

Progress and Updates of IRDR CHINA

Report on Activities: June – October 2019

IRDR CHINA Established October, 2010

IRDR Science Committee Meeting, Xiamen, China, October 2019



A group photo of the 3rd IRDR CHINA

- Established on October 8, 2010;
- To coordinate disaster scientists/organizations nationwide to address disasters in an integrated approach and support the IRDR Plan.

- Chair: Prof. Guo Huadong
- 40** members from research institutions, universities, media, state agencies...
- 15** nation-wide scientific associations
- Top experts** in main areas of disaster risk reduction research, atmospheric sciences, economists, public health, psychologists, and policy.

Main activities of IRDR CHINA (June – October 2019)

1

**Strategic Support on DRR
for the “Belt and Road”**

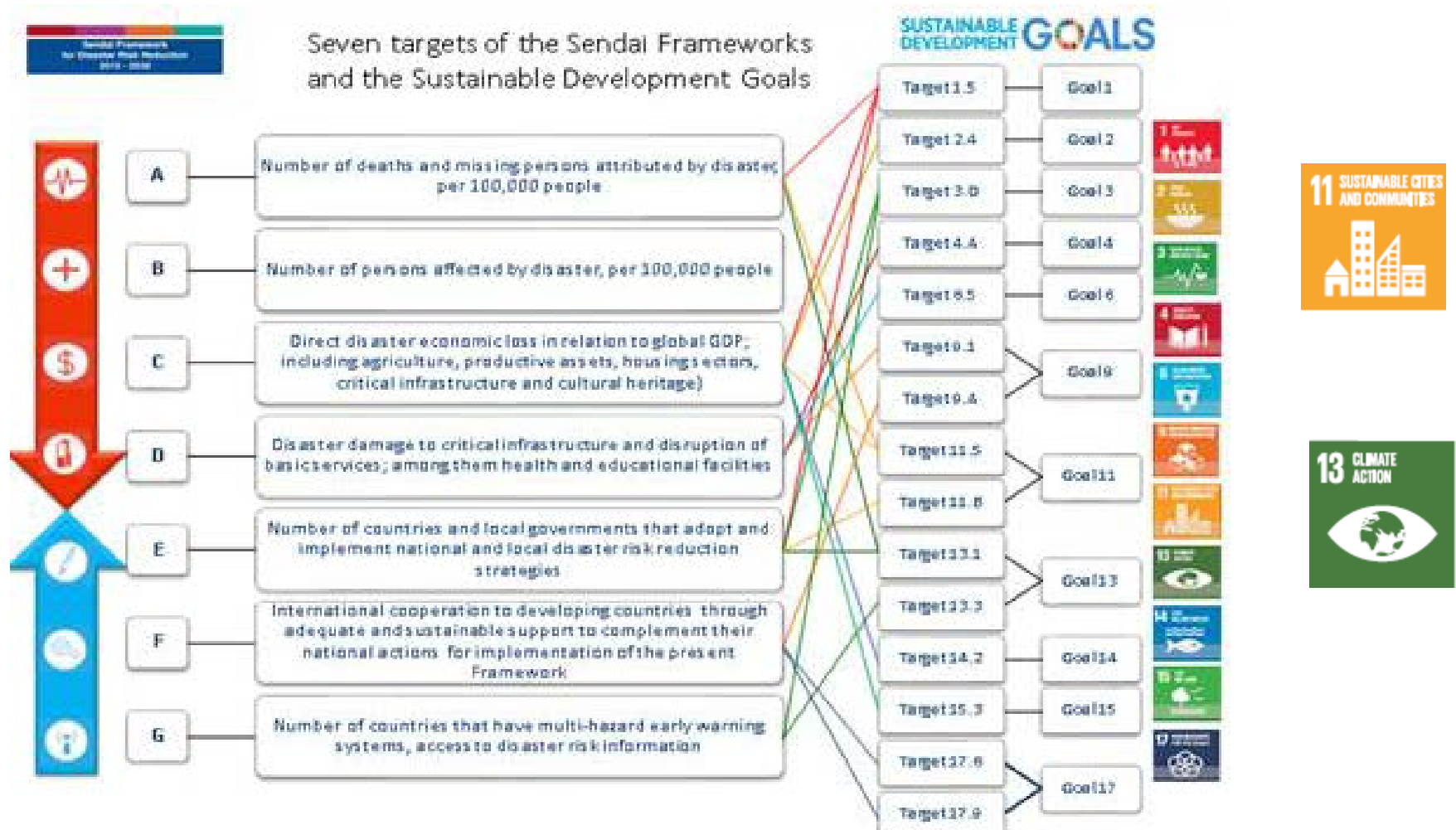
2

**Undertaking Innovative, Implementation
Oriented Research in China**

