

Operational System for DR in NDRCC

Beijing, P.R. China
Oct 23, 2013



Main Contents

1. Introduction of NDRCC

2. Comprehensive operation platform

3. International cooperation



Introduction of NDRCC

Function:

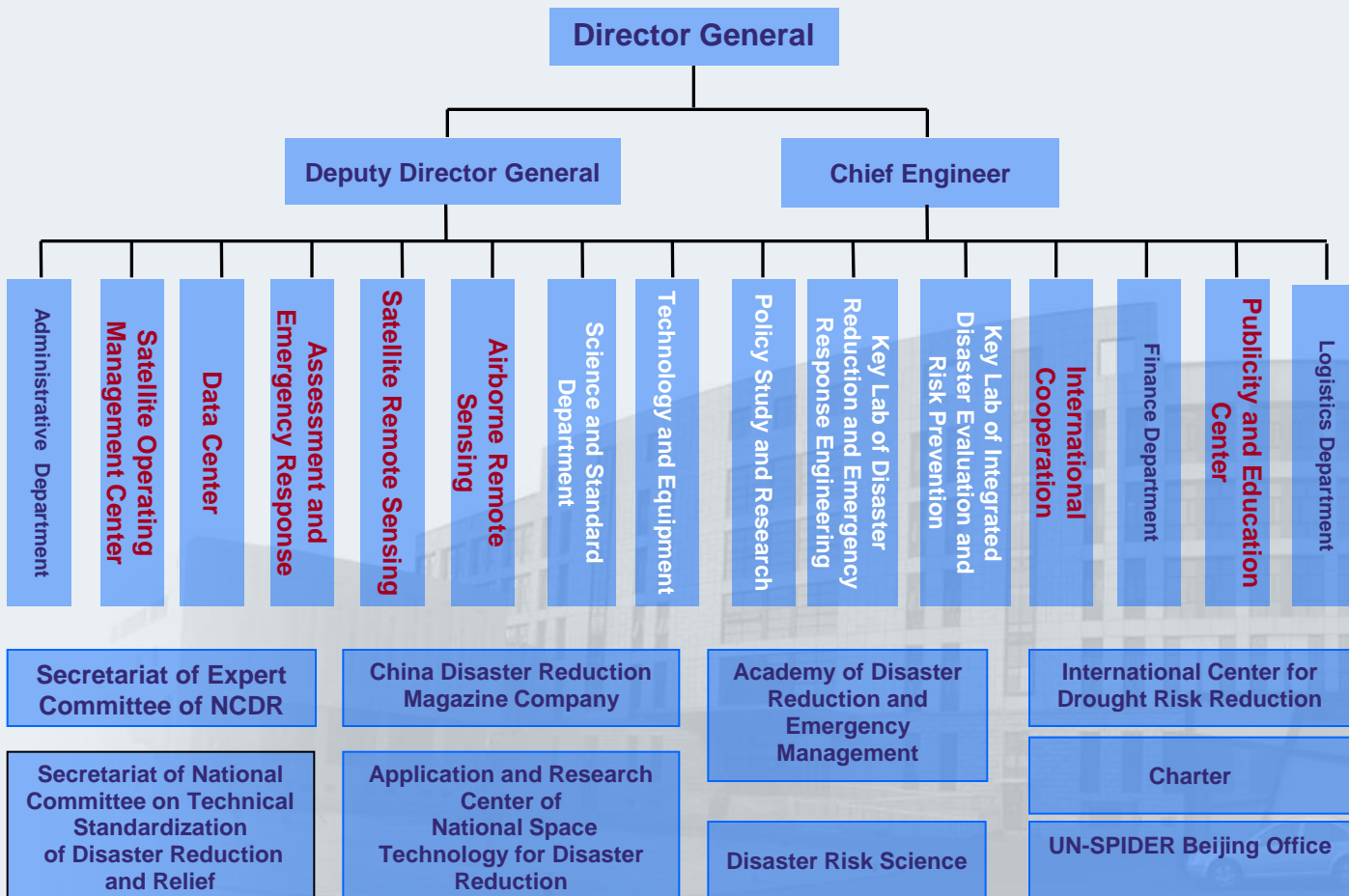
Responsibility of disaster reduction such as information management, disaster risk assessment and product service, space technology application, research on scientific technology and policies, research and development of technical equipment and disaster relief materials, publicity and education, training, and international cooperation.

Objective(3C+2W):

- **Information exchange Center**
- **Technology service Center**
- **Decision-making support Center**
- **Exchange and Cooperation Windows**
- **Propagate and education Windows**



