



Space-based Technology Application for Disaster Management in China

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Natural Disasters in China



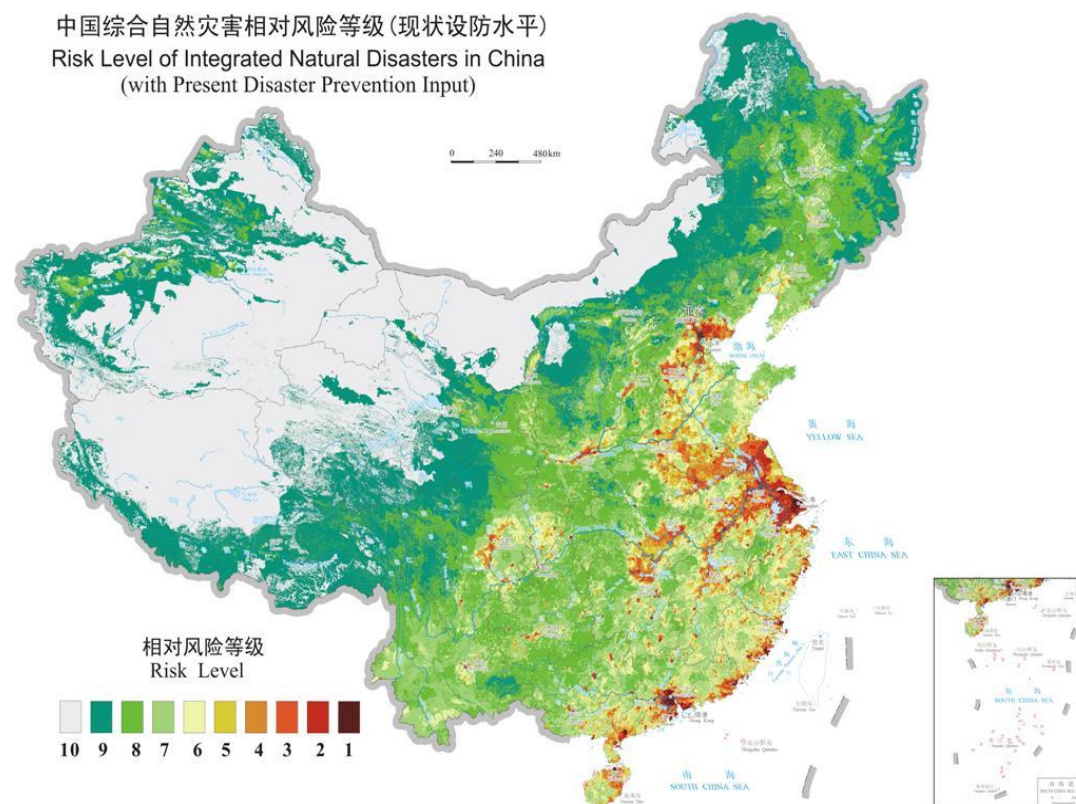
China is one of the countries in the world that seriously affected by natural disasters

