

# Development of Data DOI in China

DOI Registration and Service Center



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# ISTIC & Wanfang Data as DOI RA

## ■ Started from early 2007

- Prepared from 2006
- Authorized by IDF in March, 2007
- Board member
- Brand “Chinese DOI”

## ■ Nonprofit service

- ISTIC, national institute under MOST, providing public welfare service
- Wanfang Data
  - Wanfang Data Co., Ltd. in 2000, ISTIC is the main share holder
  - The first database development company in China (WanfangData Inc. in 1993)
  - Now the main STM information service provider of China

## ■ Focusing on the promotion of linking and sharing of Chinese content with DOI services

- Highlighted in STM Journals, Science Data as a beginning
- Setup the portal and service website and system
- Operation and promotion of DOI registration, resolution and value-added service

# Chinese DOI Status

- **23,455,857 DOIs now**
  - 2nd place in IDF RAs
  - 22,000,000+ Journal DOIs, covered 6900+ Titles
    - 300+ STM key journal titles of China
    - 5500+ titles of Wanfang Data database, paid by Wanfang Data since 2009
    - 1100+ STM stand-alone titles which have their own websites
  - 1,429,000+ Dissertation DOIs, covered 400+ universities
  - Science data (16,000+ DOIs)
    - Species Plantarum, Environment ecology , Geo-informatics , Biomedicine.....
  - Images and Figures related to Journal article or Science Data(experimental)
  - E-Book and Conference Proceedings (5000+)

# Research data production & utilization in China



- **Tremendous quantity of research data is produced by institutes and research teams**
- **Data sharing and reusing take more and more attention of government and institutes**
  - MOST began to fund the building of research data sharing platforms of varied disciplines 10 years ago, such as fundamental science (<http://www.nsd.cn/>), earth system science (<http://www2.geodata.cn/>, 1209 datasets), population and health (<http://www.ncmi.cn>), agriculture science (<http://www.agridata.cn/>) .....
  - many institutes build their own data center to manage and publish research data, such as Cold and Arid Regions Data Center(<http://westdc.westgis.ac.cn/>, 1459 datasets), Global Change Research Data Publishing & Repository (<http://geodoi.ac.cn/>, 60 datasets) .....
- **Intellectual property of research data is still not clear; contribution of data to science research is hard to evaluated; contribution of data producer has not been recognized and awarded**
- **Data producers are not willing to share data, other researchers can't reuse data**

# Data DOI as a Main Service

- **One of most important aim of Chinese DOI is to promote sharing and reusing of research data**
  - Identifying and linking of datasets
  - Linking and citing between datasets and S&T literature
  - Tracing and metering of datasets using
- **Mission**
  - DOI service for research data
  - Research and standardization of data citation
  - Promotion of data sharing and using

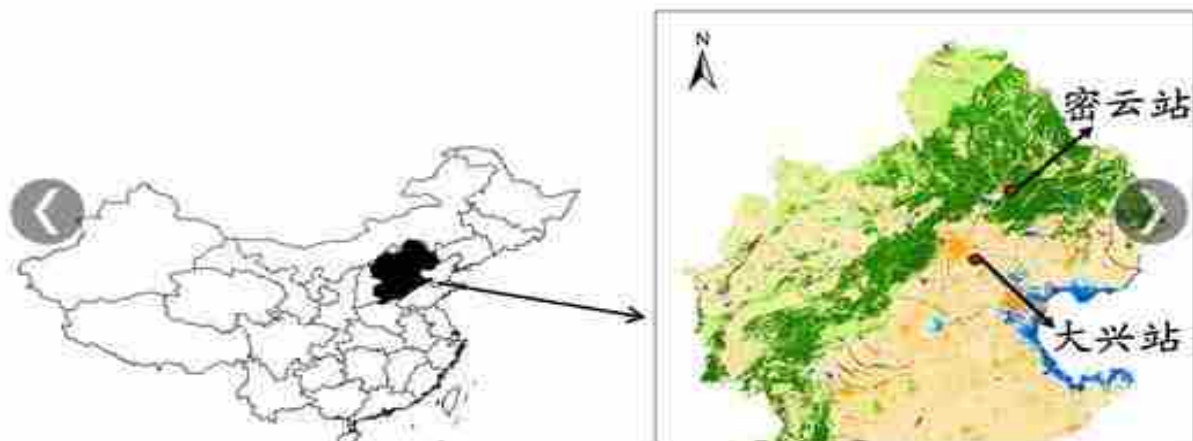
# Status of Research Data DOI



- **Began from year 2008**
  - DOI registration for research datasets
  - Query metadata of research datasets
  - DOI registration and resolution statistic report by month
  - DOI Citation Formattor (beta), Chinese version, shared service by DataCite, CrossRef, mEDRA and Chinese DOI
- **16,000+ Research data DOI, from 20+ members**
  - Research area: Species Plantarum, Environment ecology , Geoinformatics , bio-medicine.....
  - Members: National e-science platform, Cold and Arid Regions Environmental and Engineering Research Institute , Institute of Geographic Sciences and Natural Resources Research, Polar Research Institute of China , National Geomatic Center of China, Institute of Soil Science (Nanjing), Computer Network Information Center(CNIC) .....

