

Recent Trends of Social Science Data in Japan

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Research Center for Open Science and Data Platform (RCOS),

National Institute of Informatics (NII)





About me

- My Job
 - As a data librarian
 - Sept. 2019 Present
 National Institute of Informatics, Research Center for Open Science and Data Platform
 - Oct. 2018 Aug. 2019
 The Tokyo Foundation for Policy Research Policy Data Lab
 - As an academic librarian
 - Sept. 2005 Sept. 2018
 National Institute of Polar Research Library



• July 2007 - Mar. 2008
Participated 49th Japanese Antarctic Research Expedition (JARE) Summer Party



- Metadata Management
- Research Data Management

http://researchmap.jp/minamiyama_yasuyuki





Library-outside experience











Outline

1. Actual situation of research data sharing in Japan

2. Policy developments in Japan related to open science

3. How to obtain Japanese social science data

 Japanese activities related to the ensuring of research data management human resources



1. Actual situation of research data sharing in Japan

Overview: Types of available data related to social sciences in Japan

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	Types of available data	Data archive					
Public statistical data	(1) Population census(2) Trade statistics(3) Budgets and financial data	 e-Gov e-Stat data.go.jp Statistics Bureau of Japan 					
data	Examples: (1) Survey of Japanese People's Life Values (2) Survey on State of New Business Start-ups (3) Some public opinion polls	 SSJDA Keio University Panel Data Center Rikkyo University Data Archive					



So, how have researchers "actually" been sharing the data?



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Insights 1: actual situation of research data sharing (Sociology)

- "There is a lot of qualitative data in each researcher's context, so the culture of data sharing is still unfamiliar"
 - Background information of data has not been enough verbalized
 - Importance of "human networks" has been emphasized
- "There is no mechanism for sharing data. It is the only way that researchers get research data information from conference presentations/published papers/books"
- To obtain other researcher's data:
 - ✔ Become their graduate student
 - ✔ Propose the joint research after accumulating some achievements



Insights 2: actual situation of research data sharing (Political science) 1/2

- "There is a person who is responsible for storing master data in the research group. Our data will be stored in SSJDA after the end of the study, but some data has not been deposited yet for the following reasons:"
 - No documentation time (it is hard to gather past dissipated data information)
 - Do not understand right processing for newspaper-originated data
- "Data sharing is often taking place between researchers, but the response differs depending on the situation"
 - From a graduate student: contact their supervisor and confirm how the data will be used
 - From a researcher: request an acknowledgment



Insights 2: actual situation of research data sharing (Political science) 2/2

- "Secondary analysis is common for my discipline, but it may be faster to make appropriate data myself"
 - Currently, aggregate data is not be handled by SSJDA
 - There is another problem with whether students can make accurate data...
- To obtain other researcher's data:
 - Contact the research group following their style
 - Look for appropriate data archive



Insights 3: actual situation of research data sharing (Economics)

- "I may use public data in my paper, but I want to use the latest data in conference materials"
 - not yet published on the website such as e-Stat
 - The latest tax statistics can be picked up from the National Tax Agency's Statistical Yearbook (only available in PDF format)
- "In some cases, I will contact directly with the person in charge"
 - They often have accurate and easy-to-use data
- To obtain appropriate data:
 - Understand the purpose of use
 - Know how to contact the person in charge



Summary: Research data environment surrounding the social sciences in Japan

✓ Data sharing is mainly between research groups. Use of data archives is still limited

✓ Some data types are not handled in the data archive (such as aggregated data). There may not be just easy-to-use data

✓ You may need to create data by yourself in principle, but it may be effective to contact stakeholders through appropriate routes