Various disasters

Widely distributed

High frequency

Large impact





Natural Disasters in China

Natural Disaster Losses in 2018



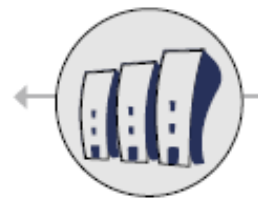
130 million people
were affected



635 people died
or missed



5 million people-times
were urgently relocated and
resettled



97 thousand
houses collapsed



the area of affected crop was
20 million ha



The direct economic loss was
264 billion RMB



State Council Institutional Reform

Ministry of Emergency Management

State Administration
of Work Safety

General Office of
the State Council

*Emergency
management*

Ministry of
Public Security

Fire service

Ministry of
Civil Affairs

Disaster relief

Ministry of
Land and Resources

*Geological disaster
prevention*

Ministry of
Water Resources

*Drought and flood
control*

Ministry of
Agriculture

Prairie fire control

State Forest Bureau

Forest fire control

China Earthquake
Administration

*Earthquake
emergency rescue*

National Commission
for Disaster Reduction

State Flood and
Drought Relief
Headquarters

State Council Earthquake
Relief Headquarters

State Forest Fire
Prevention Headquarters

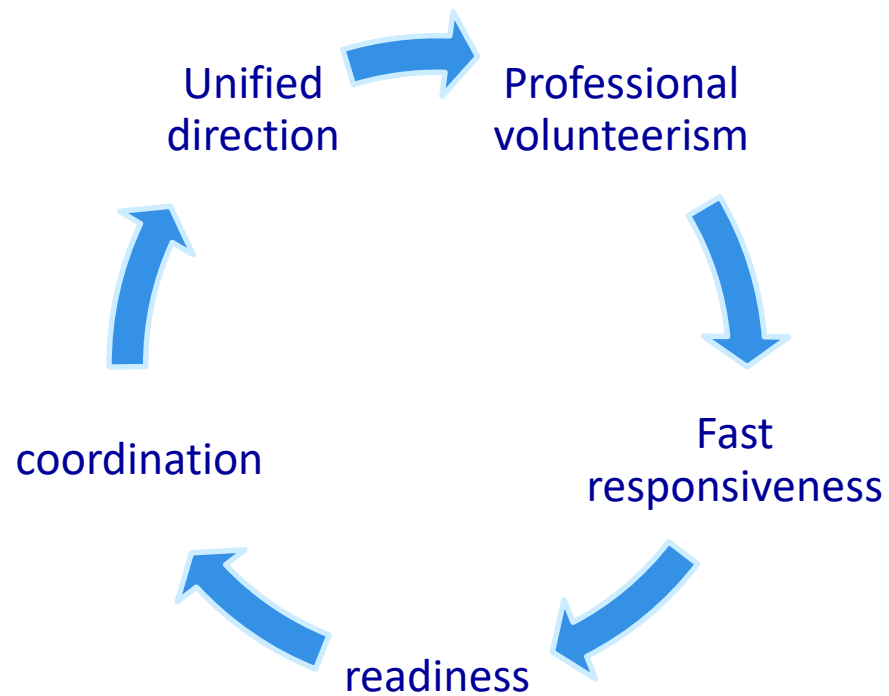




State Council Institutional Reform



Building a national emergency response capacity system with Chinese Characteristics