Organization construction

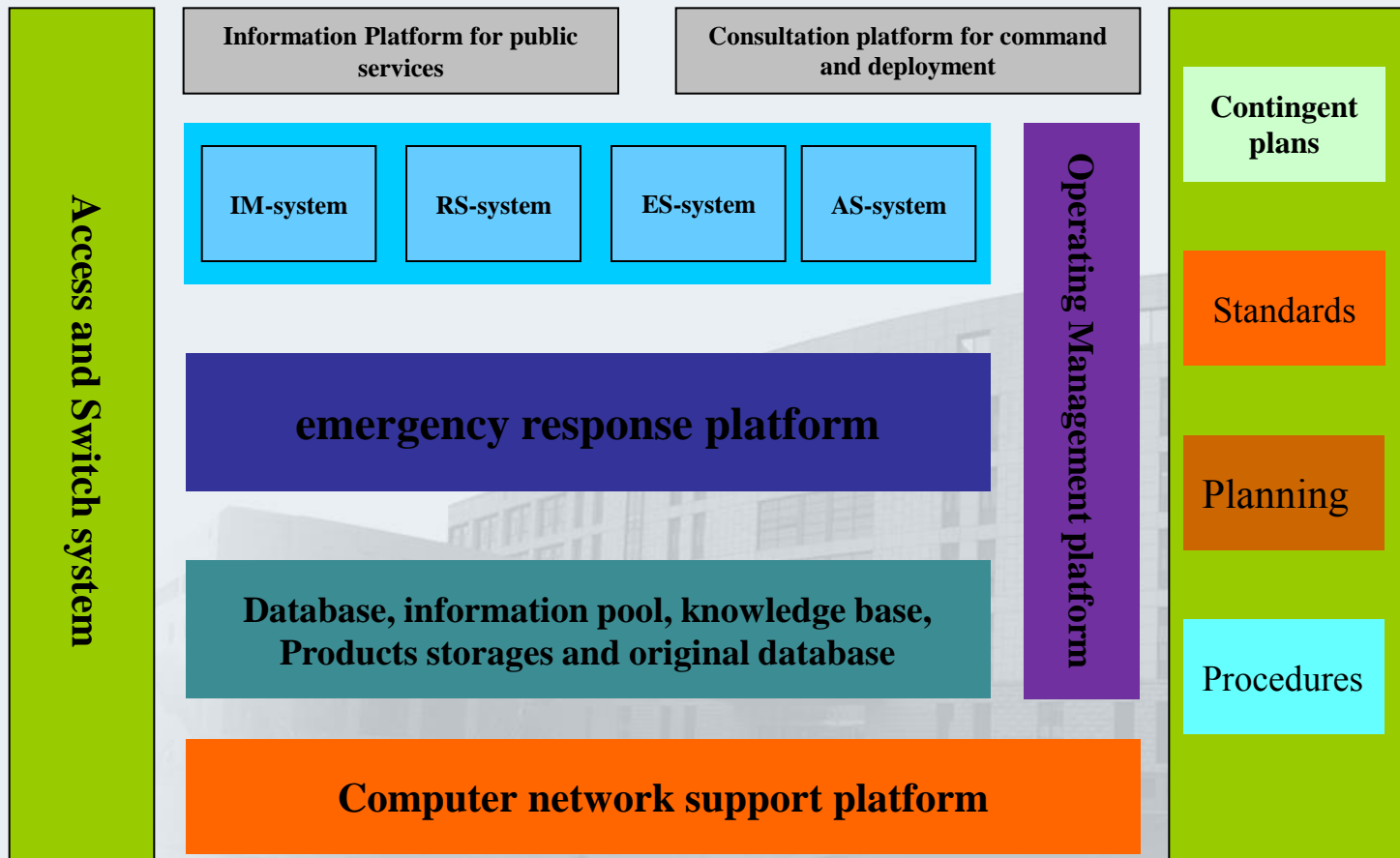


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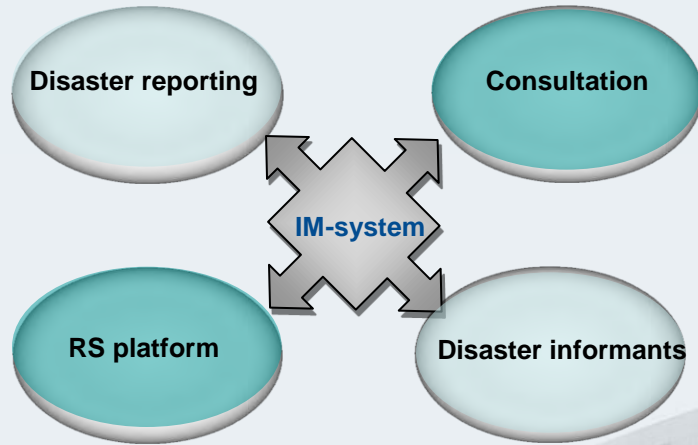


上一级

Comprehensive Operation Platform



IM-system



DATA RESOURCES

Geo-infor data

Disaster losses data

Soc-economy data

Rs data

Other related data

减灾数据与数据库管理分系统

登录总览 亿 搜 遥感影像检索 引导式检索 书目检索 用户统计 今日更新数据: 1、ALOS影像数据: 2011-12-9

公告: 下载箱有 0 条数据 进入

灾害数据库	产品数据库	遥感影像数据库	基础地理信息数据库	社会经济统计数据库
涉灾行业数据库	救灾工作数据库	备灾资源数据库	减灾工作数据库	业务运行管理数据库
资料档案库	减灾工程数据库	专题数据库	人力资源与组织机构数据库	多媒体数据库

灾情数据库

年度核定数据	年报数据	月度核定数据	日累计数据	一般案例数据	重大案例数据
会商部署材料	会商简报	重大案例《报灾》	一般案例《报灾》	今年以来灾情《报灾》	

产品数据库

工作简报	昨日灾情	灾情评估简报	灾情遥感监测	自然灾情年度公报	自然灾情月度公报
灾害遥感监测	特征参数反馈	灾害风险评估	阶段性区域灾害评估	灾情综合信息	专家委工作动态
减灾动态产品	中国灾情信息英文版	国际减灾出版物	出访报告	会议论文	应急工作组报告
减灾政策研究产品	卫星运营月报产品	中国减灾杂志	民政部系统年度核实会		

遥感影像数据库

Disaster report

- disaster information direct reporting system covers the central, provincial, municipal, prefectural, and some villages and towns governments at 5 levels.



Operation surface of on-site disaster information collecting system



Landing surface of national natural disasters information management system

Disaster consultaion



昨日灾情

《2011年5月7日7:00至2011年5月8日7:00》

民政部救灾司 编 2011年5月8日
民政部国家减灾中心

国内自然灾害事件:

四川什邡、茂县交界发生4.1级地震。

5月7日8时21分8秒,四川省德阳市什邡市、阿坝藏族羌族自治州茂县交界处(北纬31.5度,东经103.8度)发生4.1级地震,震源深度16公里。目前暂无人员伤亡和财产损失报告。

山东烟台栖霞市发生风暴。

5月6日早5时30分左右,栖霞市4个乡镇97个村

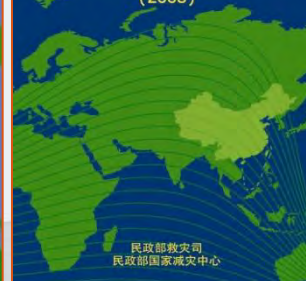
中国自然灾害月度公报 (2010)



中国自然灾害年度公报 (2009)



中国自然灾害年度公报 (2008)



space distribution of Droughts of 2011 (up to May 3)



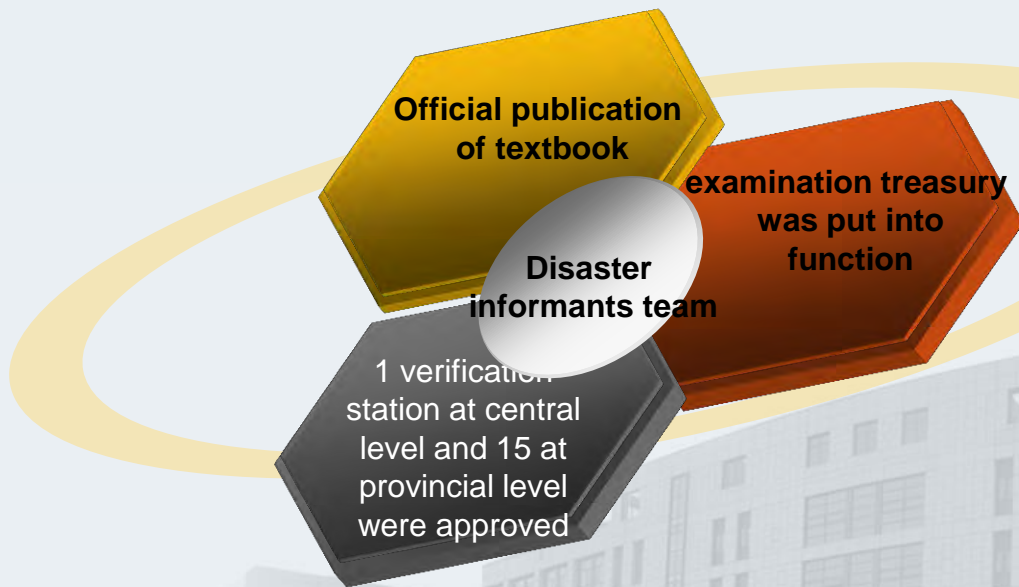
space distribution of low temperature, freezing, and snow disasters of 2011 (up to May 3)



space distribution of hails of 2011 (up to May 3)