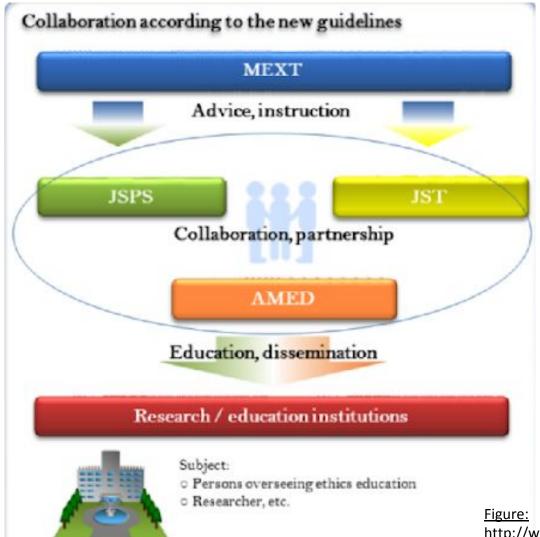


2. Policy developments in Japan related to open science

- March 2015 Cabinet Office, "Promoting Open Science in Japan"
- January 2016 "The 5th Science and Technology Basic Plan"
- February 2016 Council for Science and Technology, "Promoting Open Access to Academic Information"
- July 2016 Science Council of Japan (SCJ), "Recommendations Concerning an Approach to Open Science that Will Contributes to Open Innovation"
- June 2018 Headquarters for Japan's Economic Revitalization,
 "Growth Strategy 2018 Reform towards Society 5.0 and Data-driven Society"
- June 2018 Cabinet Office, "Guideline for Establishing Data Policy at National Research and Development Agencies"



National guidelines regarding research misconduct



'Guidelines for responding to misconduct in research' (2014.8.26)

- "Preserving and disclosing research data in research institutions for a set period"
- •JST, AMED requires their Data Management Plan in 2017
- JSPS under consideration

• Most of university / research institution adopted / corresponded this policy "Except for under special circumstances, the preservation period to be stipulated in the preservation plan shall be at least 10 years after the presentation of the said research papers"

http://www.mext.go.jp/component/english/__icsFiles/afieldfile/ 2016/02/23/1367533_005.pdf



Integrated Innovation Strategy 2019

統合イノベーション戦略2019(概要)

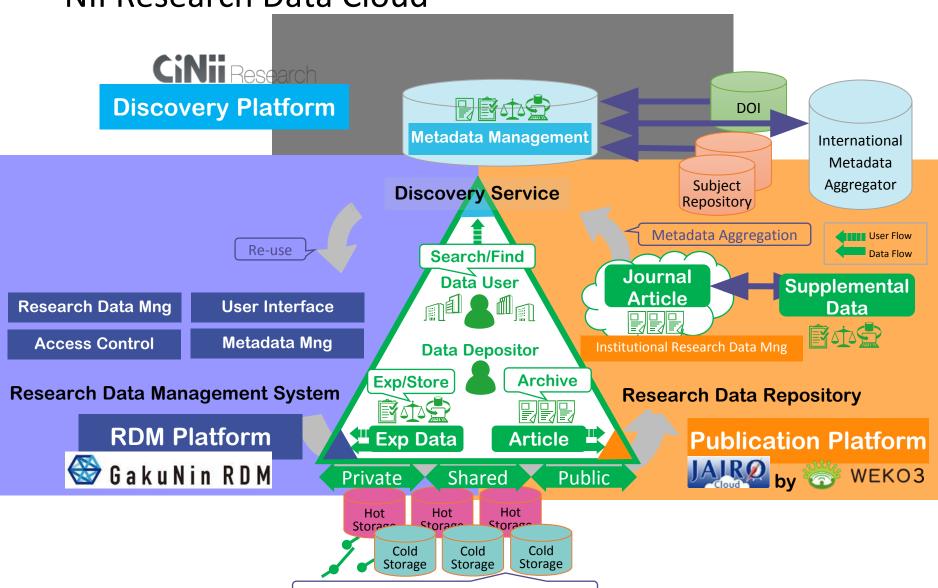
- 昨年来、科学技術イノベーションを巡る国外の進展、変化は顕著(次世代に突入したデジタル化、最先端分野のAI技術、バイオテクノロジー、量子技術の目覚ましい進展など)
- これに対し、我が国の論文の質や量については国際的地位が大幅低下、創業を通じた社会実装の力などにおいては未だ低調
- 一方、統合戦略策定後の1年間、大学改革、戦略的研究開発、政府事業・イノベーション化などの取組に進展。一部の世界競争カランキングにおいては順位を上昇**1など変化の兆しも
- こうした状況を踏まえ、①Society 5.0の社会実装、創業・政府事業のイノベーション化の推進、②研究力の強化、③国際連携の抜本的強化、④最先端(重要)分野の重点的戦略の構築を四つの柱 に統合イノベーション戦略2019を策定
- 今後、第6期基本計画策定に向け、国民全体を巻き込んだ幅広い議論を惹起すると同時に、イノベーションの司令塔機能をさらに強化