OPTIMIZATION

COORDINATION

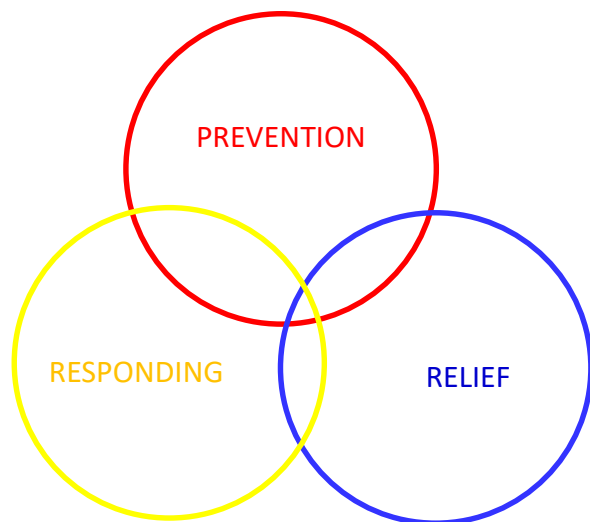
EFFICIENCY



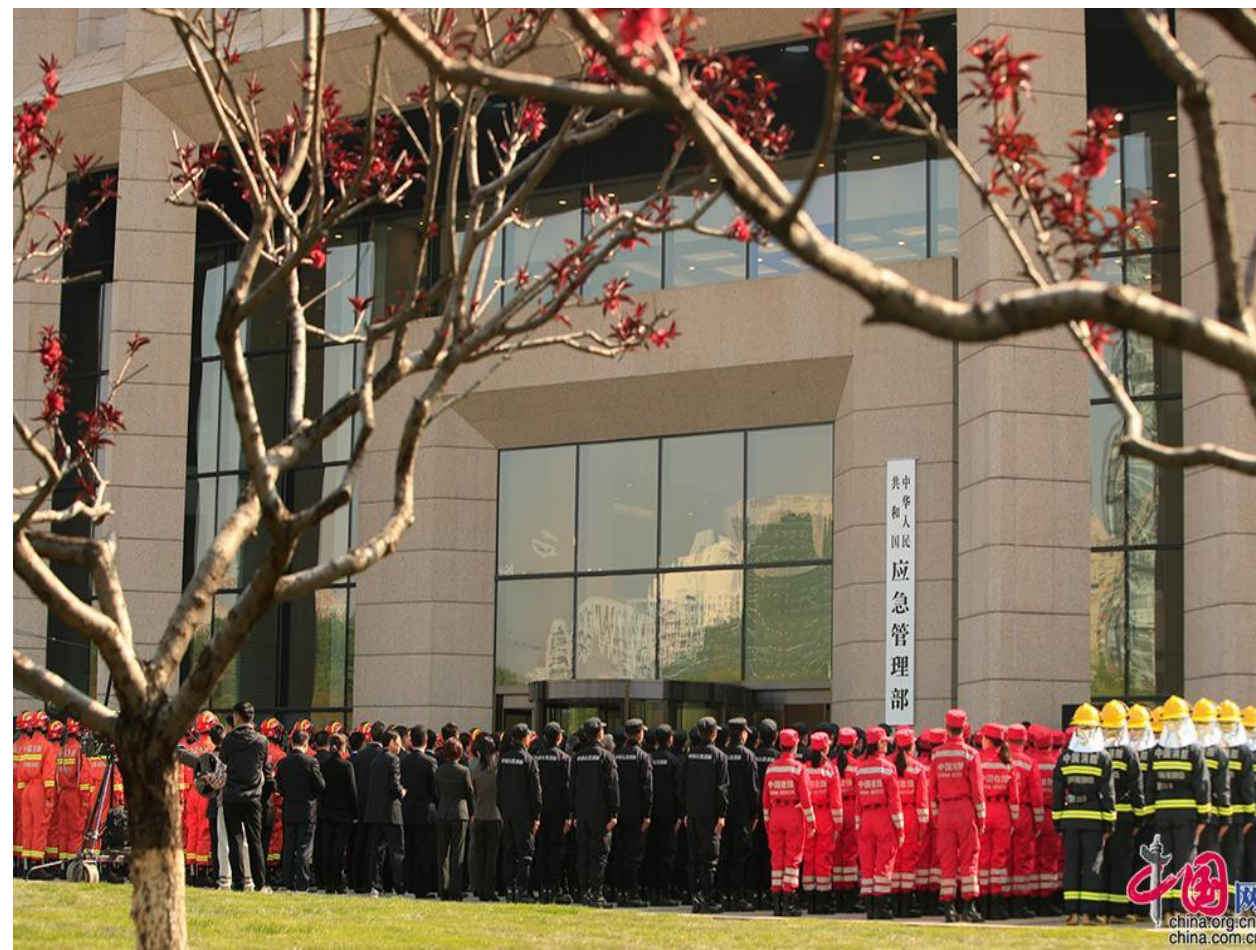
State Council Institutional Reform

Strengthening Risk Governance and Better Preparedness in advance

Set DISASTER PREVENTION as a priority



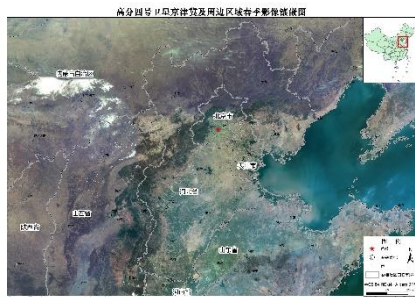
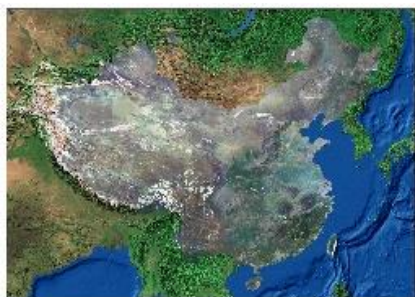
- from post-disaster relief to pre-disaster prevention
- from single-hazard response to integrated DRR
- from reducing disaster losses to reducing disaster risks.



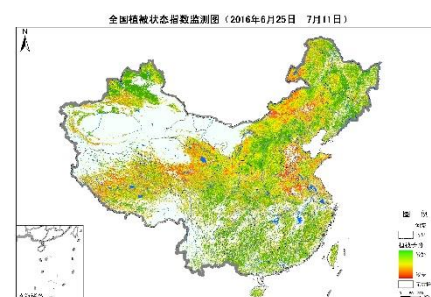
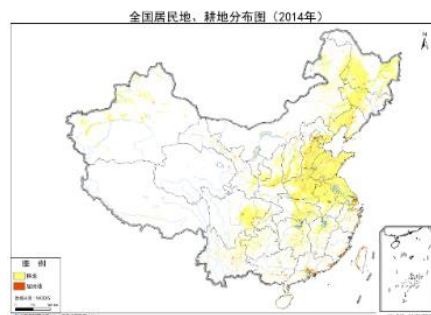