# Promote Research Data Publishing with DOI Service

- **Members of research data DOI increased 3 times since 2014, from most important institutes in China**
- **Data centers provide storage, reviewing, DOI data submission(as a registrant, register DOI in Chinese DOI), publishing service for research data**
  - WestDC (<http://westdc.westgis.ac.cn/>), 7th data center worldwide approved by Scientific Data (published by NPG), datasets published by them indexed by DCI



海河流域多尺度地表通量与气象要素观测数据集数据正式发布 [2014-01-13]

### 新闻

### 帮助

- 数据中心用天地图替换了Google Maps [2014-06-15]
- 寒旱区科学大数据中心揭牌 [2014-06-08]
- CARD has signed the LoA with WDS Scientific Committee [2014-05-30]
- 【公开信】尊重数据知识产权，规范科学数据引用 [2014-05-24]
- Watershed Allied Telemetry Experimental Research (WATER) datasets is indexed by Data Citation Index (DCI) [2014-05-15]
- CARD become a recommended data repository of Nature Scientific Data [2014-05-09]
- 致用户：2014-4-22数据丢失情况说明 [2014-04-22]
- 中科院寒旱所与中国人民解放军某部签署战略合作 [2014-04-11]

### 在线下载热门数据

- 中国地区长时间序列SPOT\_Vegetation植被指数数据集
- 中国地区土地覆盖综合数据集
- 基于世界土壤数据库 (HWSD) 的中国土壤数据集 (V1.1)
- 中国地区长时间序列GIMMS植被指数数据集
- 中国1km分辨率数字高程模型数据集

### 离线申请热门数据

- 中国1:400万植被图
- 中国1:100万植被数据集
- 黑河流域1:100万植被类型图
- 中国土壤特征数据集
- 我国西部干旱环境的演变规律与发展趋势项目的汇交数据

### 最新注册DOI数据

[2014-09-24]孙自永. 2012年葫芦沟小流域1:50000地质图草图. 寒区旱区科学数据中心, 2014.  
doi:10.3972/heihe.102.2014.db

[2014-09-24]赵成章. 黑河流域农户家庭经济活动和家庭特性因素、主要家庭畜牧活动分异特征数据. 黑河计划数据管理中心, 2014. doi:10.3972/heihe.101.2014.db

[2014-09-24]王庆峰. 黑河流域空气冻融指数. 黑河计划数据管理中心, 2014.  
doi:10.3972/heihe.099.2014.db

[2014-09-24]孙峰. 2001-2012年黑河流域1km分辨率地表反照率数据集. 黑河计划数据管理中心, 2014.  
doi:10.3972/heihe.098.2014.db



WATER datasets has published in Cold and Arid Regions Science Data Center (CARD), the Chinese version is available at <http://westdc.westgis.ac.cn/water>, and it is indexed by DOI now.

The screenshot shows the Web of Science search results page. The top navigation bar includes the 'WEB OF SCIENCE' logo and the Thomson Reuters logo. The search results are displayed in a list format with the following entries:

Rank	Title	Year
1	WATER: Dataset of automatic meteorological observations at the Yingke oasis station	2016
2	WATER: Dataset of automatic meteorological observations at the Atoy freestraw observation station	2016
3	WATER: Dataset of eddy covariance observations at the Yingke oasis station	2017
4	WATER: Dataset of eddy covariance observations at the Atoy freestraw observation station	2017

Each entry includes the authors' names (e.g., Mingqun, Ma, Weiduo, Wang, Guanghui, Huang), the affiliation (Cold and Arid Regions Science Data Center at Lanzhou), and a DOI link. The interface also features a sidebar with search filters and a top navigation menu.