Disaster information team

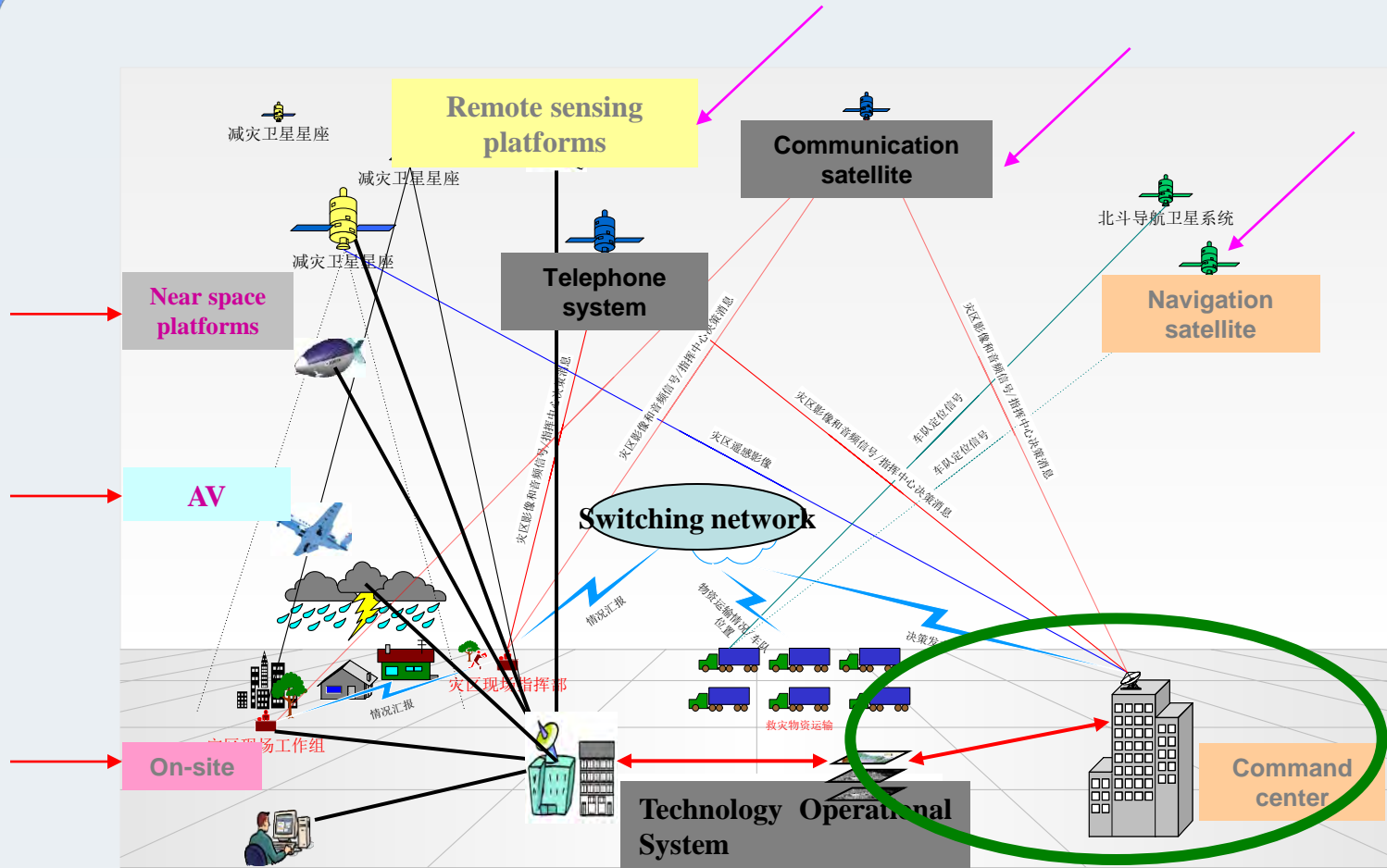


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RS-system



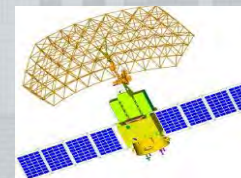
- NDRCC is responsible for the operating management of satellite A and B for disaster reduction and environment protection (HJ-1-A and HJ-1-B).
- The satellites has been operating steadily and safely for 900 days, responded rapidly to major natural disasters and emergencies at home and abroad, and its valid data covered 70% land surface.



HJ-1-A



HJ-1-B



HJ-1-C



AV mechanism



monitor product

Products

**Products on disaster
parameters**

**Products on Disaster
monitoring**

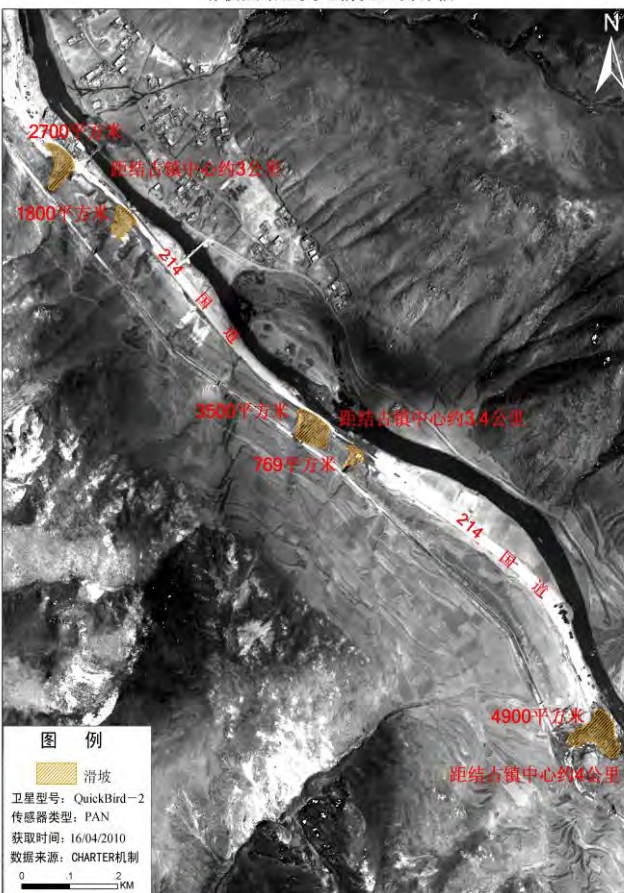
**Products on Disaster
assessment**

**Products on Disaster
recovery assessment**

**Products for decision-
making support**



滑坡点堵塞交通情况监测评估



结古镇交通拥堵情况监测评估(4)