Disaster Monitoring Products System based on RS

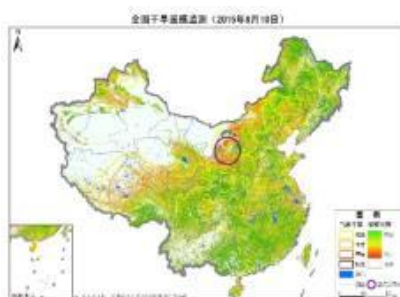
RS Imagery Products



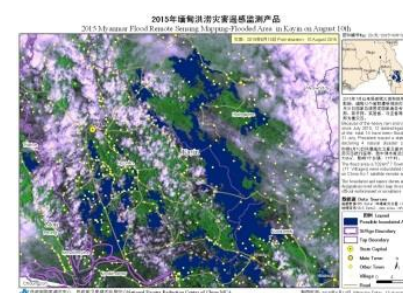
Disaster Element Monitoring



Disaster Trend Analysis



Emergency Monitoring

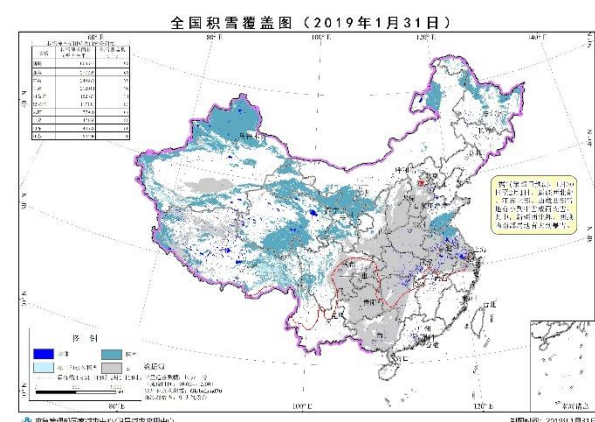
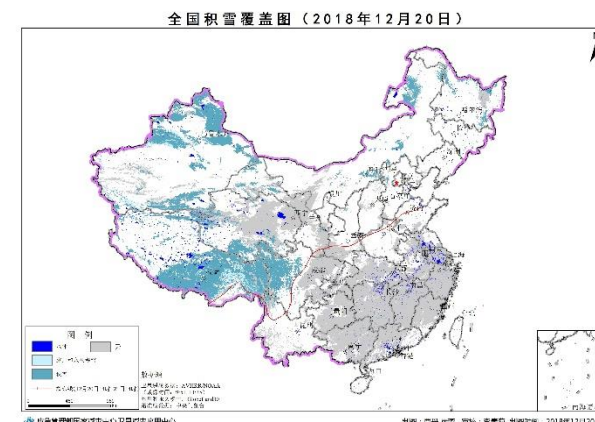
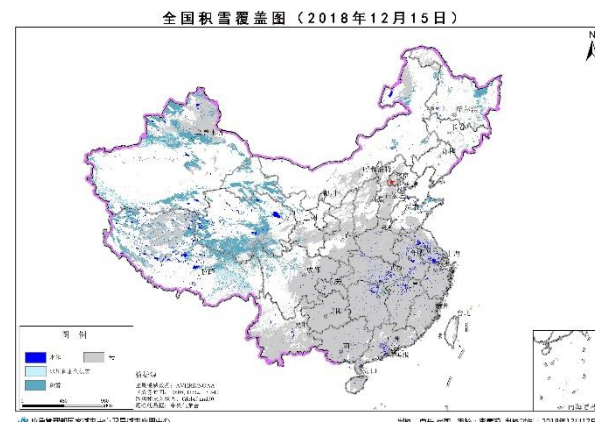


Recovery & Reconstruction





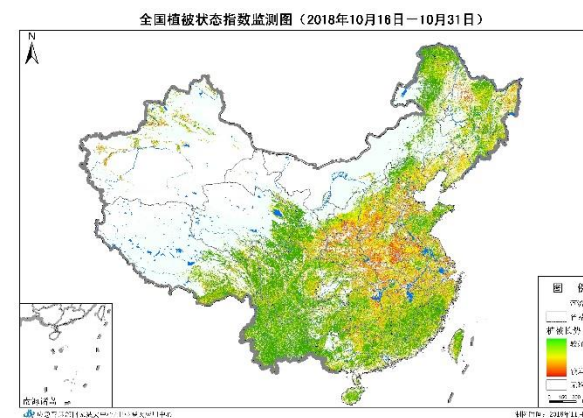
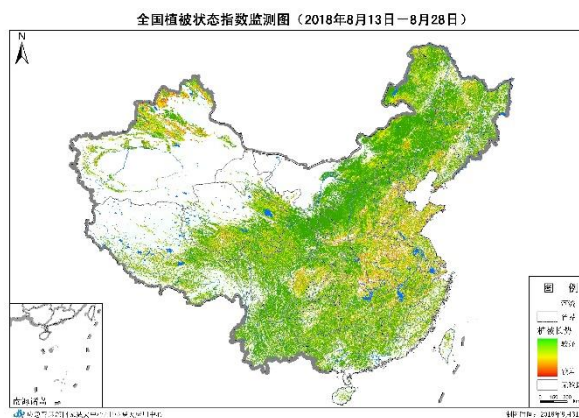
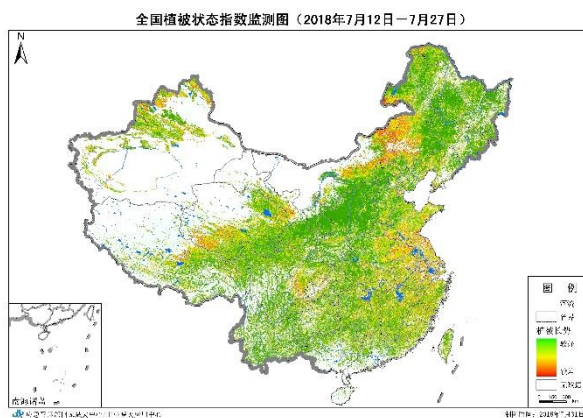
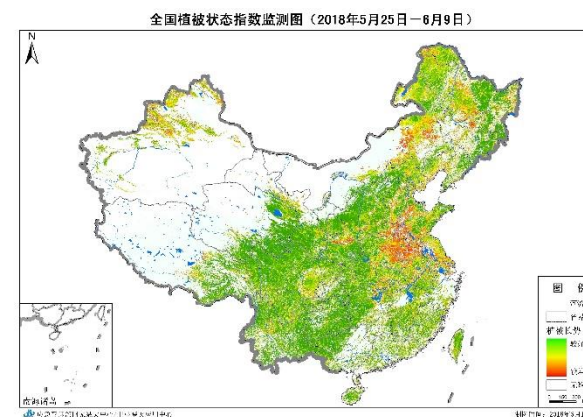
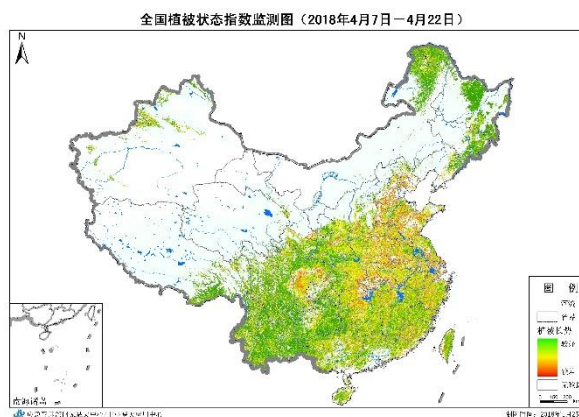
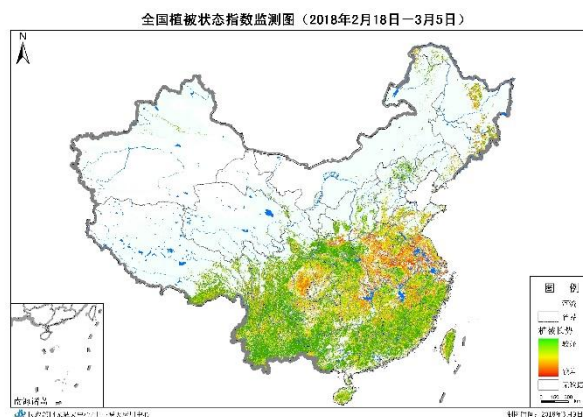
Daily Snow Detection



