# Guidelines for specifying conditions of use in research data publishing

## Research Data License Subcommittee under the Research Data Utilization Forum (RDUF)

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Introduction. Five Questions on the Research Data Publishing and the Specification of Conditions of Use

#### Purpose and objectives

These guidelines are for the research data publishing and the specification of conditions of use developed by the Research Data License Subcommittee under the Research Data Utilization Forum (RDUF) <sup>1</sup>. The basic policy of open science in Japan is to expand the utilization of research results funded by public research funds as much as possible<sup>2</sup>, but some types of research data are exceptions. Therefore, these guidelines aim to enable data providers to publish research data under appropriate conditions of use by organizing information and examples that generally require attention when publishing research data, along with the decision-making process. It also expects to be used as a tool for data reusers to easily understand the background of the conditions of use required by the data provider.

#### (1) When the data provider specifies the conditions of use

To enable those who wish to publish research data (individual researchers, teams, and repository managers) to inform third parties of their conditions of use concisely. Possible scenarios are as follows: a) when publishing research data underlying a research paper and b) when publishing research data itself as research results. These guidelines prevent unauthorized reproduction, plagiarism, inappropriate processing, and trouble with interested parties in research data publishing.

(2) When the data reuser checks the existing conditions of use

When the researcher acquires and reuses published research data, they can easily understand the conditions of use required by the data provider.

#### How to use these guidelines

First, select your research data to be published in Q1. Next, confirm any external constraints as listed in Q2. In Q3, you can confirm the processes for enabling research data publishing for the external constraints identified in Step 2. Even if external constraints exist, it may be

https://www8.cao.go.jp/cstp/kihonkeikaku/index5.html

<sup>&</sup>lt;sup>1</sup> Research Data Utilization Forum (RDUF) was established in May 2016. The principal mission of the RDUF is to encourage the utilization of research data based on open science. The RDUF is willing to support the communication on research data management and open science in various inter-disciplinary and inter-sectional views.

<sup>&</sup>lt;sup>2</sup> 5th Science and Technology Basic Plan.

possible to publish your research data by setting a certain embargo period, as described in Q3. If your research data can be made public, refer to Q4 to select a data repository. Finally, specify the conditions of use for your research data in Q5.

#### Step 1 Step 2 Step 3 Step 4 Step 5 Choose Appraisal and Select a data legal restrictions/regul Release appropriate conditions of use selection of data to publish Publish repository ations/remarks Further requests for data publishing Consultation with experts

Task

Publishing flow and licensing scenarios for research data

#### **Usage Notes**

- These guidelines organize information and examples that generally need to be kept in mind when publishing research data and the decision-making process. We do not expect to cover all academic fields; When publishing research data, please check general guidelines and policies related to research ethics and the handling of research data in your own academic field.
- When the researchers share research data, even if one wants a particular publication method or conditions of use, the other researchers may not have the same intention.
   Please confirm their intent well in advance.
- The conditions of use recommended by these guidelines are proposed regarding the Creative Commons 4.0 International License. Note that we do not consider the compatibility with different versions.
- If you wish to specify conditions of use for databases and/or repositories, we recommend seeking advice from experts in the relevant legal systems. The same advice should be given when there is more than one interested party, such as in the case of research conducted through industry-academia-government collaboration. Also, if you wish to state your conditions of use for research data as an organization or institution, please consider developing your institution's data policy.

#### Conditions of use for this document/Disclaimers

• Copyright of the text and figures in these guidelines belongs to the Research Data License Subcommittee under the Research Data Utilization Forum (RDUF). Except where otherwise noted, all materials are available under the Creative Commons Attribution 4.0 International License (CC-BY) terms. When using the materials, please clearly indicate the source information and any modifications regarding the following license notice:

Source: "Guidelines for specifying conditions of use in research data publishing ver.1.0". Research Data License Subcommittee under the Research Data Utilization Forum (RDUF), 2019, 32p. <a href="https://doi.org/10.11502/rduf\_license\_guideline">https://doi.org/10.11502/rduf\_license\_guideline</a>, (accessed YYYY-MM-DD).