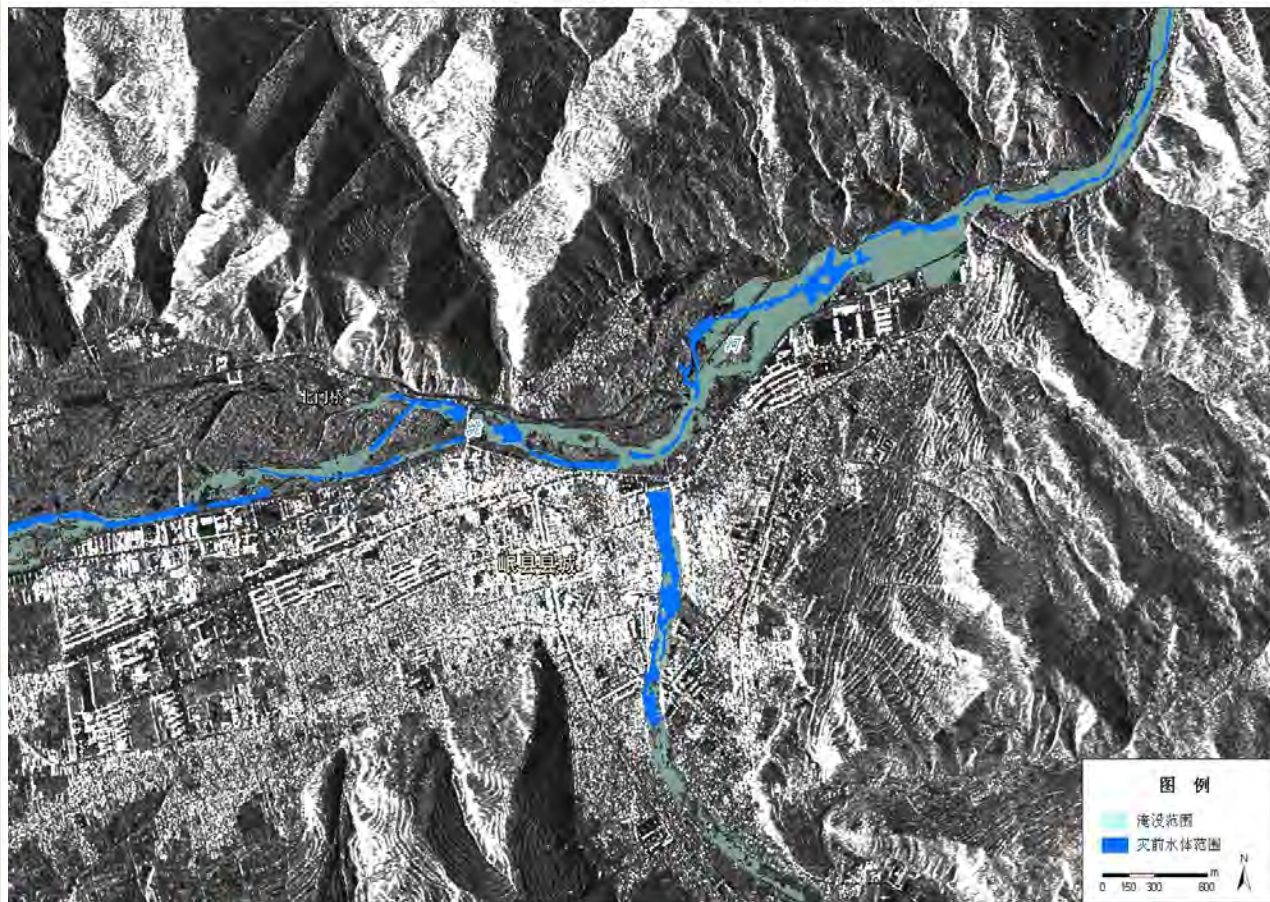
四川雅安7.0级地震震区主要道路损毁情况遥感监测图



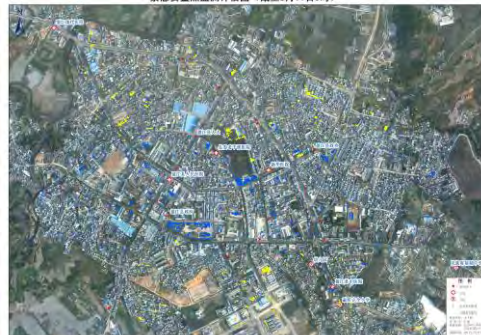
江西省抚州市唱凯洪水淹没范围变化监测（三）



甘肃定西严重洪涝灾害灾情遥感监测评估图



紧急安置点监测评估图（截至3月11日9时）



青海省玉树县结古镇城区4月19日灾民安置点监测图



国家减灾委员会办公室



民政部国家减灾中心/民政部卫星减灾应用中心

2010年4月25日制作

(体育场周边)