Based on
Meteorological Satellites (FY & NOAA)



Vegetation Growth Condition Monitoring

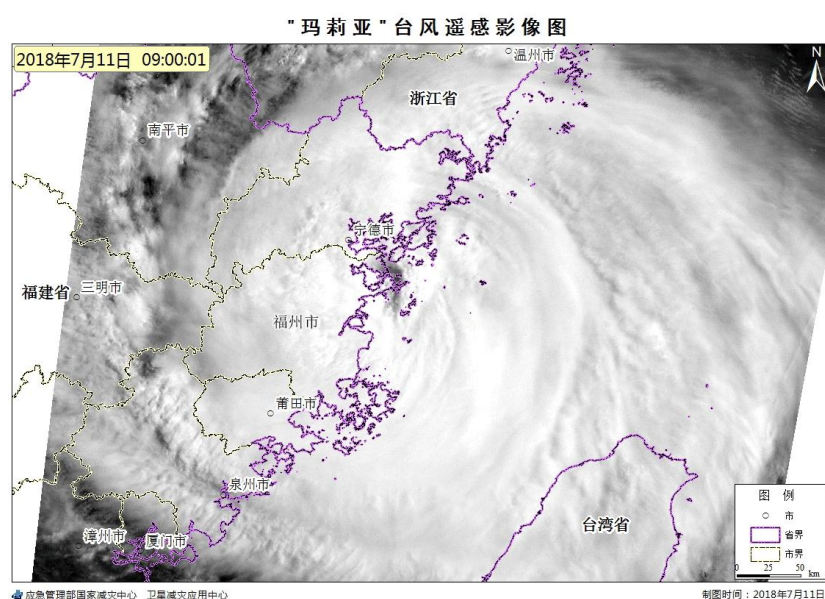






制图时间：2018年6月26日

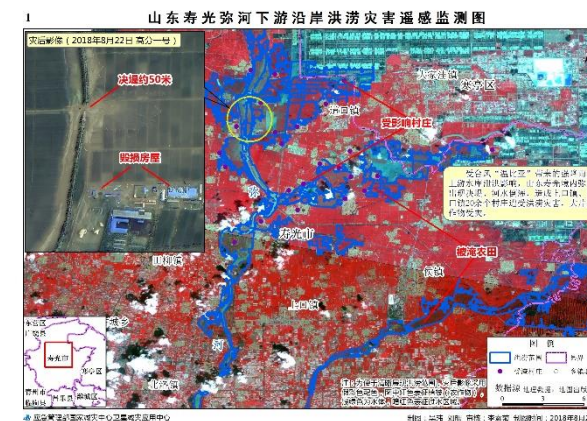
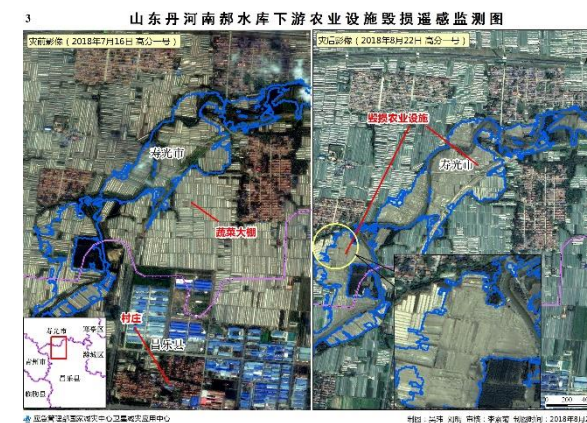
Typhoon