# Promote Research Data Publishing with DOI Service

- **Joint publishing of journal paper & dataset with DOI**
  - Global Change Research Data Publishing & Repository ( <http://geodoi.ac.cn/> )
  - Dataset publishing , register DOI for dataset
  - Data Papers (published in ACTA GEOGRAPHICA SINICA, have their own DOIs)  
cite datasets with DOI

# 全球变化科学数据注册与出版系统

DOI: 10.3974

Global Change Research Data Publishing & Repository

主办：中国科学院地理科学与资源研究所 中国地理学会 科技资源支撑中心  
 协办：CODATA 发展中国家主任工作组 数字化地球地理数据联盟 中国GEO数据库

首页 | 数据投稿 | 数据目录 | 数据检索 | 共享政策 | 技术文档 | 共享服务 | 出版联盟 | 中国GEOSS | 联系我们

数据集(共)目录 | 数据检索

最新动态

2014年第01期

国际科学数据大会定于2014年11月2-5日在印度新德里举行

数据详情

- 世界屋脊生态地理区区域界线地理信...
- 贵州喀斯特地貌土地覆被分布
- 中国农田灌溉与地理分布数据
- 海洋沉积区地质标志2002年土壤...
- 长江中下游地区冬雨日地理分布数据
- 中国植物地理区划北京双喜图植物数据...
- 中国公路里程GDP分省数据集
- 中国地理—数据—世纪百年林图
- 世界屋脊生态地理区山地荒漠化数据集...
- 世界屋脊生态地理区地形坡度数据集...
- 中国分省主要森林河流数据集更新
- 1952-2007年中国白蜡树害...
- 中国公路网人口分布数据集

## 世界屋脊生态地理区区域界线地理信息系统

刘闯<sup>1</sup> 石瑞香<sup>1</sup> 陈文波<sup>2</sup>

1 中国科学院地理科学与资源研究所 2 日本庆应义

DOI:10.3974/geodb.2014.01.01.V

浏览次数: 327 下载次数: 82 下载量: 6258

### 数据引用方式:

刘闯,石瑞香,陈文波.2014.世界屋脊生态WBND),全球变化科学数据注册与出版系统  
<http://www.geodoi.ac.cn/doi.aspx?DOI=>

### 数据论文全文浏览和下载:

下载

### 数据下载:

序号	数据名
1	ROTWBND.kmz



图5. 河西走廊甘肃省玉门市昌马乡附近鹰嘴山与野马山的地理位置与界线划分遥感影像校正图 (google earth)

### 3.4 行政区划数据在数据融合中的应用

世界屋脊生态地理区涉及到九个国家的地理疆域,采用中国基础地理信息中心提供的1:100万比例尺中国国界地理信息系统数据和世界行政区划地理信息系统数据 (<http://www.gadm.org/Version2.2012>) 作为划分世界屋脊生态地理区中国境内数据分割和世界屋脊生态地理区区域界线中各段划分的主要参考数据。

## 4. 数据结果

### 4.1 数据结果

世界屋脊生态地理区区域界线数据集由二部分数据组成,其一为世界屋脊生态地理区区域界线数据,其二是世界屋脊生态地理区中国境内数据,共包括4个数据文件,它们分别为: rotwbnd.zip, rotwbnd.kmz, rotwbnd\_China.zip, rotwbnd\_China.kmz. 其中:

- (1) rotwbnd.zip, ARCGIS 格式的世界屋脊生态地理区界线地理信息系统.shp压缩数据,数据量1.09MB.
- (2) rotwbnd.kmz, Google Earth 格式的世界屋脊生态地理区界线地理信息系统数据,数据量729KB.
- (3) rotwbnd\_China.zip, ARCGIS 格式的世界屋脊生态地理区界线中国境内地理信息系统.shp压缩数据,数据量748KB.
- (4) rotwbnd\_China.kmz, Google Earth 格式的世界屋脊生态地理区界线中国境内地理信息系统数据,数据量446KB.

## 世界屋脊生态地理区区域划分界线及其数据成果

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 2. 日本庆应义塾大学SFC研究所, 藤泽 2520882)

**摘要:** 在中尺度地球观测系统数据支持下, 开展在定量化和数字化基础上的综合生态地理区划研究是现代地理学重要方法论。世界屋脊生态地理区是世界海拔高度最高的地理区域, 包括: 青藏高原、横断山脉、喜马拉雅山脉、兴都库什山脉、帕米尔高原等。地理区域范围涉及中国、缅甸、尼泊尔、不丹、印度、巴基斯坦、阿富汗、塔吉克斯坦、吉尔吉斯斯坦等国家。本文对该区域界线地理信息系统数据的基本属性、特征和共享方式等给予了说明, 详细论证了在30 m空间分辨率尺度上划分世界屋脊生态地理区的理论依据和数据融合方法。在世界屋脊生态地理区区域界线产生过程中, 首要的因素是以海拔高度4000 m为基准, 融合了地形坡度, 参考了山体完整性和生态系统整体性地理要素数据和遥感影像数据。世界屋脊生态地理区界线长度以兰伯特投影计算, 边界总长度22 089 km。该区域面积以阿尔伯斯投影计算, 总面积为4 000 947 km<sup>2</sup>。结合世界屋脊生态地理区周围地理环境, 该界线数据划分为40个不同的界线段, 其各段数据也予以分别列出。本文对世界屋脊生态地理区东南部与四川盆地、云贵高原、横断山脉接壤段的过渡地域的区划地域归属问题予以了重点讨论。