Development of research data infrastructure and repository by NII and universities/institutions



NII Research Data Cloud



Storage Area for Long-term Preservation

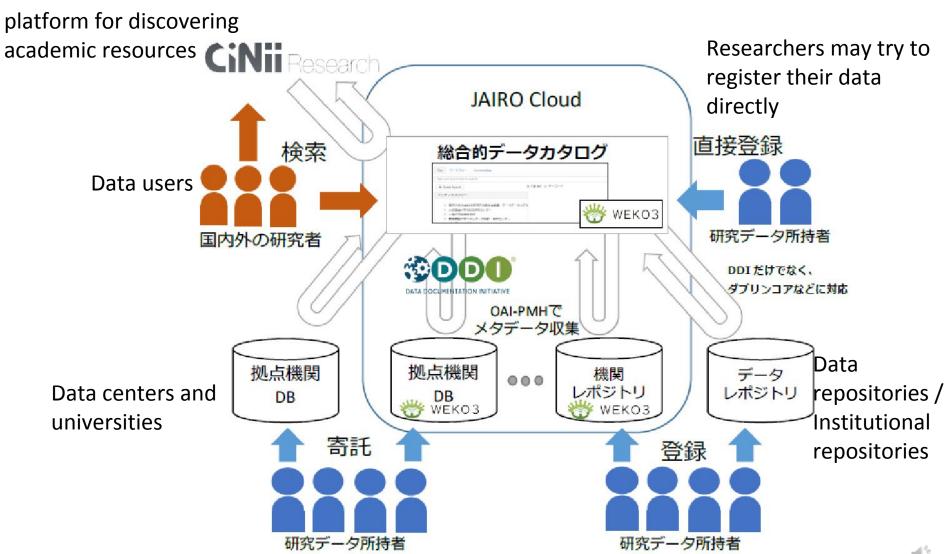
NIRCOS Research Center for Open Science and Data Platform

Program to Promote the Construction of Data Infrastructure for Humanities and Social Sciences





The image of the federate data catalog





Data held by each data centers / universities

- SSJDA:
 - Provides about 1500 individual survey data
- Hitotsubashi University:
 - Provides mainly processed data of government statistics created in each research project
- Keio University Panel Data Center:
 - Provides some household panel surveys
- JGSS:
 - Provides "Japan General Social Survey" data (regional data)



Interface image (under construction)

Type and press enter to search

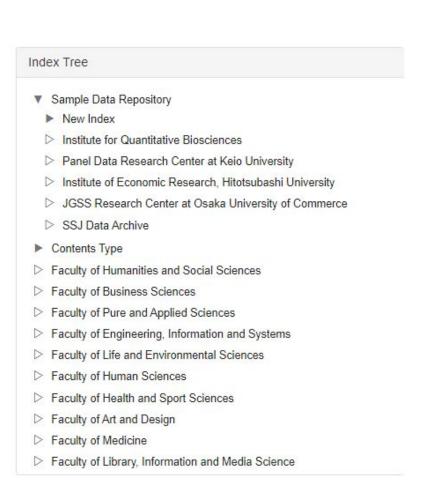
≜Export

WEK03

Тор

WorkFlow

Communities

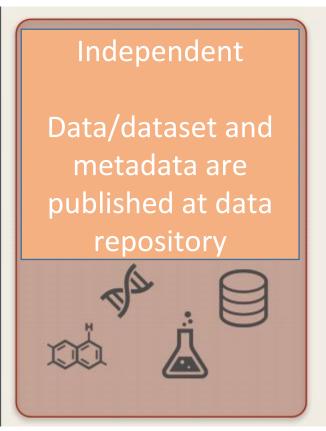


Full textKeyword Index List Sample Data Repository <1569505666479> @ SSJ Data Archive <1569505650817> @ JGSS Research Center at Osaka University of Commerce <1569979259543> @ Institute of Economic Research, Hitotsubashi University <1569979260320> @ Panel Data Research Center at Keio University <1569979676486> Institute for Quantitative Biosciences <1570161999893> @ New Index <1570232891360> Item Lists Sample Data Repository



3. How to obtain Japanese social science data:

Pattern of research data publishing







data presented within the paper # data presented at data repository



Before introduction... Caution!!