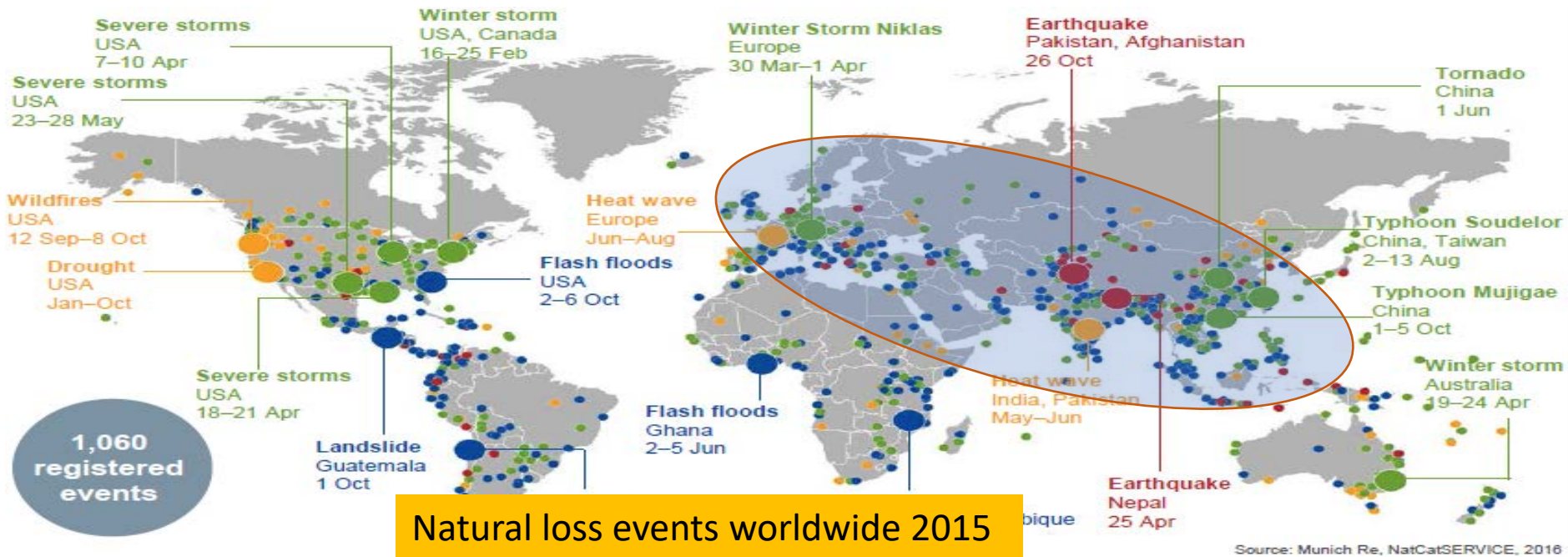
3

Capacity Building for DRR

Integrated monitoring of the global targets of the Sendai Framework and the Sustainable Development Goals



High occurrences of hazards along the Belt and Road



○ Loss events

○ Selection of catastrophes
Overall losses ≥ US\$ 1,500m

● Geophysical events
(Earthquake, tsunami, volcanic activity)

● Meteorological events
(Tropical storm, extratropical storm,
convective storm, local storm)

● Hydrological events
(Flood, mass movement)

● Climatological events
(Extreme temperature, drought, wildfire)

85% of major natural hazards occurred in the Asia region. More than 80% of natural hazards are earthquakes, flooding, draught, and storm surges. Investing \$6 billion a year for a disaster risk management strategy would produce a total revenue of \$360 billion in terms of risk mitigation.

