

Remote Sensing Image Atlas of Environmental Change in China

Institute of Geographic Sciences and Natural Resources Research
Chinese Academy of Sciences



Contents

1 Introductory Maps

Global Remote Sensing Images	2
Global Remote Sensing Images in Different Seasons.....	4
Remote Sensing Images of China and Its Neighboring Areas.....	6
Relief of China and Its Neighboring Areas	7
Population Density	8
Ecological Function Zone	9

2 Urbanization and Urban Expansion

Urbanization Development	12
Distribution of Urban Population (1953)	12
Distribution of Urban Population (1964)	13
Distribution of Urban Population (1982)	14
Distribution of Urban Population (1990)	15
Distribution of Urban Population (2000)	16
Distribution of Urban Population (2010)	17
Main Urban Agglomeration	18
Distribution of Main Urban Agglomeration	18
The Urban Built-up Area (2011)	21
Beijing–Tianjin–Hebei Urban Agglomeration.....	22
Beijing	24
Tianjin Tangshan.....	26
The Yangtze River Delta Urban Agglomeration	28
Shanghai	30
Hangzhou	32
Nanjing	34
The Pearl River Delta Urban Agglomeration.....	36
Guangzhou.....	38
Shenzhen	40
Other Important Cities.....	42
Harbin	42
Changchun.....	43
Shenyang	44
Xi'an	45
Chengdu	46
Kunming.....	47
Sanya	48
Dalian	49
A Brief Introduction to China's Lakes.....	52

3 Environmental Change of Lakes

Shrinking Water Surface	54
Hulun Nur	54
Ebinur Hu	56
Qinghai Hu	58
Water Surface Expansion	60
Siling Co	60
Nam Co	62
Lake Environmental Change	64
Poyang Hu	64
Chlorophyll in Poyang Hu	68
Tai Hu	70
Lake Development and Utilization	72
Aquacultuer in Hongze Hu	72
Polder and Reclamation in Dongting Hu	74
Lake Restoration from Impoldering in Dongting Hu	76
Warter Resource Utilities in Erhai	78

4 Environmental Change of Wetlands

Distribution and Change of Wetlands	82
Wetlands Distribution	82
Marsh Wetland in the Sanjiang Plain	84
The Ruoergai Plateau Wetland	86
Coastal Wetland in the Yellow River Delta	88
Coastal Wetland of Yancheng	90
Coastal Wetland of Shenzhen	92
Mangrove Wetland of Hainan	94

5 Deforestation, Conservation and Restoration

Distribution of Forest Ecology Projects	98
Deforestation	100
Menghai, Yunnan	100
Genge, Inner Mongolia	102
Wenchang, Hainan	104
Forest Preservation	106
Bu'erjin, Xinjiang	106
Huma, Heilongjiang	108
Hegang, Heilongjiang	110
Changjiang, Hainan	112
Baisha, Hainan	114
Yuanjiang, Hunan	116
Yuping, Guizhou	118
Forest Resoration	120
Mohe, Heilongjiang	120

Yanbian, Jilin	122
----------------------	-----

6 Land Desertification

Desertification and Sandification	126
Desertified Land Types and Desertification Degrees in China	126
Sandification Degrees of Land in China.....	127
Sandy Area in Bashang, Hebei.....	128
Hunshandake Sandy Region	130
Ulan Buh Desert.....	132
Kubuqi Desert	134
Minqin Sandy Region	136
Horqin Sandy Land	138
Mu Us Sandy Land.....	140

7 Impacts of Large-scale Projects

Qinghai-Xizang Railway.....	144
Impacts of Major Projects - Nagqu, Xizang	146
South-to-North Water Diversion Project.....	148
Reseeflement in Xichuan, Henan	150
The Three Gorges Project.....	152
Three-North Shelterbelts Project.....	156
Baiquan, Heilongjiang	157
Grain for Green Project	158
Wuqi, Shaanxi.....	160
Yanchuan, Shaanxi	162
Zichang, Shaanxi	163
Yan'an, Shaanxi	164

8 Natural Hazards and Prevention

Flood	168
Fuyuan.....	168
Dongting Hu (1996)	170
Dongting Hu (1998).....	172
Forest Fire	174
Lengshuijiang.....	174
Huzhong.....	176
Drought	178
Middle and Lower Reaches of Yangtze River, 2011	178
Five Southwestern Provinces	180
Sea Ice Hazard in Liaodong Wan.....	182
Debris Flow in Zhouqu	184
References	186