English pages on the Japanese website often have <u>less information</u> and update slowly



General catalog (for data librarians)



Contents of this document

- Precautions for use
- Japanese statistical yearbook full text
- Correct information
- "Japan Statistical Yearbook" 120 times

contact information



The 69th Japan Statistical Yearbook JAPAN STATISTICAL YEARBOOK 2020

The Japan Statistical Yearbook is a comprehensive and systematic collection of basic statistical data covering a wide range of fields, including Japan's land, population, economy, society, and culture.

Basic data is selected and edited from statistical surveys, operational statistics, and processing statistics conducted or prepared by government agencies and private research organizations in Japan.

The 69th session consists of **30 fields and 540 statistical tables**. At the beginning of each chapter, an overview of statistical research and explanations of terms are provided.

Statistical tables are also available in English, so they can be used to introduce Japan overseas.



You can read the full text from here.

Contains Japanese
public and private
statistics in various fields
(such as Japan's land,
population, economy,
society, and culture)

Also available for looking up statistics by related keywords

Unfortunately, you can download only PDF file -> You can use <u>e-Stat</u>

English translated by google: http://www.stat.go.jp/data/nenkan/index1.html





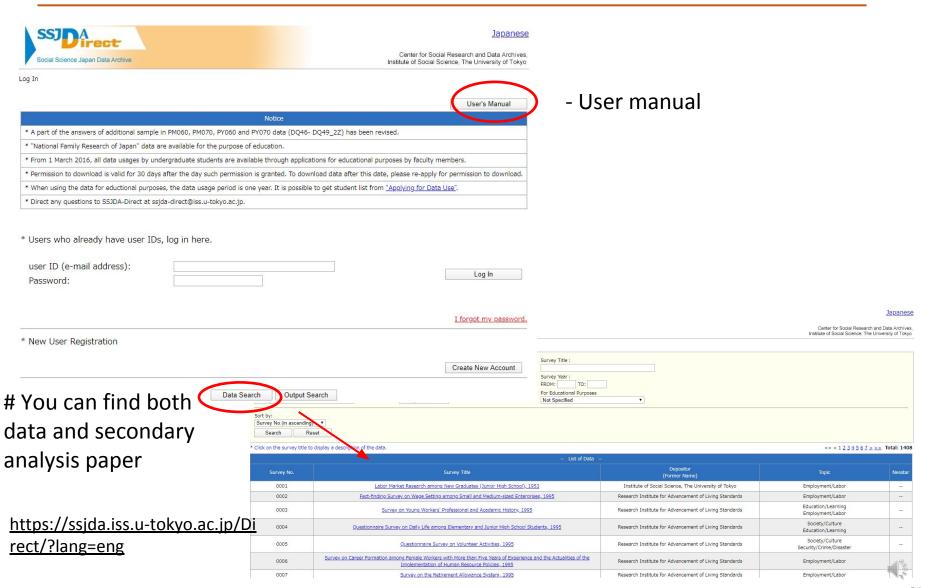
Search by category (for data librarians)