 We do not guarantee the accuracy, certainty, fitness for purpose, or other quality of the statements in your context. The responsibility for all actions using these guidelines rests entirely with the user. The users themselves should make decisions based on the information obtained.

#### Q1. Appraisal and selection of data to publish

First, select the research data to be published in the whole study. The scope of the "research data" term varies from field to field, so these guidelines limit the scope of the term to the extent that it can be managed by electronic means. In other words, the term "research data" does not include physical materials such as samples (specimens, samples) or recording media (paper, disks, etc.) in these guidelines.

Definition of "research data" (\*Subject of these guidelines)

Digital data used as a source information for scientific research. It includes a variety of formats, such as numerical, textual, image, audio, and video. Various designations may be used depending on the context in which the data is used; e.g., evidence data, source data, and derived data.

#### Example:

1) Evidence data

Data underlying a research paper or research results is called "evidence data." Raw data may be published as the evidence data, or sometimes processed data are selected to publish.

2) Source data

The original data newly collected from the observation is called "source data (or primary data)." Researchers may observe and create the source data themselves, or it may be held by a third party (e.g., another researcher, a company, or a local government).

3) Derived data

Data created by derivation from source data is called "derived data." If the creator of the source data and the creator of the derived data are different, the data citation method and rights attribution tends to be complicated. It is necessary to pay attention to the source data version information.

(cf: Data not included in the "research data") (Outside the scope of these guidelines)

Non research data

Descriptions to explain the outline and status of the research data, as well as physical objects such as research notes, diaries, samples, etc.

- > Ex. Descriptions about research data (including metadata or meta-information)
- > Other records or logs (research notes, samples, and other physical objects)

Copyrighted work

For example:

- > Research papers
- ➤ Books, derivative works by the authors, secondary works
- > Derivative works by third parties
- Research environment

For example:

- Databases
- Software (e.g., Analysis and visualization programs, estimation models, machine learning algorithms)
- Other source codes

When publishing research data is required

Publishing research data may be required by your funding agency, publisher, or institution to promote research data reuse.

[Ex. 1] by funding agency

JST Policy on Open Access to Research Publications and Research Data Management (April 1, 2017)

https://www.jst.go.jp/pr/intro/openscience/guideline\_openscience.pdf

[Ex. 2] by publisher

Elsevier. Research Data Guidelines

https://www.elsevier.com/authors/author-resources/research-data/data-guidelines

[Ex. 3] by institution (project data)

JAXA. ISAS Data Policy (March 14, 2018)

http://www.isas.jaxa.jp/researchers/data-policy/

[Ex.4] by institution (evidence data)

National Institute of Polar Research. National Institute of Polar Research Open Access Policy (November 24, 2017)

https://www.nipr.ac.jp/outline/activity/oap.html

#### Considerations for handling data not included in "research data"

- Metadata plays an essential role in informing the existence of research data. Even if the source or derived data is kept private, the metadata should be widely available for the public to search, view, and retrieve.
- Data not included in "research data" should be segregated and managed with the research data. If you treat past research notes or diaries as source data, be careful what you publish in digital form.
- The requirement of copyrighted works such as articles, papers, posters, slide materials, and projection materials differs from the research data to be published. For these works, consider publishing them in your institutional repository and applying standard licensing tools such as the Creative Commons License.
- The research environment and research data must be treated separately in the licensing context. You may refer to the following if you wish to specify a database license or a source code license.

[Ref. 1] Open Data Commons. Open Data Common Open Database License (ODbL). https://opendatacommons.org/licenses/odbl/index.html

[Ref. 2] Choosealicense.com. Licenses. https://choosealicense.com/licenses/

#### Q2. Confirmation for legal restrictions/regulations/remarks

There may be restrictions on publishing research data due to the sensitive content contained in the data (e.g., privacy information) or the research participant's request. Please confirm if your data falls into the descriptions contained in the following categories.