**关键词:** 世界屋脊; 青藏高原; 兴都库什—喜马拉雅; 生态地理区; 界线数据

DOI: 10.11821/dlxb2014S001

**数据引用格式:** 刘闯, 石瑞香, 陈文波. 世界屋脊生态地理区界线地理信息系统数据集. 全球变化科学研究数据出版系统, 2014. DOI: 10.3974/geodb.2014.01.01.v1, <http://www.geodoi.ac.cn/doi.aspx?doi=10.3974/geodb.2014.01.01.v1>

[13] 刘闯, 石瑞香, 吕婷婷等. 世界屋脊生态地理区

DOI: 10.3974/geodb.2014.01.02.v1

[14] 刘闯, 石瑞香, 吕婷婷等. 世界屋脊生态地理区

DOI: 10.3974/geodb.2014.01.03.v1

[18] 张德理, 李婧元, 郑彦. 青藏高原界线地理信息

doi: 10.3974/geodoi.2014.01.12.v1

# Data Journal

- **First data journal in China**
  - 《China Scientific Data》 , online publishing journal
  - Publish data papers for science research
  - Approved by SAPPRT (State Administration of Press, Publication, Radio, Film and Television), Sept. 2015
  - Data set must be submitted to appointed research data repository ( [www.scidb.cn](http://www.scidb.cn) ) when data paper is submitted to the journal
  - Published by CNIC, CAS. Member of Chinese DOI, prepare to apply DOIs for their datasets and data papers, and cite datasets by DOI in data papers' citation

# Data Journal

- **First data**

- 《China
- Publish da
- Approved
- Publicatio
- Data set n
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- Published
- apply DOI
- by DOI in



The screenshot shows the homepage of the Chinese Science Data Journal. At the top, there is a navigation bar with links for '首页' (Home), '编委会' (Editorial Board), '作者须知' (Author Guidelines), and '关于我们' (About Us). The main content area features a large blue banner with the title '数据出版使命' (Mission of Data Publishing). Below the banner, there are two prominent buttons: '在线提交论文' (Online Paper Submission) and '访问SciDB' (Access SciDB). A '喜报' (Good News) box on the right side of the banner announces that the journal has been approved for a national unified continuous publication license (CN11-6035/N) and a new advertising license (2015)879号. Below the banner, there are sections for '论文样例' (Paper Examples) and '论文模板' (Paper Templates). The bottom section displays a list of articles, including one titled '中国土种数据库——基于第二次土壤普查的全国性土壤数据集' (Chinese Soil Type Database - National Soil Data Set Based on the Second National Soil Survey), with author information and the institution '中国科学院南京土壤所' (Institute of Soil Science, Chinese Academy of Sciences).

# Data Citation format

- **ISTIC research project : Research on Integration Technology and Comprehensive Utilization Service System of Information Resources**
  - Data citation format : Author. Dataset Title. Publisher. Publishing Date. DOI
  - Example : Chai Linna, Zhao Shaojie, Kou Xiaokang, Ye Qinyu. HiWATER : Dataset of Soil freeze/thaw experiment Observed in the middle reaches of the Heihe River Basin from Nov. 24 to Nov. 25, 2013. Beijing Normal University. 2015. 10.3972/hiwater.272.2015.db
- **National standard: Scientific Data Citation**
  - ISTIC's suggestion of national standard project- Scientific Data Citation Format in 2014
  - Drafting of national standard-Information Technology, Scientific Data Citation , organized by CNIC under CAS
  - Survey on data citation format of other countries
  - discussion about identifiers, such as DOI, OID etc.
  - Data citation format : Author. Dataset Title. Publisher[发布机构], Publishing Year. Disseminator [传播机构], Disseminating Year. Identifier; URL.
  - Example: 中国科学院地理科学与资源研究所.人地系统主题数据库元数据标准 (V2.0).中国科学院地理科学与资源研究所[发布机构],2010.中国科学院计算机网络信息中心中心[传播机构],2011-01-19.csdb:cn. csdb.TR-REC-015-01;http://citation.csdb.cn/csdb:cn.csdb.TR-REC-015-01.

**Thank You**  
**for Your Kind Attention!**  
ご清聴ありがとうございました