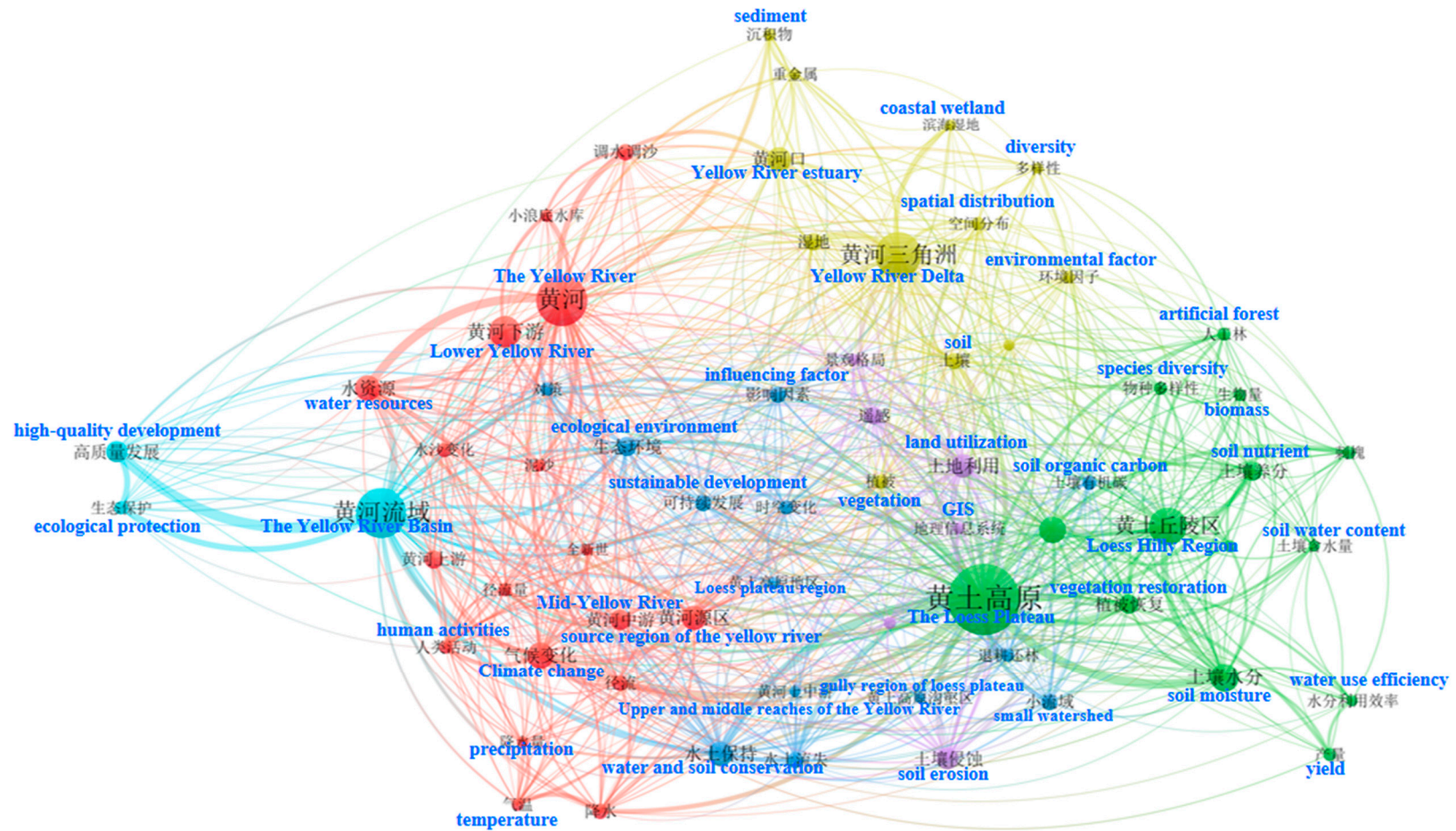
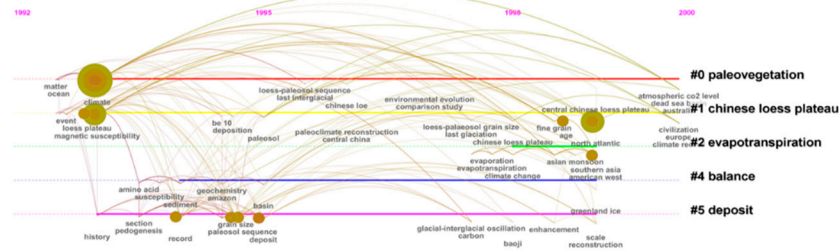