Research-Navi 思いついたキーワードを入れてください €検索 ② Top > Economy, Society, Education Visit and check リサーチ・ナビについて Science and Technology Economics, Society, Education Information Room リサーチ・ナビの使い方 This page introduces tools for finding information on economics, society, and education. In-house contract database for economic, social and educational fields 国立国会図書館に行く How to check 図書館にきく You can search by keyword for search guides that introduce related information sources. Related organizations / sites Search Japan External Trade Organization (JETRO) 国立国会図書館 National Diet Library Economic and social fundamentals National Institute for Educational Policy NDL ONLINE Examine statistics Research, Education and Research Information 国立国会図書館オンライン Examine the roster Center Education Library Investigate land Comprehensive window for 国立国会図書館サー government statistics (e-Phone book デジタルコレクション EDINET time table poll poll ひなぎく 国立国会図書館 東日本大震災アーカイブ Examination method: レファレンス協同データベース事業 By field Economy and industry Collaborative Reference Database Projec Information related to Investigate economy, finance and finance reconstruction support for the Great East Japan Find a company ■ Industry Information Guide Science and technology Economics, Society, Education Society, labor, education, sports Politics, law, administration ■ Investigate society Humanities / General Examine labor Asian countries Check education Investigate sports

English translated by google: https://rnavi.ndl.go.jp/business/index.php

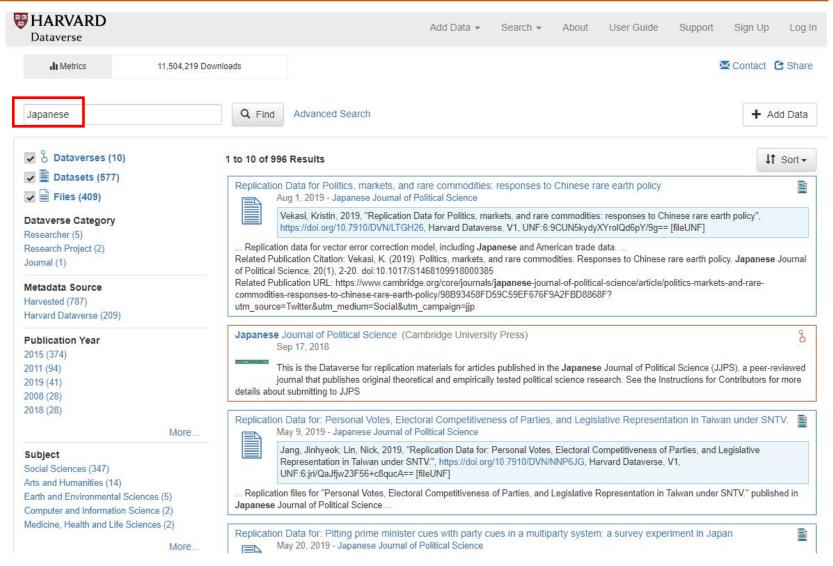


Academic data archive: example 1 (SSJDA)



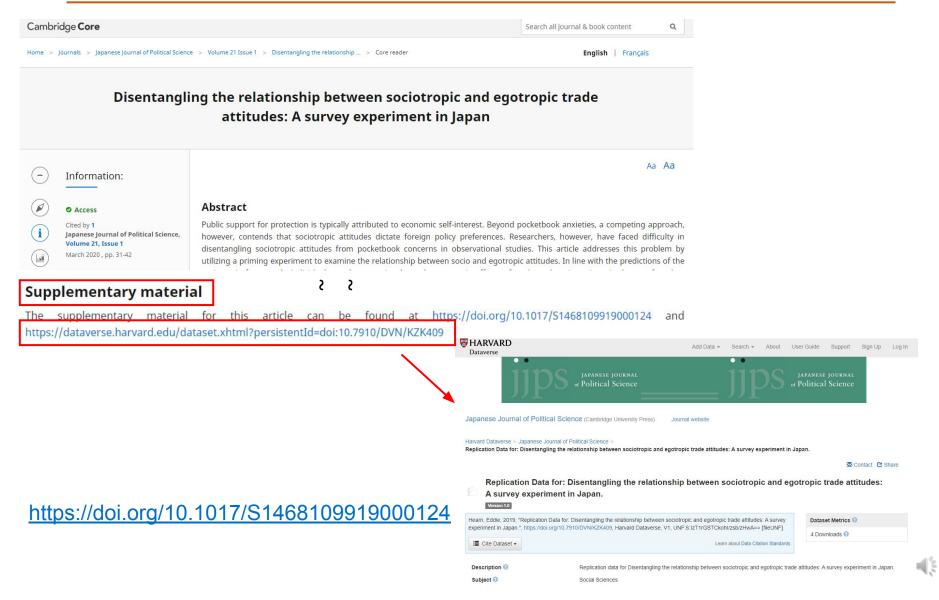


Academic data archive: example 2 (Dataverse)