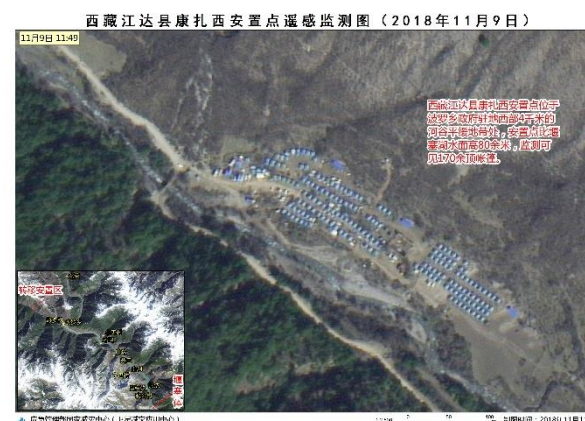
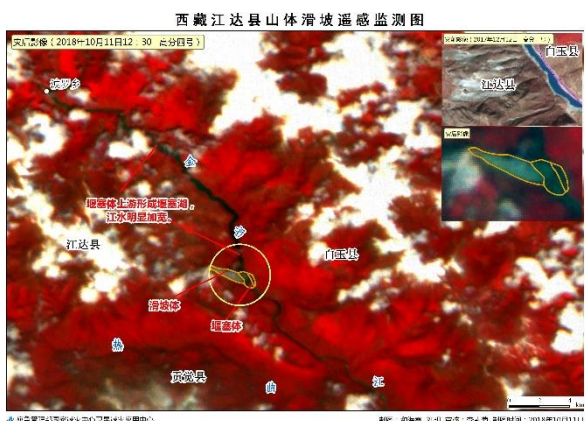
Typhoon Maria monitoring by GF-4
(July, 2018)



Impact of typhoon Rumbia monitoring by GF-1 in Shandong
(August, 2018)



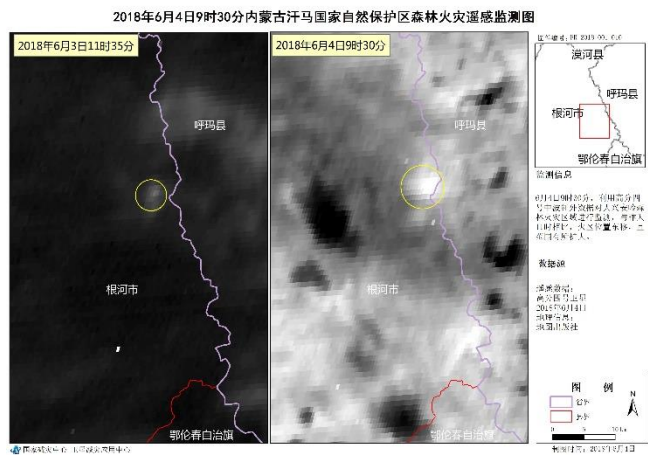
Landslide



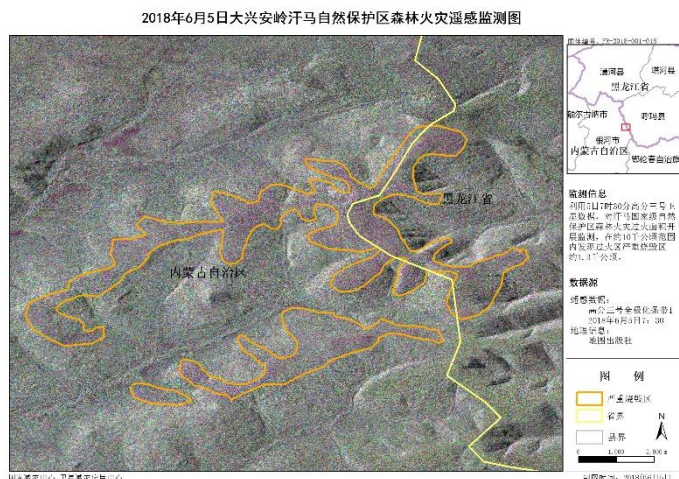
Landslide and quake lake monitoring by multi-source RS data (October & November, 2018)