## Supplementary Figures

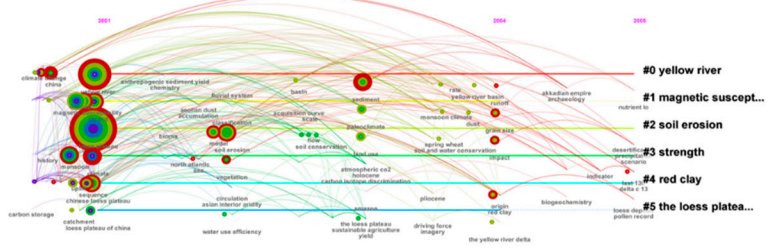


**Supplementary Figure S1. Keyword co-occurrence network map in the eco-environment research in YRB from CNKI (CSCD, CSSCI, and Core).**

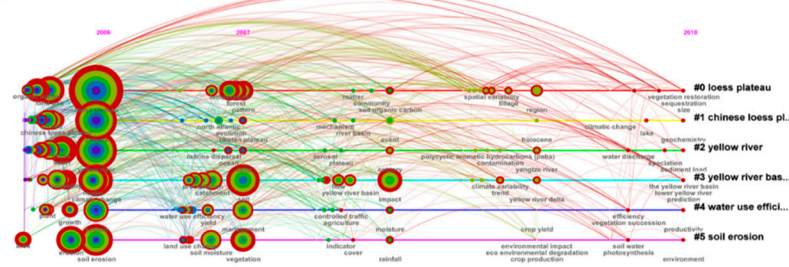
(a) 1992—2000



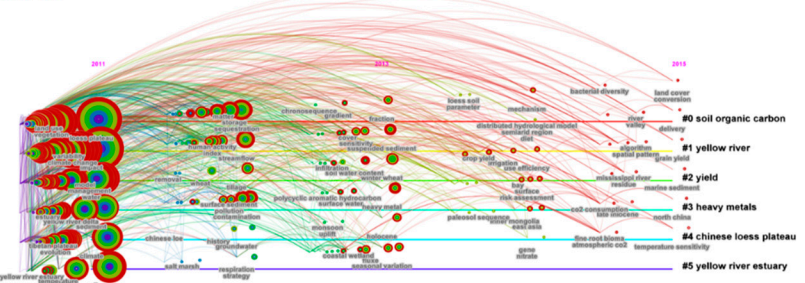
(b) 2001—2005



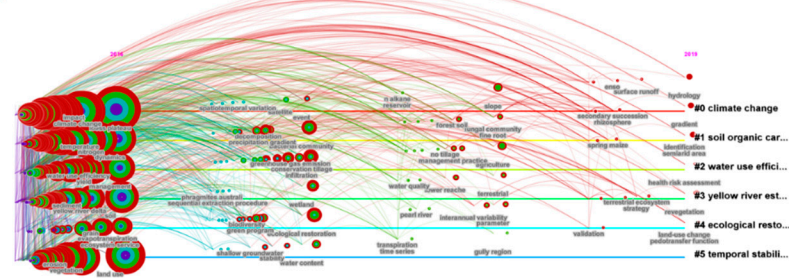
(c) 2006—2010



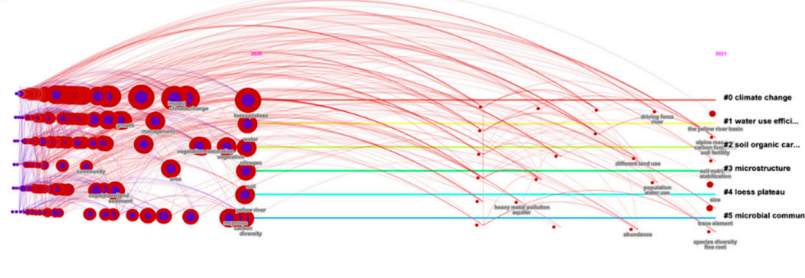
(d) 2011—2015



(e) 2016—2019

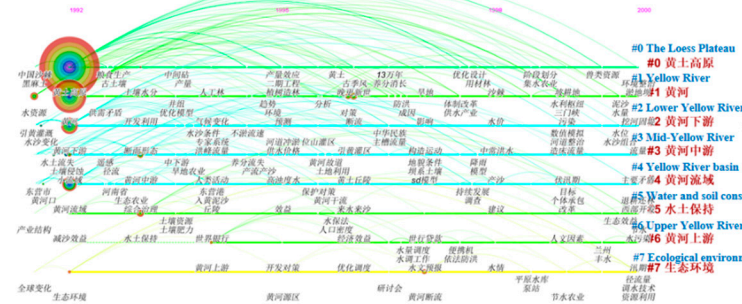


(f) 2020—2021

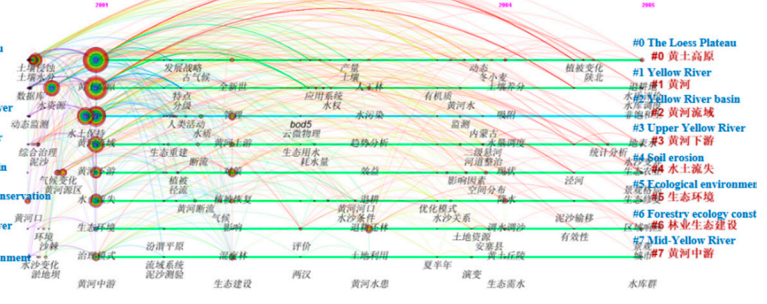


Supplementary Figure S2. Phased topic evolution map of papers in the eco-environment research in YRB from WoS platform.