II地震灾区恢复重建进展遥感监测评估图—甘肃省康县豆坪乡及周边地区

2012年10月20日0.1米无人机影像

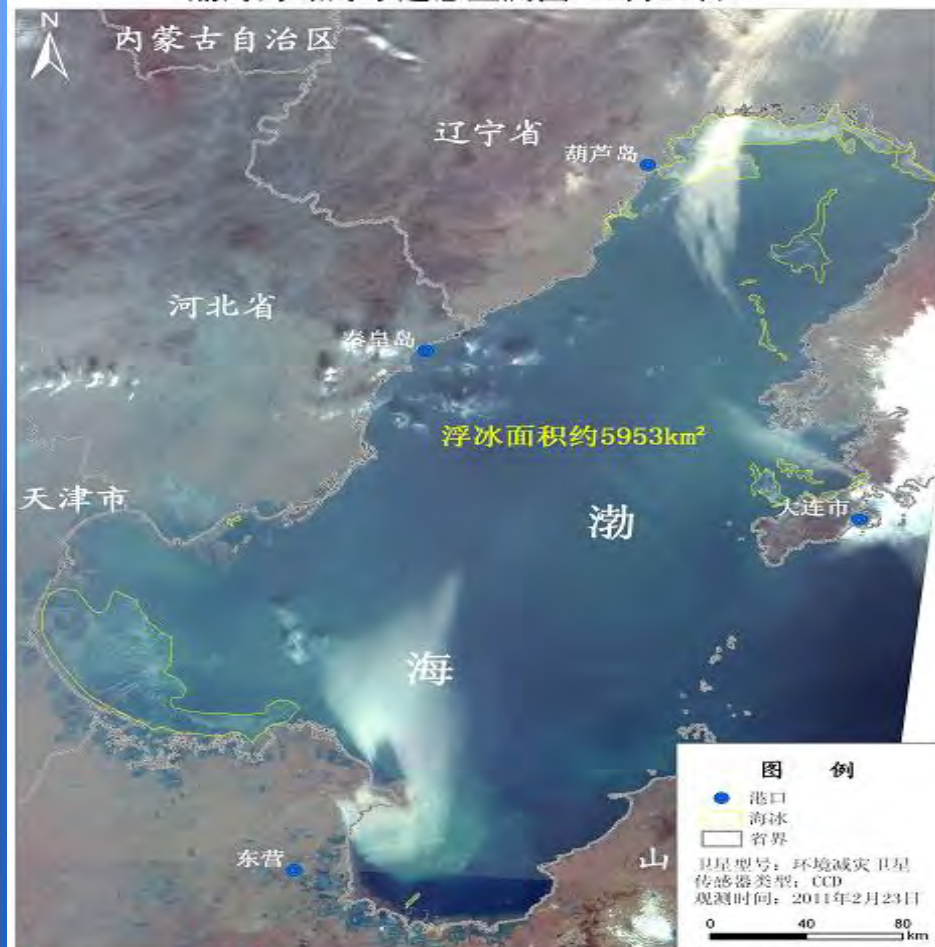


制图时间: 2012年12月25日



2022年12月

渤海海域海冰遥感监测图（2月23日）



3月3日）



3月7日）



3月15日）



ES-system

Emergent platform on duty for 24 hours

Comprehensive operation platform

Operation regulation



环境减灾 A.B 星 数据及产品服务系统

用户名：

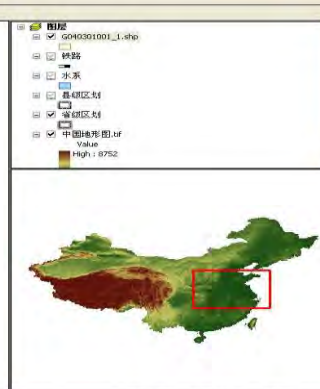
密码：

灾情评估系统

文件 视图 查看 工具 帮助

新建项目

- 站灾关系分析评估系统04月25号16时
- 铁路关系分析评估系统04月25号14时
- 气象数据评估
- 灾害范围程度评估
 - 气象-城市灾害影响系统
 - 气象-灾害影响分析活动范围评估
 - 气象-灾害影响分析活动范围评估
 - 气象-灾害影响分析活动范围评估
- 减灾范围程度评估
- 气象-空间叠加度系统
- 灾害影响评估
- 灾害影响评估
- 气象-灾害影响评估
- 输出数据
- 站灾关系分析评估系统04月25号14时
- 站灾关系分析评估系统04月25号14时



FID	AREA	PERIMETER	BOUND_	BOUND_ID	GRCODE	ADCODE99	NAME99	SRID	D12	R2	CENTROID_Y	CENTROID_X	灾情上推
0	0.15709573	2.1903685	820.0	904.0	30000	370701	内蒙古自治区	37	07	81	36.792171	119.155933	0
1	0.17289504	2.4035526	836.0	912.0	30000	370706	包头市	37	07	86	36.626347	119.44161	0
2	0.17427473	2.4176455	842.0	918.0	30000	370181	鄂尔多斯市	37	01	81	36.733459	117.46012	0
3	0.31867456	2.5597556	843.0	919.0	30000	370203	呼和浩特市	37	02	83	36.762501	119.485268	0
4	0.16313003	2.4967532	847.0	924.0	30000	371425	丹凤县	37	14	25	36.723072	116.70504	0
5	0.26133888	2.3344798	851.0	926.0	30000	340631	沁源县	34	06	31	36.686368	117.774774	0

新建任务组

Start

综合业务平台

灾情评估系统

Access v4.0 - C:\Bo...

任务组



Video discussion and conference system

Mobile information platform

Terminal end and equipment

AS-system

System platform



产品服务平台



多个服务器



工作站



工作站



工作站



工作站



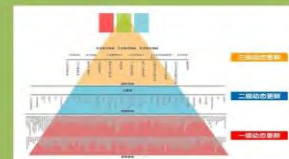
方法体系



内容体系



指标体系



数据平台



数据



数据



数据



数据



数据



数据

技术规范

Assessment indexes

- 01 受灾范围；
- 02 受灾人口；
- 03 伤亡人口；
- 04 房屋倒塌；
- 05 农作物受灾；
- 06 饮水困难人口；
- 07 需转移安置人口；
- 08 需救助人口
-

主要承灾体

人员伤亡	死亡失踪人口	
	伤病人口	
	其 他	
固定资产损失	房屋	
	除房屋外其他固定资产	生产/服务/办公设备设施
		运输工具
非固定资产损失	居民家庭财产	行业基础设施
	生产资产	其 他
	半成品/成品	
资源损失	其他	
	生态资源	
	文化资源	
	土地资源	
	生产资源	
	其他	

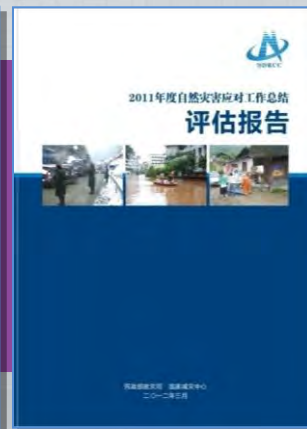
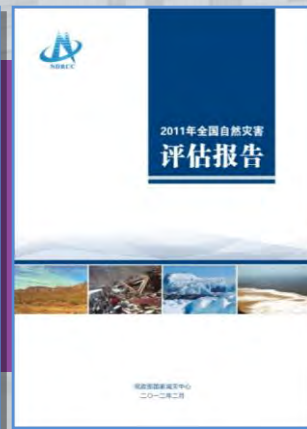
社会与国民经济行业分类

农业	种植业
	畜牧业
	林业
	渔业
工业	采矿业
	制造业
	电力的生产和供应业
	热力的生产和供应业
	燃气生产和供应业
	水的生产和供应业
服务业	建筑业
	交通运输业
	仓储和邮政业
	电信和其他信息传输服务业
	计算机服务和软件业
	商贸、金融和房地产业
党政机关和社会事业系统	其他服务业
	教育系统
	科技系统
	卫生系统
	文化系统
	社会福利系统
	公共管理组织
	社会组织
	水利管理业
	环境管理业
	公共设施管理业