DBAR DRR Working Group (Big Earth Data)

Jointly Implemented by:

“Digital Belt and Road” Program (DBAR)

Integrated Research on Disaster Risk (IRDR)

International Programme Office (IPO),

IRDR China National Committee (IRDR CHINA)

International Society for Digital Earth (ISDE)

Institute of Remote Sensing and Digital Earth (RADI)

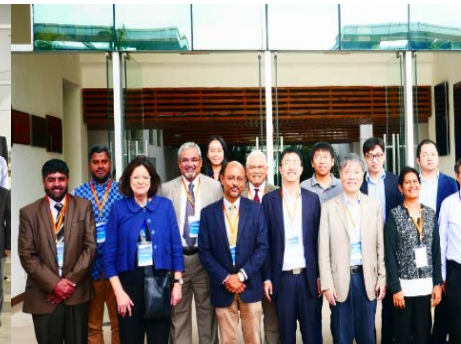
CAS-TWAS Centre of Excellence on Space Technology for Disaster Mitigation (SDIM)



- DRR Seminar
- DRR Report
- DRR Training
- DRR Network



**WG Meeting,
Sanya 2016**



**WG Meeting,
Sanya 2017**

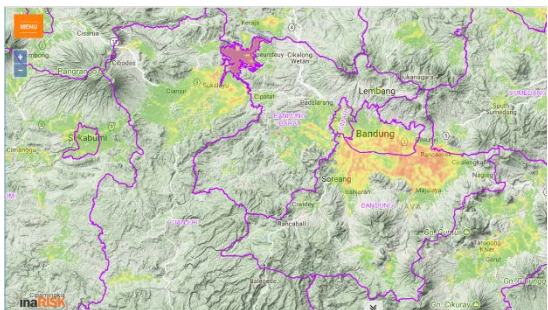



**WG Meeting,
Tengchong 2018**

17 WG members from 13 countries

- Bangladesh, Nepal, Pakistan, Sri Lanka, Thailand, Indonesia...

FLOOD HAZARD MAP

Indonesia

BANDUNG
FLOOD HAZARDS (MND)
LSDH: 26

NUMBER OF SUB-DISTRICTS: 26

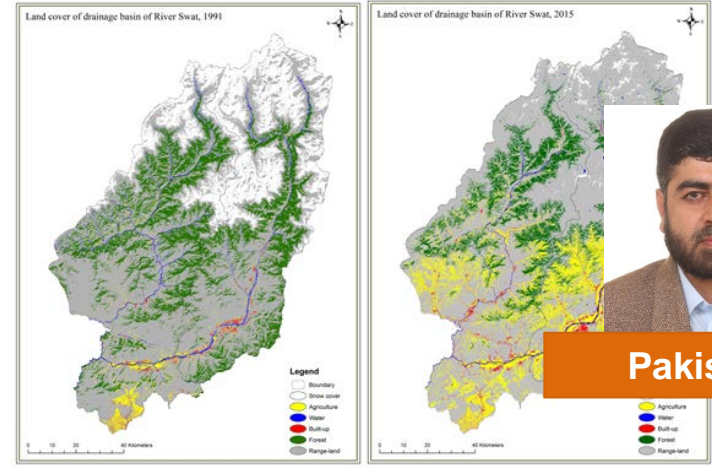

SIZE HAZARDS: 28,140

SAVE DATA
DOWNLOAD KRB
DOWNLOAD PETA

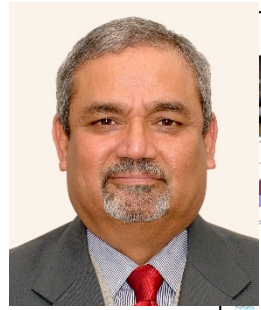
Hazard Index

0 0.3 0.6 1.0

Low Moderate High

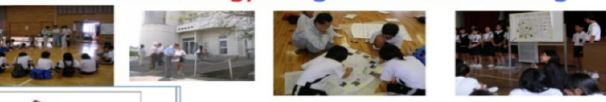



Pakistan



Nepal

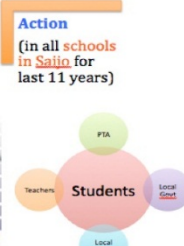
Process Technology: Neighborhood Watching