How to look for the paper's evidence data



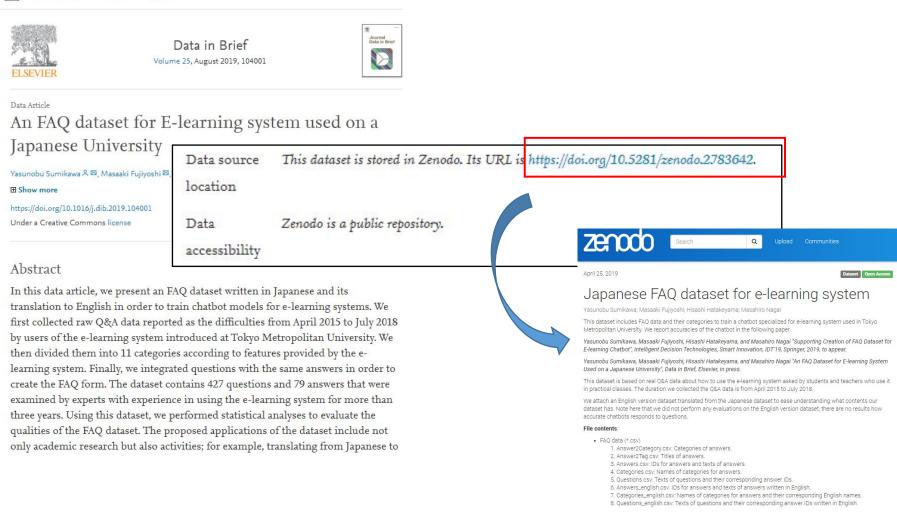


Data paper/Data journal

Download PDF

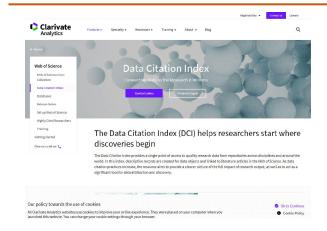
Share

Export

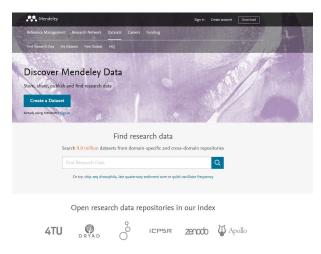




Other possibilities



Clarative Analytics. Data Citation Index http://wokinfo.com/products_tools/multidisciplinary/dci/



Elsevier. Discover Mendeley Data https://data.mendeley.com/



Data Cite. DataCite https://search.datacite.org/



IRDB. https://irdb.nii.ac.jp/en





Ref: useful databases/links



[Japan] National Accounts

[Company / Industry]

Top> Activities / White Papers> Statistical Information and Survey Results> National Accounts (GDP Statistics)

The National Accounts System is a key statistic based on the Statistical Law, which complies with the United Nations

International Standards (SNA) and aims at systematically recording the overall picture of Japan's economy in an

internationally comparable form. Prepared based on the standard and method for preparing economic accounts.

It consists of two parts: "Quarterly GDP Report" and "National Accounts Forecast". "Quarterly GDP Bulletin" prepares and

publishes GDP and other expenditure side series eight times a year, quarterly. The National Account Calculation Report is

prepared and published once a year, including flow aspects such as production, distribution, expenditure, and capital

accumulation, and stock aspects such as assets and liabilities.

Counting target: Companies, etc. | Counting unit: Macro | Usage fee: Free

English translated by Google:

https://www.nistep.go.jp/research/scisip/data-and-informat

ion-infrastructure/datalink country detail

 Japan Survey on activities related to science and technology by incorporated administrative agencies and national university corporations



If still not found...

• Ask a librarian!

- (Probably) Japanese university library staff will respond flexibly
- If you can request via the Japanese university library, you may be processed quickly

- When you contact other than library, please use Japanese
 - Some governmental departments may not even be read your message...