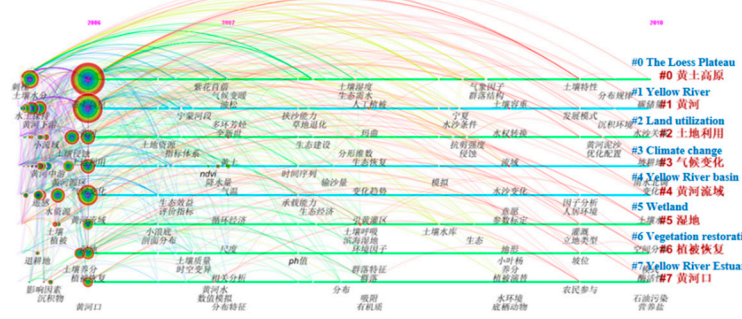
(a) 1992—2000



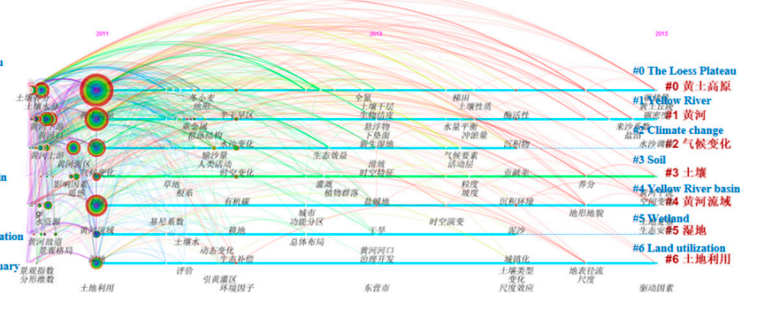
(b) 2001—2005



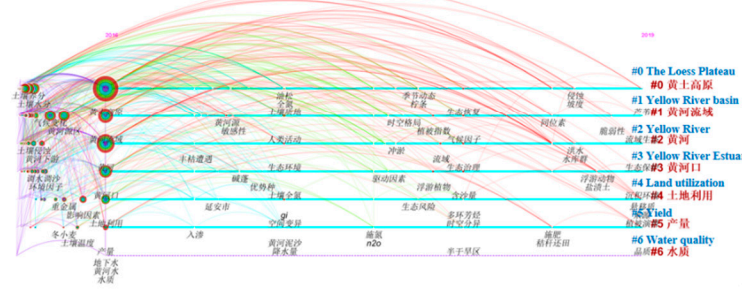
(c) 2006—2010



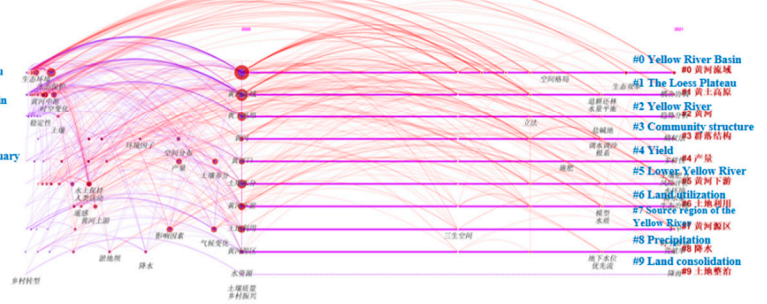
(d) 2011—2015



(e) 2016—2019



(f) 2020—2021



**Supplementary Figure S3. Phased topic evolution map of papers in the eco-environment research in YRB from CNKI (CSCD, CSSCI, and Core).**

## Supplementary Tables

**Supplementary Table S1. Highly cited scientific papers in the eco-environment research in the Yellow River Basin from WoS platform**

NO.	Title	First Author	Journal	Year	Times
1	Revegetation in China's Loess Plateau is approaching sustainable water resource limits	Feng, Xiaoming	Nat. Clim. Chang.	2016	673
2	Reduced sediment transport in the Yellow River due to anthropogenic changes	Wang, Shuai	Nat. Geosci.	2016	565
3	Soil erosion, conservation, and eco-environment changes in the loess plateau of china	Zhao, Guangju	Land Degrad. Dev.	2013	553
4	A Policy-Driven Large Scale Ecological Restoration: Quantifying Ecosystem Services Changes in the Loess Plateau of China	Lu, Yihe	PLoS One	2012	346
5	Soil moisture decline due to afforestation across the Loess Plateau, China	Jia, Xiaoxu	J. Hydrol.	2017	264
6	Quantifying the impacts of climate change and ecological restoration on streamflow changes based on a Budyko hydrological model in China's Loess Plateau	Liang, Wei	Water Resour. Res.	2015	262
7	Soil bacterial community dynamics reflect changes in plant community and soil properties during the secondary succession of abandoned farmland in the Loess Plateau	Zhang, Chao	Soil Biol. Biochem.	2016	251
8	Occurrence and Health Implication of Fluoride in Groundwater of Loess Aquifer in the Chinese Loess Plateau: A Case Study of Tongchuan, Northwest China	Li, Peiyue	Expo. Health	2019	246