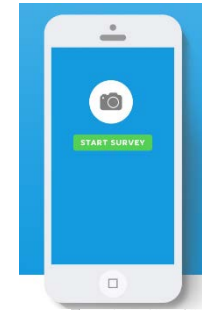
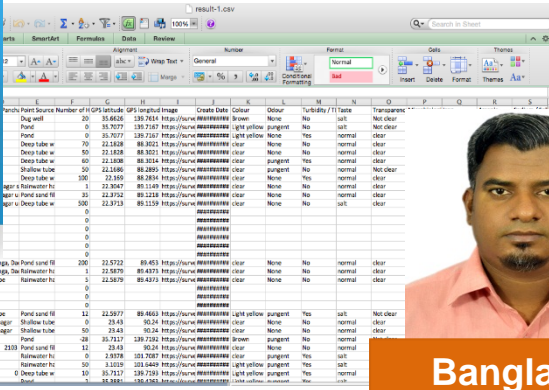



Research
(Kyoto University, Japan)

Training
(City officials and School teachers in Saito city, Japan)

Action
(in all schools in Saito for last 11 years)



Bangladesh

Undertake innovative, implementation oriented research

Establish a Number of Interdisciplinary Working Groups

WG on Earthquake and Geo-hazard Risk

Co-chairs: CUI Peng and WANG Xiaoqing



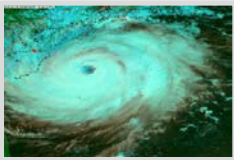
WG on Drought and Floods Risk

Co-chairs: CHENG Xiaotao and XIA Jun



WG on Severe Storm Risk

Co-chairs: DUAN Yihong and LI Jianping



WG on Climate Change Driven Disaster Risks

Co-chairs: JIA Gensuo and FENG Qiang



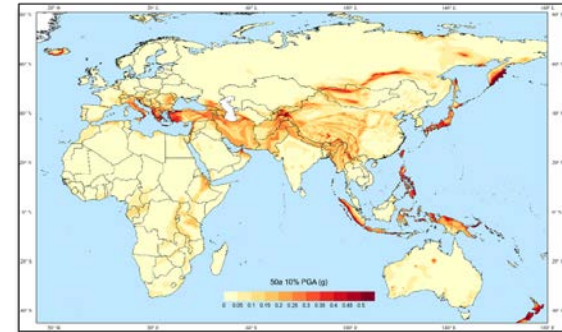
WG on Disaster Risk in Urban Areas

Co-chairs: PAN Jiahua



WG on Assessment of Integrated Research on Disaster Risk in China

Co-chairs: CHEN Fang and XUE Lan



DRR Data Products

“一带一路”
地震安全报告
中国地震局国际合作



Science Report & Seminar

Big Earth Data Platform for Belt and Road: Tech Goals



❑ **Manage** huge amount of Big Earth Data at scale

- Multi-source data integration(ETL)
- Multi-dimensional modelling
- Data quality control and metadata compiling
- Data access in distributed enviroment with APIs

❑ **Process** Big Earth Data at scale

- Image processing algorithms at cloud computing platform
- Feature data processing algorithms
- Machine learning(Deep learning)
- Algorithm access with restful APIs