Assessment production



Risk assessment
Emergent assessment
Monthly losses assessment
Annual losses assessment
Disaster management assessment



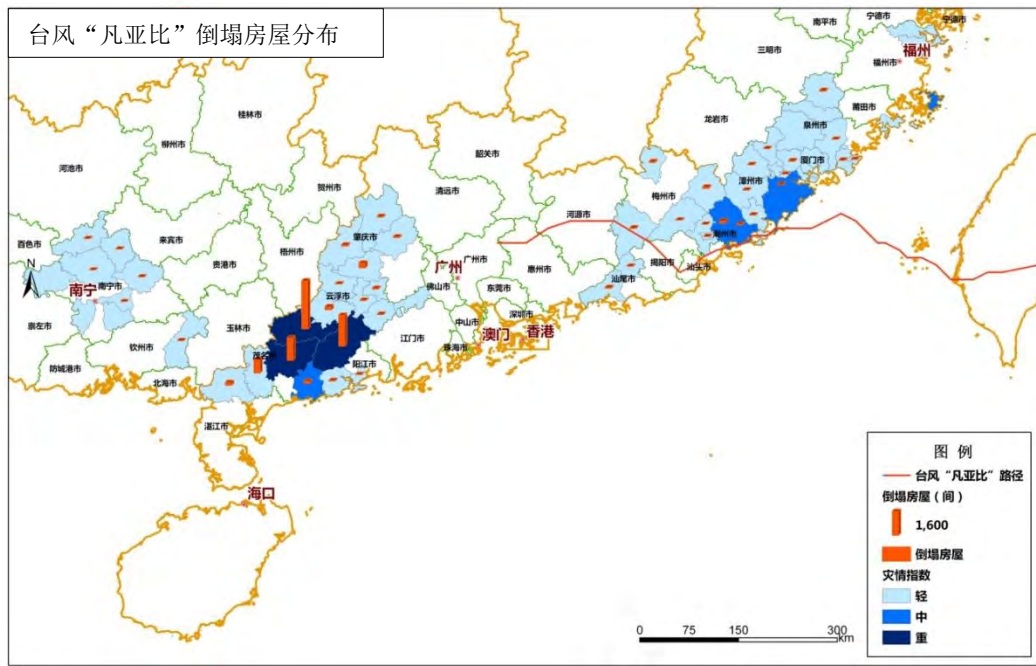
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台风“凡亚比”路径趋势及灾害风险区分布



台风“凡亚比”强降雨分布



台风“凡亚比”倒塌房屋分布

“凡亚比”路径

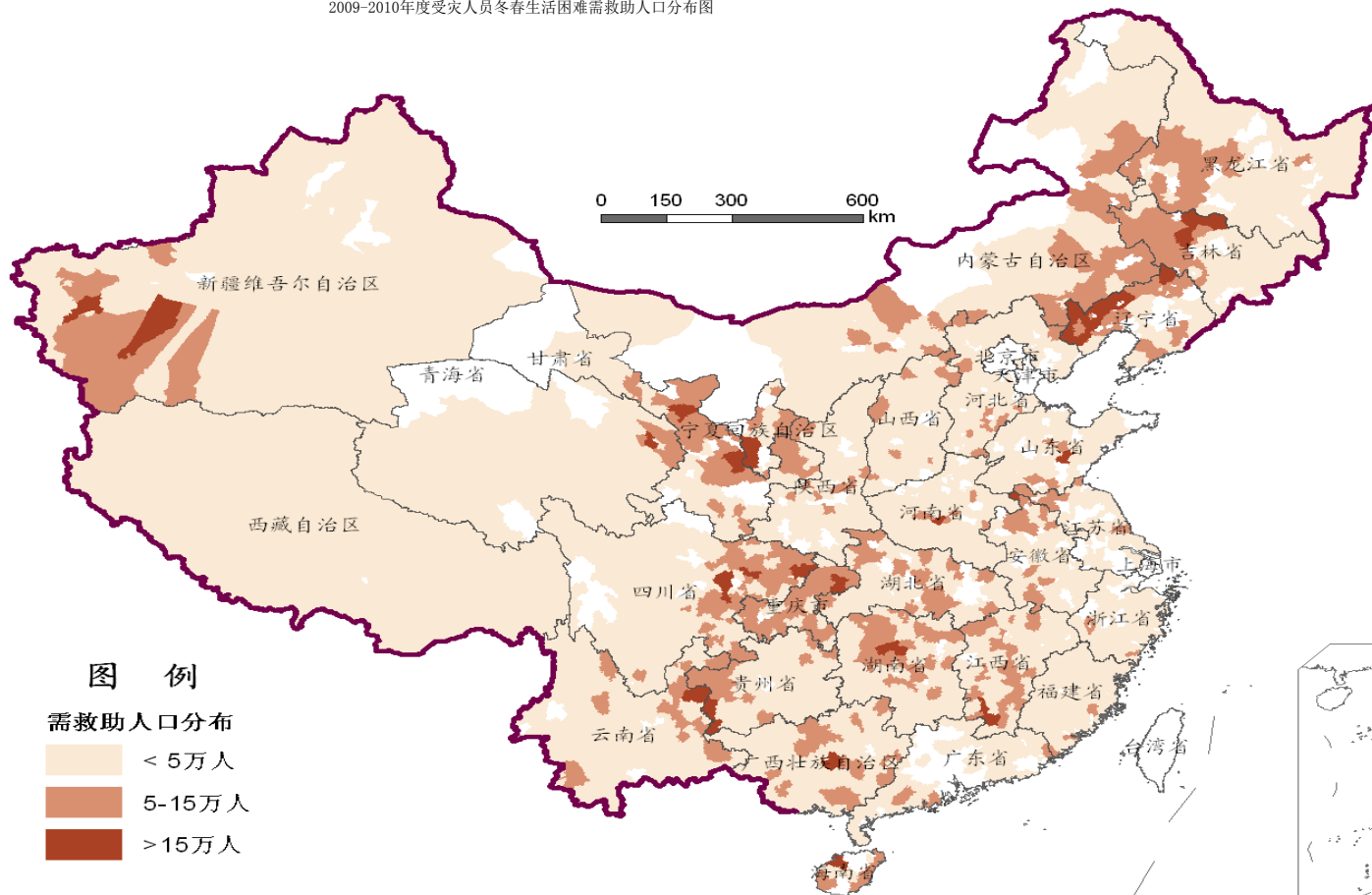


300 km

0 75 150 300 km

Disaster relief assessment in winter and spring

2009-2010年度受灾人员冬春生活困难需救助人口分布图



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上一级

青海玉树地震灾害范围评估图

图例

- 震中 (Red star symbol)
- 9 度区 (Dark brown area)
- 8 度区 (Medium brown area)
- 7 度区 (Light brown area)
- 6 度区 (Yellow area)
- 乡镇驻地 (Small circle with dot symbol)
- 县驻地 (Yellow star symbol)
- 极重灾区 (Dark brown area)
- 重灾区 (Medium brown area)
- 一般灾区 (Light brown area)
- 乡镇边界 (Dashed line symbol)
- 县界 (Dotted line symbol)
- 省界 (Thick solid line symbol)