4. Japanese activities related to the ensuring of research data management human resources

Issue: Lack of Research Data Management Staff in Japan

Table. Status of Research Data Management Planning in Academic Institutions in Japan (N = 151) 1)

We mandate researchers to submit data management plan	0.0%
We encourage researchers to write data management plan	11.9%
We don't know DMP	41.1%
Other	2.6%
No answer	4.0%
Total	100%

- Librarians are good at handling academic papers
 - (e.g. such as managing institutional repositories)
- However, few librarians have research data management skills.

<u>Development of human resources to support RDM is necessary to promote research data activity</u>

¹⁾ Keiko KURATA, Mamiko MATSUBAYASHI, Masaki TAKEDA, Research data management in Japanese universities and research institutions: Status report based on questionnaire survey, Journal of Information Processing and Management, 2017–2018, Volume 60, Issue 2, Pages 119–127. https://doi.org/10.1241/johokanri.60.119



Development of RDM training courses

Our efforts to develop RDM training courses with JPCOAR



- NII and JPCOAR have developed
 RDM training material named "RDM training tool" since 2015.
- JPCOAR's Main activities about RDM
 - Development of training materials
 - Rescue of the databases
 - Aggregate and analyze RDM case study

First, We started developing RDM training materials.



Japan Consortium for Open Access Repository (JPCOAR)

JPCOAR is the consortium of academic institutions operating institutional repositories.



<u>JPCOAR works with NII in the operation JAIRO Cloud and activities</u> <u>wanted to open science.</u>



Short History of Our Activities

2015	2016	>	2017	>	2018		2019
Institutional Repositories Promotion Committee (pre-JPCOAR)					JPCOAR		
Developing "RDM Training Tool"		2017.6 Release "RDM Training Tool" 6,436 DL					
2017.11-2018.1 Launch Online Cources "Research Data Management in Open Science Era" in JMOOC/gacco The number of participants: 2,305 (Completion Rate: 25%)							
			2018.8 Release of Training Materials "Plan and Practice of Research Data Management" 3,495 DL			_	
X Source: https://www.slideshare.n				Exp pro onli The	018.8-10 Derimental Ject on Jine courses Number of Jine courses Number of Jine coursed Number of	Onl on i	rt Trial for ine Courses NII's LMS





1st RDM Training Tool

Slide-based Training Materials on RDM basics



- Training materials that provide a comprehensive understanding of research data (Total of 7 chapters)
- Licensed Creative Commons 4.0
 Attribution (CC-BY)
- http://id.nii.ac.jp/1458/0000023/

We provide training materials

for people with no experience in RDM



Lifecycle of Research Data and RDM Training Tool

- Generate Re-use **Process** Lifecycle of Research Data **Publish** Analyse Preserve (
- 1 Chapter 1: Introduction
- 2 Chapter 2: Data Management Plan
- Chapter 3: Preservation and Sharing
- Chapter 4: File Management, Documentation and Metadata Generation
- 5 Chapter 5: Laws and Ethical Issues
- 6 Chapter 6: Policies
- 7 Chapter 7: Designing Research
 Data Management
 Service

The UK Data Archive

⁽ http://www.data-archive.ac.uk/create-manage/life-cycle)

[•] RDM Support - basic training course for information specialists (http://dx.doi.org/10.6084/m9.figshare.1285313)



Development of Online Training Course for RDM Supporters (2018)

Launch MOOCs with RDM Training Tools



https://www.nii.ac.jp/service/jmooc/rdm

- from November 15, 2017 to January 15, 2018
- Available on MOOCs platform "gacco"
- RDM training tool reorganized to 4 weeks of learning
- Video learning, quiz, and Q & A through bulletin boards

Our online training course enables people are interested in RDM



2nd Training Materials: "Plan and Practice of RDM Services" (2017)