❑ **Web-based application** system

- User session control
- Report generation

Big Earth Data Platform for Belt and Road



数字丝路地球大数据系统

首页 数字一带一路 地球大数据共享平台 用户空间 登陆

地球大数据检索与可视化

地球大数据可视化与计算

产品类别

LCB1220332014112LGN00

时间范围

空间范围

搜索



AddLayers +

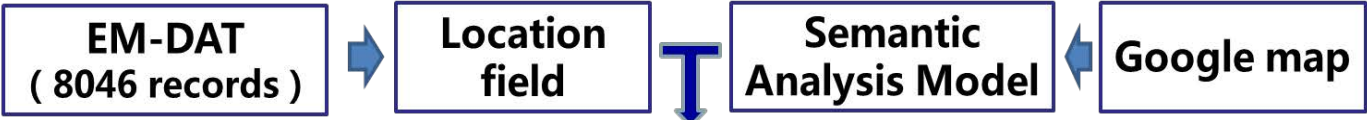
- MODIS_Terra_CorrectedReflectance_Bands721
- MODIS_Terra_CorrectedReflectanc

搜索结果 共35条数据

	条带号: 122	行编号: 33	中心经度: 117.7581	中心纬度: 40.3207	云量: 123	日期: 2014-04-22	数据: 有
	条带号: 122	行编号: 33	中心经度: 117.7581	中心纬度: 40.3207	云量: 123	日期: 2014-04-22	数据: 有
	条带号: 122	行编号: 33	中心经度: 117.7581	中心纬度: 40.3207	云量: 123	日期: 2014-04-22	数据: 有

Undertake innovative, implementation oriented research

DRR Data analysis based on Big Earth Data



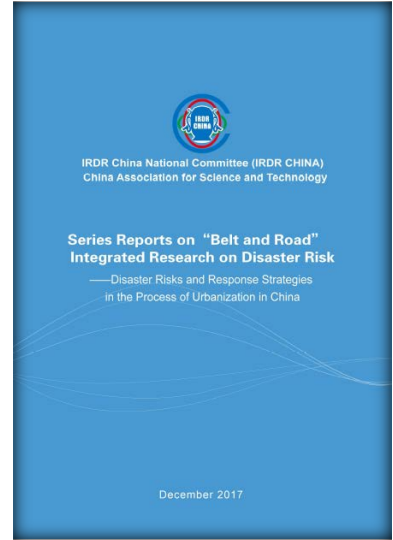
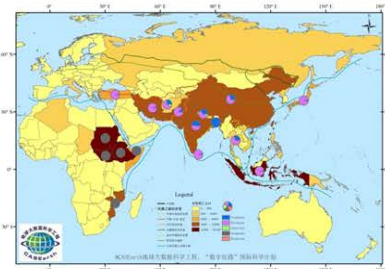
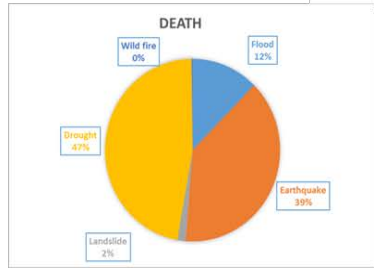
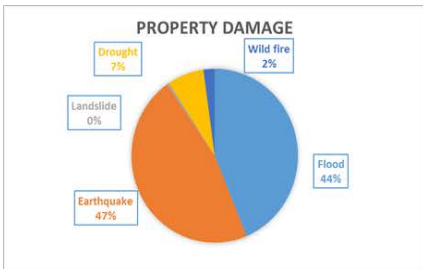
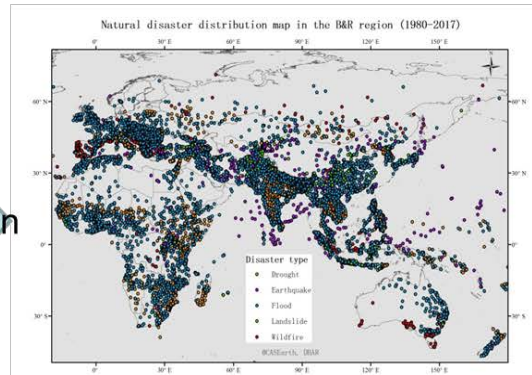
Advanced Search (Last Database update: April 16, 2018)

USE HINTS:
 • You can sort most columns in the search results table by clicking on a column header.
 • Lists in Location section: you can use only one list at a time, selecting from one will reset the others.