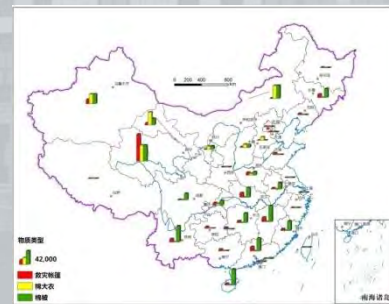
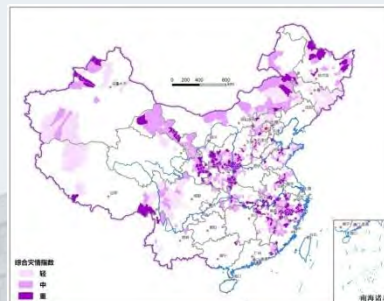
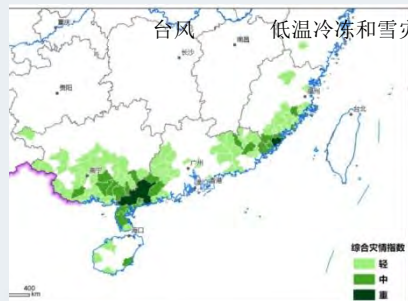
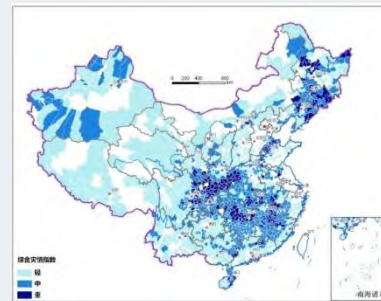
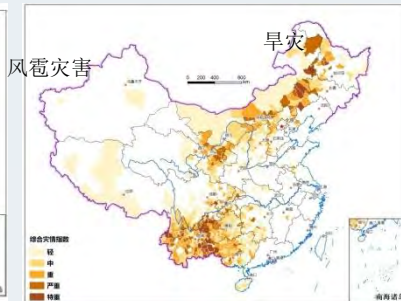
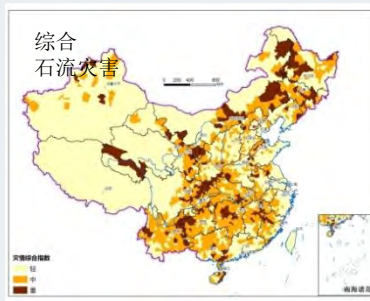
* 地震影响区包括青海南部、治多、囊谦、曲麻莱、杂多5县，四川稻城县、德格、甘孜、白玉4县部分乡镇。

* 地震烈度数据来源于地震局

0 5 10 20 km

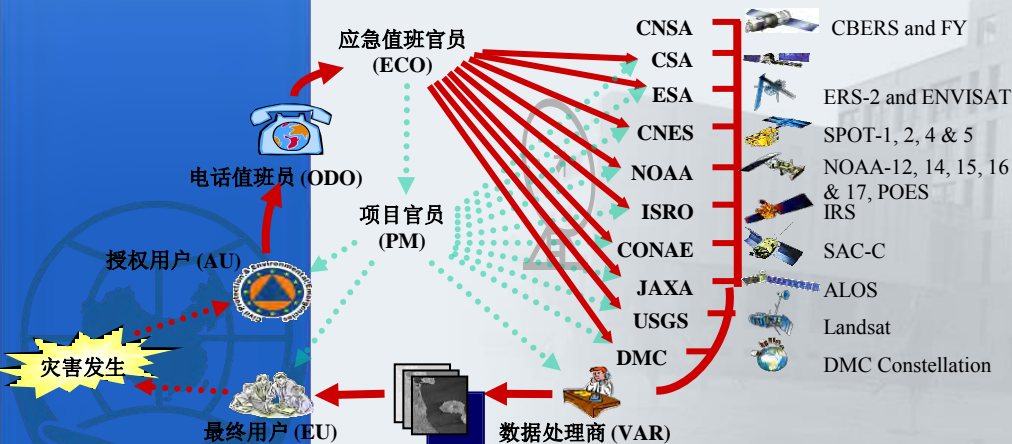
国家减灾委专家委 民政部国家减灾中心 民政部卫星减灾应用中心

Annual assessment



International Cooperation

- **NDRCC has established the Strategic Relationship with UNISDR, UNESCAPE, ASEAN, SCO, ICDO;**
- **Take on technology training for Asia-Pacific Countries;**
- **Take on PM and AU of CHARTER, and take on the preparation and technology support to UN-SPIDER.**



The Horn of Africa entered a dry season in March 2011. In response to the UNOOSA's request, we started up the emergency rapid mapping services mechanism to monitor and assess the drought situation in the HoA in August.

- Building service channel

Cooperating with UN-SPIDER office to involve in the international efforts in aiding Africa, and providing drought monitoring and assessment products services.

- Sharing observing data

Provided over 140 satellite images, including HJ-1 A/B data.

- Providing rapid mapping services

Monitoring and assessment of drought in the Horn of Africa have been carried out. More than 10 thematic products have been produced and provided successively, which included the spatial distribution of drought in Africa, the annual change of drought as well as water body in severely-hit areas in Djibouti, Eritrea and Ethiopia, the impact of drought imposed on the land-use, agriculture, fishing, crops, population, for Somali, etc.



Drought Monitoring Based on NOAA in Africa

Location



Disaster Information

Since 2010, the worst drought of recent 60 years occurred in Horn of Africa. About 12 million people have been affected by the drought.