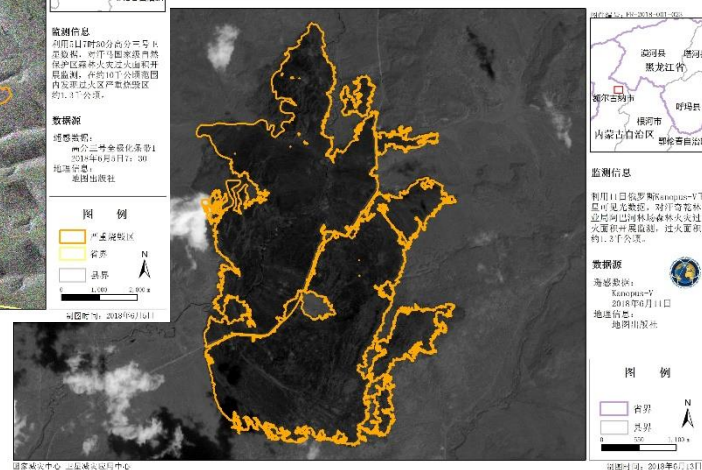
Wild fire monitoring in Inner Mongolia (June, 2018)



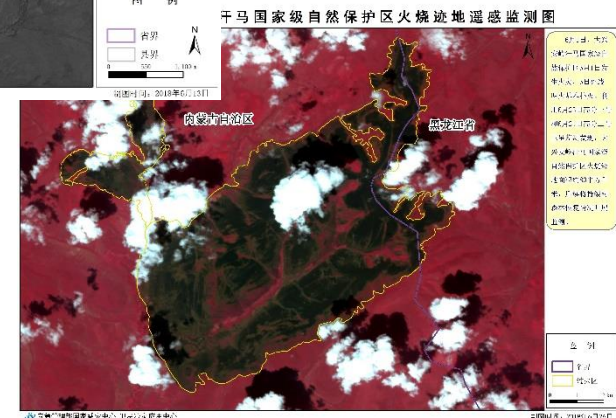
Active Fire



内蒙古阿巴河林场森林火灾过火面积遥感监测图



Burned Area



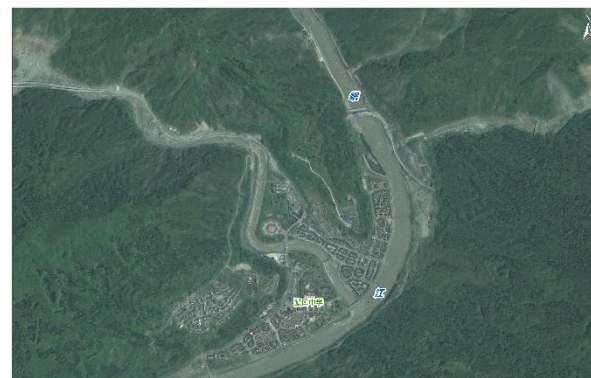


Recovery & Reconstruction Monitoring



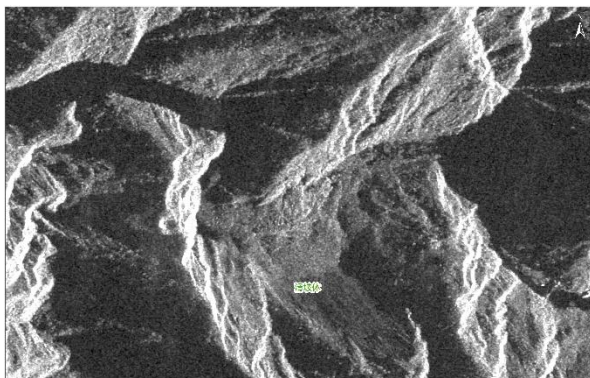
震前映秀

数据来源: 高分一号 PMS Data Source: GF-1 PMS
分辨率: 2米 Spatial Resolution: 2 m
拍摄时间: 2009年11月11日 Time: May 16th, 2008



映秀 (2015年)

数据来源: 高分一号 PMS Data Source: GF-1 PMS
分辨率: 2米 Spatial Resolution: 2 m
拍摄时间: 2015年8月15日 Time: August 5th, 2015



