# Framwork and development strategy of WDC-RRE

**Institute of Geographic Sciences and Natural Resources Research,**

**Chinese Academy of Sciences**

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# 1. WDC-RRE's mission and goals

WDC-RRE's history: WDC-RRE was established in 1988 and was originally under the former ICSU-WDS. Professor Sun Junlin from the Institute of Geographic Sciences and Natural Resources Research was WDC-RRE's first chairman. In 2008, after WDS was established, WDC-RRE applied for membership to the WDS and was accepted as a regular member of WDS. Since 2012, Professor Wang Juanle from the Institute of Geographic Sciences and Natural Resources Research has been serving as the chairman of WDC-RRE.

WDC-RRE's mission: WDC-RRE ensures the long-term stewardship and provision of quality-assessed data and data services to the international science community and other stakeholders. WDC-RRE strives to become a long-term data archiving and sharing centre in the resources and environmental field in China.

WDC-RRE's vision: WDC-RRE shall enable universal and equitable access to quality-assured scientific data, data services, products, and information; ensure long-term data stewardship; foster compliance to agreed-upon data standards and conventions; and provide mechanisms to facilitate and improve access to data in WDC-RRE.

# 2. WDC-RRE's resource architecture

WDC-RRE's organizational structure: WDC-RRE is a part of ISCU-WDS. WDC-RRE is based on the Institute of Geographic Sciences and Natural Resources Research. Members of WDC-RRE's support team are part of the Earth Data Sciences and Sharing Research Laboratory. Professor Wang Juanle, the chairman of the centre, is also the deputy director of the Earth Data Sciences and Sharing Research Laboratory.

WDC-RRE's data architecture: WDC-RRE's data mainly includes a basic geographic database, nature resources database, population and social economy database, disaster risk reduction database, land use and land cover database, loess plateau agriculture and environment database, temperature spatial database, and a regional and thematic database from China and other regions around the world.

WDC-RRE's technology architecture: WDC-RRE preferentially selects open-source and open technology architecture. In data management, WDC-RRE complies with pertinent technical

specifications that are internationally formulated and in this centre. The PYCSW technical framework was used to establish data management systems and allows our metadata standards to be compatible with other international and national standards. At the same time, WDC-RRE is also the technical support unit for WDS's China Data Portal.

## 3. WDC-RRE's management strategies

WDC-RRE's operational management: To ensure continuous operation of the WDC-RRE platform, basic facility and site conditions should be present. The data centre has established a corresponding organizational structure and consultation agencies such as expert committee, user committee, among others.

WDC-RRE's data management: Centralized management is performed for all metadata in this platform. Data management should be performed according to relevant specifications. Systemic updates and expansion of secondary data are carried out in the data centre every year.

WDC-RRE's service management: The data centre website should provide friendly data co-sharing capabilities. The data centre should ensure that the system will run continuously for $24 \times 7$, and the length of downtime from any cause should not exceed 10 days. The services provided by the data centre to users can be classified into data enquiry, browsing, download, other data content services and data information, and knowledge dissemination services.

## 4. WDC-RRE's guarantee mechanisms

WDC-RRE's policy guarantees: WDC-RRE has a collaboration agreement between ICSU and the institution where the data centre is affiliated. Simultaneously, the Chinese government has formulated relevant laws and regulations to promote data sharing, such as the Law of the People's Republic of China on Progress of Science and Technology (http://www.gov.cn/flfg/2007-12/29/content_847331.htm) and State Administrative Measures for Scientific Data Management (http://www.gov.cn/zhengce/content/2018-04-02/content_5279272.htm), among others.

WDC-RRE's fund guarantees: WDC-RRE belongs to the Institute of Geographic Sciences and Natural Resources Research. The operation of its data centre is supported by funding from the Chinese Academy of Sciences Informationalization Project and the National Science and

Technology Infrastructure Program. Currently, the collaboration limit for relevant funding support is up to the year 2022.

WDC-RRE's manpower guarantees: The WDC-RRE operation and maintenance team are mainly drawn from the Institute of Geographic Sciences and Natural Resources Research. The centre has 14 full-time employees and nearly 20 project-specific and part-time employees.

If there are any suggestions or comments about this document, please contact us:

Tel:+86-10-64889048-8006

E-mail: wdc-rre@lreis.ac.cn

Address：11A, Datun Road, Chaoyang District, Beijing, 100101, China, Institute of Geographic Sciences and Natural Resources Research, CAS.