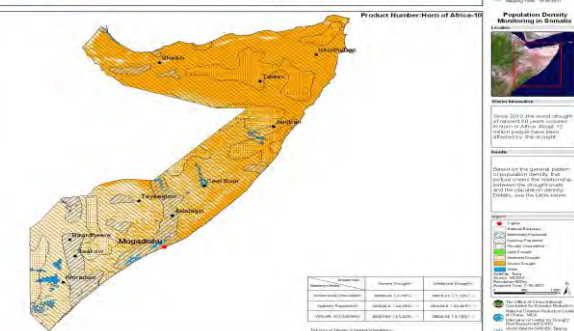
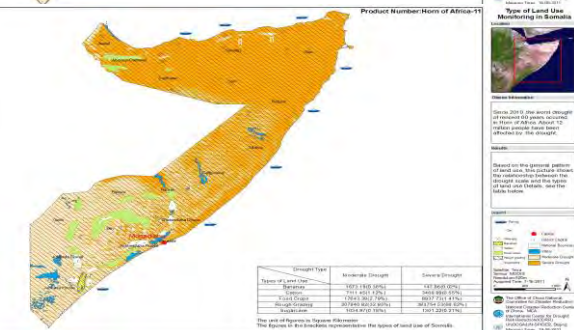
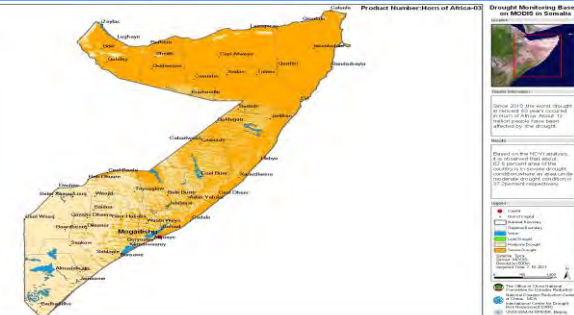
Results

Based on the NDVI analysis, it is observed that about 20 per cent area of Africa is in severe drought condition, where as area under moderate and light drought conditions is 70 and 10 percent respectively.

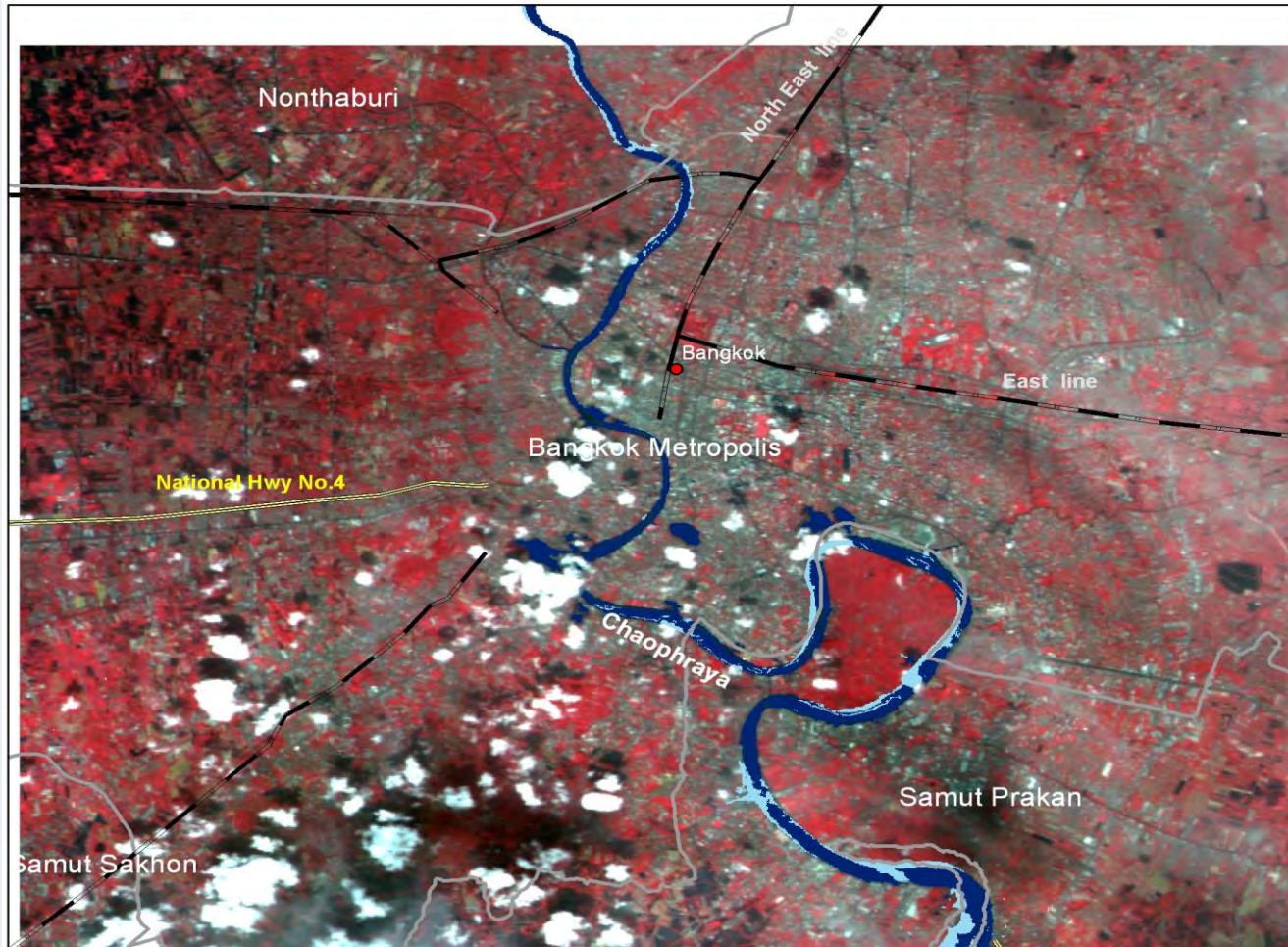
Legend



- The office of China National Committee for Disaster Reduction of China, MCA
- International Center for Drought Risk Reduction (CDRR)
- UNOOSA/IN-SPIDER, Beijing
- Mapping Time: 12-08-2011



Flood monitor for Thailand



Flood Monitoring Based on HJ-1 in Thailand

Location



Disaster Information

Since July 2011, the severe flood occurred in Thailand. 30 changwats and about 2 million people have been affected by the flood.

Results

The water area of Chao Phraya in 2011 is 21.6 Km² and that in 2010 is 17.3 Km². The water area of 2011 increased 19.3% compared to 2010. East line, North East line and National Hwy No.4 road were affected by floods.

Legend

- Capital
- railroad
- Primary Route
- Changwats Boundary
- Water Area of 2011
- Water Area of 2010

Satellite: HJ-1
Sensor: CCD
Resolution: 30m
Acquired Time: 11-06-2011



The Office of China National Committee for Disaster Reduction
National Disaster Reduction Center of China, MCA
 International Center for Drought Risk Reduction (ICDRR)
 UNOOSA/UN-SPIDER, Beijing
Mapping Time: 11-07-2011

Fire monitor for Australia

Feb.16,2009-Fires Assessment in Southeast Australia Using BJ-1 Satellite Data



Experts have attended the TAM supported by UN-SPIDER Beijing office, and finished technical advisory for Bangladesh from 19-23, Sept, and Sri-lank from 17-21, Oct.



Hold United Nations International Conference on Space-based Technologies for Disaster Risk Management twice from 2011-2012, Organized by MOCA and UN-OOSA.



**Thanks for
your attention !**