9	Assessment of heavy metals contamination in sediments from three adjacent regions of the Yellow River using metal chemical fractions and multivariate analysis techniques	Ma, Xiaoling	Chemosphere	2016	239
10	Spatiotemporal vegetation cover variations associated with climate change and ecological restoration in the Loess Plateau	Sun, Wenyi	Agric. For. Meteorol.	2015	235
11	Loess Plateau storage of Northeastern Tibetan Plateau-derived Yellow River sediment	Nie, Junsheng	Nat. Commun.	2015	225
12	Quantifying the impact of climate variability and human activities on streamflow in the middle reaches of the Yellow River basin, China	Zhao, Guangju	J. Hydrol.	2014	217
13	Effects on soil temperature, moisture, and maize yield of cultivation with ridge and furrow mulching in the rainfed area of the Loess Plateau, China	Li, Rong	Agric. Water Manage.	2013	212
14	Assessing the effects of land use and topography on soil erosion on the Loess Plateau in China	Sun, Wenyi	Catena	2014	208
15	Assessing regional virtual water flows and water footprints in the Yellow River Basin, China: A consumption based approach	Feng, Kuishuang	Appl. Geogr.	2012	198
16	Arsenic and heavy metal pollution in wetland soils from tidal freshwater and salt marshes before and after the flow-sediment regulation regime in the Yellow River Delta, China	Bai, Junhong	J. Hydrol.	2012	185
17	Characteristics, sources, water quality and health risk assessment of trace elements in river water and well water in the Chinese Loess Plateau	Xiao, Jun	Sci. Total Environ.	2019	179
18	Effects of different vegetation restoration on soil water storage and water balance in the Chinese Loess Plateau	Jian, Shengqi	Agric. For. Meteorol.	2015	176
19	Evolution of the Yellow River Delta and its relationship with runoff and sediment load from 1983 to 2011	Kong, Dongxian	J. Hydrol.	2015	168
20	Changes in extreme temperature and precipitation events in the Loess Plateau (China) during 1960-2013 under global warming	Sun, Wenyi	Atmos. Res.	2016	157

