoyao Wu, and Jing'ai Wang

**Part VII Wildfire Disasters**

**Mapping Forest Wildfire Risk of the World** . . . . . 261  
Yongchang Meng, Ying Deng, and Peijun Shi

**Mapping Grassland Wildfire Risk of the World** . . . . . 277  
Xin Cao, Yongchang Meng, and Jin Chen

**Part VIH Multi-natural Disasters**

**Mapping Multi-hazard Risk of the World**. . . . . 287  
Peijun Shi, Xu Yang, Fan Liu, Man Li, Hongmei Pan, Wentao Yang,  
Jian Fang, Shao Sun, Chenyan Tan, Huimin Yang, Yuanyuan Yin,  
Xingming Zhang, Lili Lu, Mengyang Li, Xin Cao, and Yongchang Meng

**Part IX Understanding the Spatial Patterns of Global Natural Disaster Risk**

**World Atlas of Natural Disaster Risk** . . . . . 309  
Peijun Shi, Jing'ai Wang, Wei Xu, Tao Ye, Saini Yang, Lianyou Liu,  
Weihua Fang, Kai Liu, Ning Li, and Ming Wang

**Appendix I: Name and Abbreviation of Countries and Regions** . . . . . 325

**Appendix II: Name and Coding System of the Comparable-Geographic  
Unit in the Atlas (Alphabetical Order of the Initial  
of the Country Name)** . . . . . 329

---

<b>Appendix III: Data Source and Database for World Atlas of Natural Disaster Risk . . . . .</b>	<b>335</b>
<b>Appendix IV: Validation . . . . .</b>	<b>345</b>
<b>Appendix V: Ranks of Multi-hazard Risk of the World. . . . .</b>	<b>351</b>