In cases of disciplinary customs restriction, including international treaty

• Individual disciplines and research communities may have conventions or standards regarding data release restrictions. The provisions of international treaties are indicated in some cases<sup>3</sup>, but the provisions are not always explicitly stated<sup>4</sup>.

[Ex. 1] Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

https://www.cites.org/eng

[Ex. 2] Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property

http://portal.unesco.org/en/ev.php-

URL ID=13039&URL DO=DO TOPIC&URL SECTION=201.html

In cases of containing personal information

- The laws of each country regulate the handling of personal information. In Japan, if
  the research entity is private, the Act on the Protection of Personal Information
  applies. If the research entity is an Incorporated Administrative Agency, including a
  National Research and Development Agency, the Act on the Protection of Personal
  Information Held by Incorporated Administrative Agencies, etc.
- As for discipline-specific regulations, for example, guidelines may be formulated for each field, with separate policies for anonymization and information disclosure.

Legal Interoperability of Research Data: Principles and Implementation Guidelines https://doi.org/10.5281/zenodo.162241

<sup>&</sup>lt;sup>3</sup> Other examples of publishing research data restrictions are mentioned within the guidelines prepared by RDA/CODATA, such as the protection of endangered species, cultural resources, sovereign genetic resources, and traditional knowledge.

<sup>&</sup>lt;sup>4</sup> For example, materials may be withheld from the public due to the Bereaved family's request in literary research.

[Ref. 1] Personal Information Protection Commission, Government of Japan. "Laws and guidelines" (only in Japanese)

https://www.ppc.go.jp/personalinfo/legal/

[Ref. 2] Japan External Trade Organization(JETRO). "About General Data Protection Regulation (GDPR)" (only in Japanese)

https://www.jetro.go.jp/world/europe/eu/gdpr/

[Ref. 3] Ministry of Health, Labor and Welfare (Japan). "About research guidelines" (only in Japanese)

https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/hokabunya/kenkyujigyou/i-kenkyu/index.html

#### In cases of Diplomatic / National security restriction

- Publishing research data on national security is regulated by law and includes data
  related to the weapons development of mass destruction (as defined in the Foreign
  Exchange and Foreign Trade Law) and defense secrets (defined in the Self Defense
  Forces Law).
- In other cases, there are special legal measures for data that may affect the lives of the
  public (e.g., location of domestic energy resources, blueprints of important facilities,
  etc.).

[Ref. 1] Japan Society for Intellectual Production. "Security Trade Control Guidelines for Researchers in universities and other institutions of higher education. Revised 2<sup>nd</sup> ed"

http://j-sip.org/info/pdf/anzenhosho1-1\_2.pdf

In cases of keeping agreements, contracts, Intellectual Property rights

- In joint or contract research, it is necessary to comply with agreements with research partners, contractors, etc. regarding publishing research data.
- If you have some agreements or contracts with a private company (including a commercial publisher) that restricts publishing your data, you must comply with the terms of the agreements or contracts.

[Ref. 1] Ministry of Economy, Trade and Industry (Japan). "Operation guidelines for data management in contract research and development" (only in Japanese) https://www.meti.go.jp/press/2017/12/20171227001/20171227001-1.pdf

[Ref. 2] Ministry of Economy, Trade and Industry (Japan). "Contract Guidelines on Utilization of AI and Data. Data Section"

https://www.meti.go.jp/press/2019/12/20191209001/20191209001.html

#### In cases of complying data policy

- Your institution may have a restricted data sharing policy. If your institution has an
  intellectual property policy or data policy<sup>5</sup>, you must confirm the scope or embargo
  period within the policy.
- In some cases, publishing research data on industrial property rights pending
  application or research data expected to be commercialized may be restricted as a
  management strategy decision<sup>6</sup>. You also need to confirm the target data attribution.