21	Spatial groundwater quality and potential health risks due to nitrate ingestion through drinking water: A case study in Yan'an City on the Loess Plateau of northwest China	Li, Peiyue	Hum. Ecol. Risk Assess.	2019	150
22	Risk assessment and source analysis of soil heavy metal pollution from lower reaches of Yellow River irrigation in China	Zhang, Pengyan	Sci. Total Environ.	2018	147
23	Hydrochemical characteristics and quality evaluation of groundwater in terms of health risks in Luohe aquifer in Wuyi County of the Chinese Loess Plateau, northwest China	He, Xiaodong	Hum. Ecol. Risk Assess.	2019	144
24	Response of temporal variation of soil moisture to vegetation restoration in semi-arid Loess Plateau, China	Yang, Lei	Catena	2014	137
25	Detecting and attributing vegetation changes on China's Loess Plateau	Li, Jingjing	Agric. For. Meteorol.	2017	127
26	Effects of precipitation and restoration vegetation on soil erosion in a semi-arid environment in the Loess Plateau, China	Zhou, Ji	Catena	2016	125
27	Use of biochar-compost to improve properties and productivity of the degraded coastal soil in the Yellow River Delta, China	Luo, Xianxiang	J. Soils Sediments	2017	118
28	Statistical and multivariate statistical techniques to trace the sources and affecting factors of groundwater pollution in a rapidly growing city on the Chinese Loess Plateau	Wu, Jianhua	Hum. Ecol. Risk Assess.	2020	113
29	Ecoenzymatic stoichiometry and microbial nutrient limitation in rhizosphere soil in the arid area of the northern Loess Plateau, China	Cui, Yongxing	Soil Biol. Biochem.	2018	112
30	Distribution and characteristics of landslide in Loess Plateau: A case study in Shaanxi province	Zhuang, Jianqi	Eng. Geol.	2018	111
31	Comprehensive understanding of groundwater quality for domestic and agricultural purposes in terms of health risks in a coal mine area of the Ordos basin, north of the Chinese Loess Plateau	Wu, Jianhua	Environ. Earth Sci.	2019	110
32	Impacts of climate change and human activities on grassland vegetation variation in the Chinese Loess Plateau	Zheng, Kai	Sci. Total Environ.	2019	106
33	Surface Water Pollution in the Middle Chinese Loess Plateau with Special Focus on Hexavalent Chromium (Cr6+): Occurrence, Sources and Health Risks	He, Xiaodong	Expo. Health	2020	101
34	A fluidized landslide occurred in the Loess Plateau: A study on loess landslide in South Jingyang tableland	Leng, Yanqiu	Eng. Geol.	2018	93
35	Distribution of microplastics in surface water of the lower Yellow River near estuary	Han, Mei	Sci. Total Environ.	2020	86
36	Assessment of the sustainability of <i>Gymnocypris eckloni</i> habitat under river damming in the source region of the Yellow River	Quan, Quan	Sci. Total Environ.	2021	37
37	Biochar and effective microorganisms promote <i>Sesbania cannabina</i> growth and soil quality in the coastal saline-alkali soil of the Yellow River Delta, China	Cui, Qian	Sci. Total Environ.	2021	31
38	Quantitative contributions of climate change and human activities to vegetation changes over multiple time scales on the Loess Plateau	Shi, Shangyu	Sci. Total Environ.	2021	31
39	Coupling coordination degree of production, living and ecological spaces and its influencing factors in the Yellow River Basin	Li, Jiangsu	J. Clean Prod.	2021	30
40	Spatial-temporal dynamics of agricultural drought in the Loess Plateau under a changing environment: Characteristics and potential influencing factors	Han, Zhiming	Agric. Water Manage.	2021	23
41	Land Use Transition and Driving Forces in Chinese Loess Plateau: A Case Study from Pu County, Shanxi Province	Huang, Han	Land	2021	16