Year	Disaster type	Occurrences	Total deaths	Injured	Affected	Displaced	Total affected	Total damage (1000 \$)
2018	Cyclone	20	8028	61819	6228912	184730	2055911	2227402
2018	Earthquake	0	0	2452	3026	0	8428	0
2018	Extreme temperature	0	0	74987	1648000	0	2088827	0
2018	Flood	08	2083	22276	2284332	92967	2298168	1284750
2018	Landslide	18	870	38	3878	8407	2824	2800
2018	Mass movement (excl)	1	13	0	0	0	0	0
2018	Storm	18	685	8163	877126	39215	922467	1248227

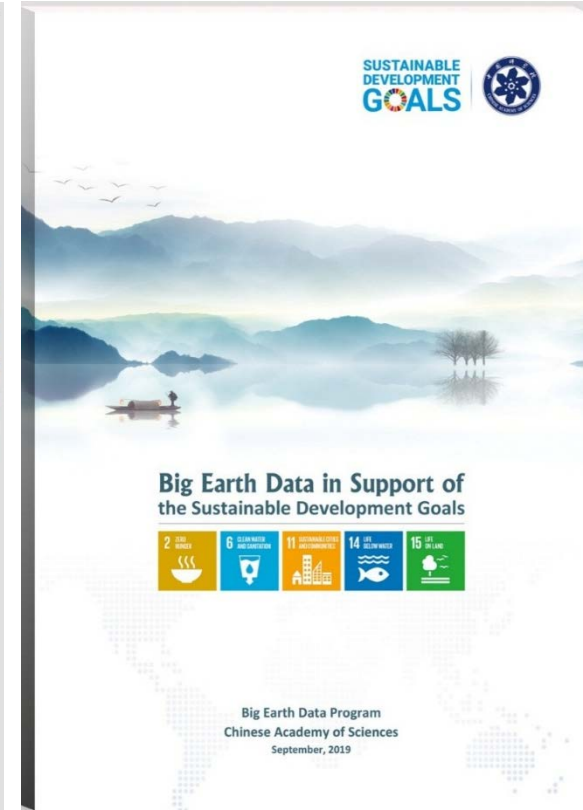
ID	Year	Disaster type	Country name	ISO	Description	Latitude	Longitude	Displacement status	Disaster status
00000000	1970	Earthquake	China	CH	1970 Tangshan Earthquake	39.6	118.1	0	Active
00000000	1976	Earthquake	China	CH	1976 Tangshan Earthquake	39.6	118.1	0	Active
00000000	1976	Earthquake	China	CH	1976 Tangshan Earthquake	39.6	118.1	0	Active

geolocation



Undertake innovative, implementation oriented research

UN Sustainable Development Summit 2019



外交部

[首页](#)
[外交部长](#)
[外交部](#)
[外交动态](#)
[驻外机构](#)
[国家和组织](#)

» [首页](#) > [资料](#) > [专题](#) > [当年专题](#) > [其他专题](#) > [2030年可持续发展议程](#)

2030年可持续发展议程

- 中国落实2030年可持续发展议程进展报告（2019）（2019-09-24）
- 地球大数据支撑可持续发展目标报告（2019-09-24）
- 《中国落实2030年可持续发展议程进展报告》（中文）（2017-08-24）

Ministry of Foreign Affairs, China

CH:https://www.fmprc.gov.cn/web/ziliao_674904/zt_674979/dnzt_674981/qtzt/2030kcxzyc_686343/
 EN:https://www.fmprc.gov.cn/mfa_eng/topics_665678/2030kcxzyc/P020190924800116340503.pdf

International Training Facilities



Sanya(2013)

2nd International Training Workshop on Space Technology for Disaster Mitigation



Beijing(2014)

Kashi(2014)



Beijing (2018)



Qingdao(2015)



Sanya (2016,2017)



Sanya (2015)



DRR Training in Thailand

(August 2019)



NRCT



Ramkhamhaeng University



Asian Institute of Technology



Prince of Songkla University



The 4th Digital Belt and Road Conference

17-19 December, 2019 Shenzhen, China

Find out more on the conference website

<http://dbar2019.csp.escience.cn>

Hosted by:



Co-Hosted By:



Organized by:



Sponsored By:





Thank you !