[Ex. 1] National Institute for Environmental Studies. "NIES Data Policy" (only in Japanese)

https://www.nies.go.jp/kihon/kitei/kt\_datapolicy.pdf

https://www8.cao.go.jp/cstp/tougosenryaku/index.html

Cabinet Office, Japan. "Guidelines for the Development of Data Policies in National Research and Development Agency"

https://www8.cao.go.jp/cstp/stsonota/datapolicy/datapolicy.html

<sup>6</sup> The "Open and Closed Strategy" is "a strategic choice to increase the company's profits by adopting an open model IP strategy of disclosing or licensing to other companies, in addition to a closed model IP strategy of keeping technologies and other information secret or implementing exclusive rights such as patent rights." The "Guidelines for the Formulation of Data Policies for National Research and Development Institutions" also calls for the formulation of policies based on this concept.

Japan Patent Office. "Open and Closed Strategy"

https://faq.inpit.go.jp/content/tradesecret/files/100578260.pdf

<sup>&</sup>lt;sup>5</sup> In Japan, all national research and development agencies must have a data policy by 2020. Cabinet Office, Japan. "Integrated Innovation Strategy"

[Ex. 2] Teikyo University. "Intellectual Property policy in Teikyo University" (only in Japanese)

https://www.teikyo-u.ac.jp/affiliate/laboratory/tttc\_center/policy.html

[Ex. 3] Japan Agency for Medical Research and Development. "Data sharing policy for realization of genomic medicine" (only in Japanese)

https://www.amed.go.jp/content/000023353.pdf

https://humandbs.biosciencedbc.jp/files/DAC/4th\_meeting/2\_ref\_AMED\_DSP.pdf

#### Q3. Release constraint

In most cases, even if there are some restrictions on publishing research data as described in Q2, it is possible to publish the data by applying appropriate data processing or allowing a certain embargo period <sup>7</sup>. Set the necessary conditions of use based on the following information<sup>8</sup> and show them to the data reuser:

In cases of disciplinary customs restriction, including international treaty

You need to confirm the data publishing procedures with the corresponding national law if the disciplinary customs restriction is explicitly stated in an international treaty. In the absence of a specified period for restricted publication, you must set an appropriate period that considers the disciplinary practice and/or the treaty's purpose. In addition to checking with the IP department of your institution, you can consult with an expert if necessary.

[Ref. 1] Ministry of Foreign Affairs of Japan. "Treaty Data Search" https://www3.mofa.go.jp/mofaj/gaiko/treaty/

[Ref. 2] FAIRSharing. "FAIRSharing policies" https://fairsharing.org/policies/

\* Collection of field-specific policies/guidelines

[Ref.] Wiley. "Wiley's Self-Archiving Policy" <a href="https://authorservices.wiley.com/author-resources/Journal-Authors/licensing/self-archiving.html">https://authorservices.wiley.com/author-resources/Journal-Authors/licensing/self-archiving.html</a>

[Ref.] SHERPA/RoMEO. "Publisher copyright policies & self-archiving" http://sherpa.ac.uk/romeo/index.php

<sup>&</sup>lt;sup>7</sup> In principle, the legal protection of a copyrighted work expires 70 years after the author's death. Still, there is no corresponding provision for research data, so it is necessary to be more careful in setting an embargo period. From the viewpoint of protecting research papers, it is generally 12 months for science, engineering, and medicine, and typically 24 to 36 months for humanities and social sciences. However, in recent years, the evidence data tend to publish immediately.

<sup>[</sup>Ref.] U.S. Department of Health & Human Services. "NIH Public Access Policy Details" <a href="https://publicaccess.nih.gov/policy.htm">https://publicaccess.nih.gov/policy.htm</a>

<sup>&</sup>lt;sup>8</sup> There are some options for setting an embargo period, such as a timer, date/time-specified, and user-only limitation methods. These options will be used in some combination.