**Supplementary Table S2. TOP 20 Highly cited scientific papers in the eco-environment research in the Yellow River Basin from CNKI (in English)**

NO.	Title	First Author	Journal	Year	Times
1	The effect of land use change on the regional environment in the YangJuanGou catchment in the loess plateau of China	Fu, Bojie	Acta Geographica Sinica	1999	1145
2	Analysis of impact of human activity on landscape structure in Yellow River Delta——A case study of Dongying Region	Chen, Lixiang	Acta Ecologica Sinica	1996	893
3	Quantitative Study on Spatial Variation of Soil Erosion in a Small Watershed in the Loess Hilly Region	Jiang, Shanzhong	Journal of Soil Erosion and Soil Conservation	1996	670
4	<i>Impacts of climate change and human activities on vegetation cover changes in the Loess Plateau</i>	Xin, Baozhong	Scientia Sinica (Terrae)	2007	549
5	Regional Ecological Risk Assessment of Wetland in the Huanghe River Delt	Xu, Xuegong	Acta Scientiarum Naturalium Universitatis Pekinensis	2001	519
6	Effects of forest on water circle on the Loess Plateau	Li, Yushan	Journal of Natural Resources	2001	470
7	Process-based soil erosion and sediment yield model in a small basin in the Hiliy Loess Region	Cai, Guoqiang	Acta Geographica Sinica	1996	393
8	Effects of land use and vegetation restoration on soil quality in a small catchment of the Loess Plateau	Gong, Jie	Chinese Journal of Applied Ecology	2004	383
9	Soil water resources and afforestation in Loess Plateau	Yang, Wenzhi	Journal of Natural Resources	2001	377
10	Changes of pan evaporation in the recent 40 years over the Yellow River Basin	Qiu, Mingfa	Journal of Natural Resources	2003	376
11	Spatiotemporal variability of Soil Moisture in Small Catchment on Loess Plateau--Semivariograms	Wang, Jun	Acta Geographica Sinica	2000	376
12	Effect of Vegetation Restoration on Soil Nutrient Changes in Zhifanggou Watershed of Loess Hilly Region	Wang, Guoliang	Bulletin of Soil and Water Conservation	2002	372
13	Spatial Heterogeneity of Soil Nutrients in a Small Catchment of the Loess Plateau	Wang, Jun	Acta Ecologica Sinica	2002	369
14	Long-term trend of precipitation in the Yellow River basin during the past 50 years	Xu, Zongxue	Geographical Research	2006	364
15	Effect simulations of land use change on the runoff and erosion for a Gully Catchment of the Loess Plateau, China	Fu, Bojie	Acta Geographica Sinica	2002	354
16	Comparison of grain-size distribution of Red Clay and Loess-paleosol deposits in Chinese Loess Placat	Lu, Huayu	Acta Sedimentologica Sinica	1999	321
17	Landscape pattern of rural residential areas in Yellow River Delta in recent 20 years	Cai, Weimin	Resources Science	2004	313
18	<i>Influence of land use structure on soil nutrient distribution in loess hilly region</i>	Fu, Bojie	Chinese Science Bulletin	1998	313
19	Soil ecological stoichiometry under different vegetation area on loess hilly-gully region	Zhu, Qiulian	Acta Ecologica Sinica	2013	305
20	The study of salt-affected soils in the Yellow River Delta based on Remote Sensing	Guan, Yunxiu	National Remote Sensing Bulletin	2001	298