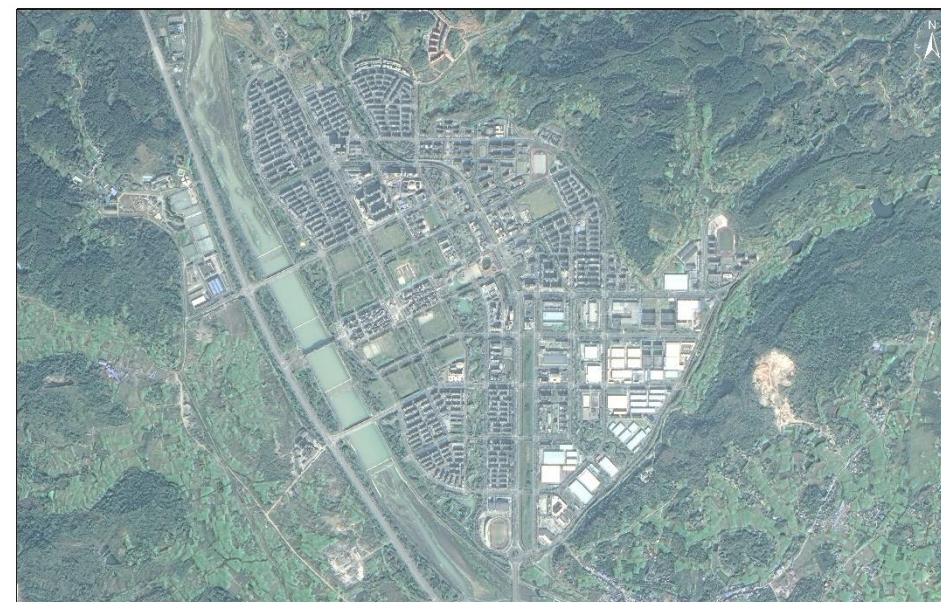
唐家山堰塞湖滑坡体

数据来源: GF-1 PMS Data Source: GF-1 PMS
分辨率: 2米 Spatial Resolution: 2 m
拍摄时间: 2009年11月11日 Time: May 16th, 2008



唐家山 (2015年)

数据来源: 高分一号 PMS Data Source: GF-1 PMS
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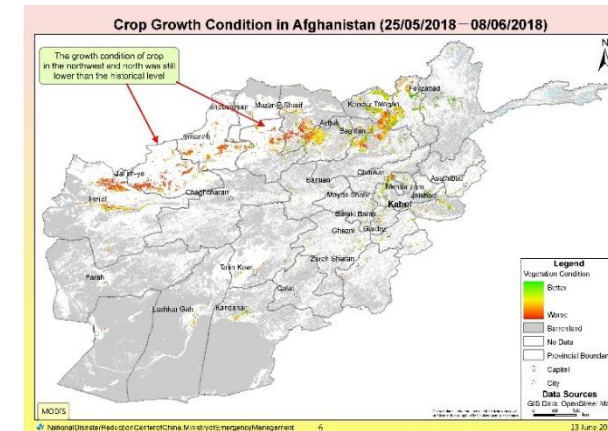
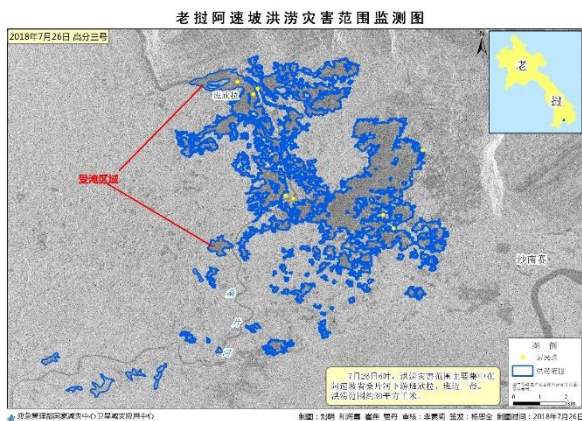
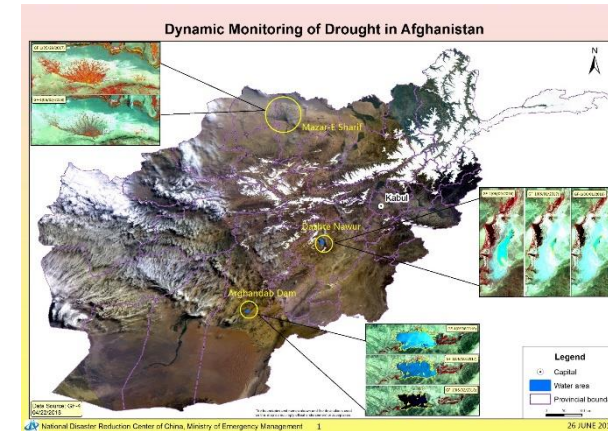
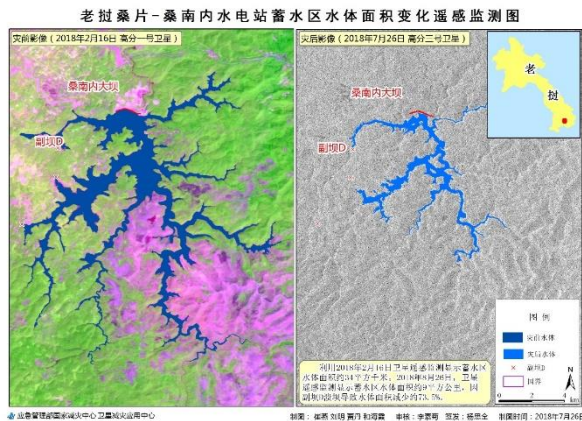


北川新县城 (2016年)

数据来源: 高分一号 PMS Data Source: GF-1 PMS
分辨率: 2米 Spatial Resolution: 2 m
拍摄时间: 2016年12月5日 Time: Dec. 5th, 2016



Reconstruction in Wenchuan Earthquake Region



Dam Collapsed Monitoring in the southern part of Lao PDR by GF-3 (July, 2018)

Loss by Tsunami monitoring by BJ-2 in Indonesia (September, 2018)

Drought Monitoring in Afghanistan (May, 2018)



Thank You