RDM Supporter Specific Training Materials



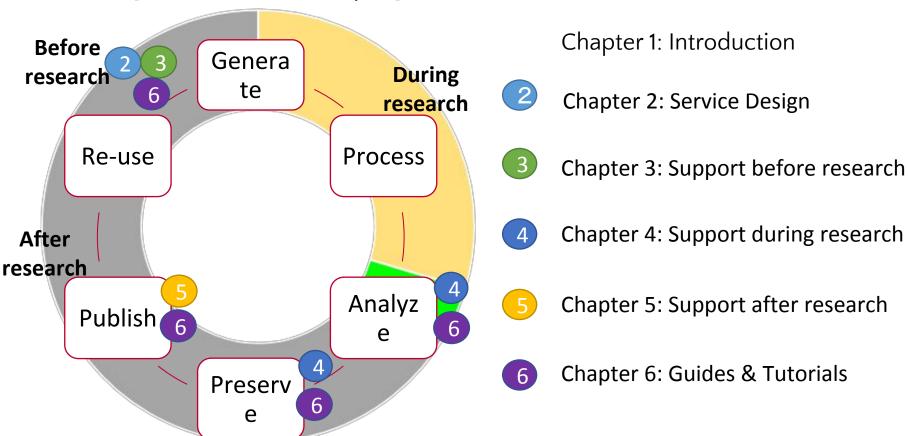
- Practical training materials for librarians supporting RDM services
- Include contents on how to design and operate RDM services
- The training materials are arranged according to general research process.

http://id.nii.ac.jp/1458/0000107/

We helped RDM supporter acquire practical knowledge and skills for RDM services

[Re-organized] Lifecycle of Research Data and Practical RDM Training Tool

[Research Data Lifecycle]



The UK Data Service, Research data lifecycle http://www.data-archive.ac.uk/create-manage/life-cycle

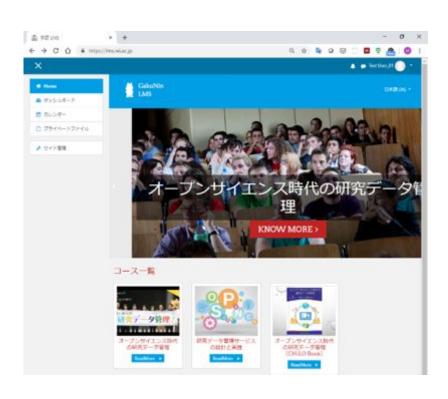
Mariette van Selm, RDM Support - basic training course for information specialists http://dx.doi.org/10.6084/m9.figshare.1285313



New Online Training Course for RDM Supporters

on-going!

RDM online courses on NII education Platform



- NII launched Moodle as own
 Education Platform
- Mounted existing 2 training materials (RDM basics & Designing RDM services)
- The platform enable institutions to monitor RDM training of their staff

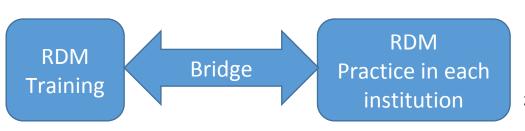
We intend to leverage training materials for institutional RDM training



3rd RDM Training Tool: for Early Career Researcher and Graduate Students

on-going!

We are restructuring existing materials for early career researchers and graduate students



1. Context-based training materials

 TF members survey detailed their researcher's actual environment and needs

2. <u>Modularize existing training tools</u>

- Provide existing training tools in module (an easily customizable form) at each institution
- Examine how training materials should be easily embedded in the context of each institution

Looking at RDM training for researchers from

the standpoint of providing a foundation for open science



Summary: our RDM training tool activities

#		Target	Skill
1	1 st RDM Training Tool	People interested in RDM	RDM Basics
2	Online Course: Research Data Management in the Open Science Era	People interested in RDM, RDM Basics	RDM Basics
3	2 nd Training Materials "Plan and Practice of Research Data Management"	RDM supporters in academic institutions	RDM Basics + Designing RDM Services
4	Trial for Online Courses on NII's LMS (on-going)	RDM supporters in academic institutions	RDM Basics + Designing RDM Services
5	3 rd RDM Training Tool for Early Career Researcher and Graduates (on-going)	Researcher and Graduate Students	Curated RDM Basics + α



Special Thanks:

- * Yukio Maeda (University of Tokyo)
- * Ui Ikeuchi (Bunkyo University)
- * Makoto Asaoka (National Institute of Informatics)

Thank you!

Next, I will introduce the online questionnaire survey during Feb. 12 to Mar. 4, 2020...