In cases of containing personal information

Even if your research data contains some personal information, it can be published when you anonymize your data in an appropriate method.

[Ref. 1] Personal Information Protection Commission, Government of Japan. "Guidelines for the Act on the Protection of Personal Information. Anonymized Information section"

https://www.ppc.go.jp/files/pdf/guidelines04.pdf

You can also refer to these particular guidelines to specify anonymizing methods in your fields:

[Ref. 2] Personal Information Protection Commission, Government of Japan. "Guidelines for Specific Fields"

https://www.ppc.go.jp/personalinfo/legal/guidelines/

[Ref. 3] Japan Pharmaceutical Manufacturers Association. "Institutional Review Board (IRB) overview and date of event"

http://www.jpma.or.jp/medicine/shinyaku/tiken/allotment/leaflet/009.html

In cases of Diplomatic / National security restriction

If your research data is restricted by export control, military diversion, or other treaties, you must follow established procedures to consider whether or not to disclose the data. Please consult with the department in charge and follow the disclosure procedures.

[Ref. 1] Ministry of Finance, Japan. "Overview of Foreign Exchange and Foreign Trade Act"

https://www.mof.go.jp/international\_policy/gaitame\_kawase/gaitame/index.html

[Ref. 2] Ministry of Economy, Trade and Industry, Japan. "Security Export Control System in Japan"

https://www.meti.go.jp/policy/anpo/

If your research data is categorized in public records, it is subject to the Public Records and Archives Management Act. You must be considered for disclosure following the enforcement order of the Act. As above, please consult with the department in charge

and follow the disclosure procedures.

[Ref. 1] Public Records and Archives Management Act <a href="https://elaws.e-gov.go.jp/search/elawsSearch/elaws\_search/lsg0500/detail?lawId=421AC0000000066">https://elaws.e-gov.go.jp/search/elawsSearch/elaws\_search/lsg0500/detail?lawId=421AC0000000066</a>

[Ref. 2] Cabinet Office, Government of Japan. "Documents subject to management under the Public Records and Archives Management Act" https://www8.cao.go.jp/chosei/koubun/about/bunsho/bunsho.html

[Ref. 3] Cabinet Secretariat, Japan. "Standard document retention period" https://www.cas.go.jp/jp/koukai/hyoujunbunsho/anzenhosho.html

In cases of keeping agreements, contracts, Intellectual Property rights

Based on the agreement or contract, set the publication date and time after confirming and coordinating the cases in which publication is possible. In addition to the statements related to the publication of research results, check the agreements after the joint research period has ended. Even in cases where there is no explicit agreement or contract, you should check with your IP department before publishing your research data.

[Ref. 1] Joint Research and Development Agreement (in Japanese)

第○条(研究成果の公表等)

甲又は乙は、本契約の有効期間中及び契約終了後○年間は、本共同研究によって得られた研究成果を公表又は第三者に開示しようとする場合には、その内容、時期、 方法等について、書面により事前に相手方の承諾を受けるものとする。

Source: Ministry of Economy, Trade and Industry, Japan. "Handbook for Protection of Confidential Information - Toward Enhancing Corporate Value" https://www.meti.go.jp/policy/economy/chizai/chiteki/trade-secret.html#handbook

[Ref. 2] Ministry of Education, Culture, Sports, Science and Technology, Japan. "Sakura tool"

https://www.mext.go.jp/a\_menu/shinkou/sangaku/1383777.htm

\* Provides contract templates that can be used for joint research. The link provides the consortium type of contract and revised materials for individual versions.

#### In cases of complying data policy

Based on the applicable data policy, set the publication date and time to the end of the embargo period. If the policy does not specify the embargo period, it should be decided in consultation with the department in charge.

#### In cases of not available to be published

Even if your research data cannot be published at this time, it is necessary to leave a trail of evidence that the research data exists to support future research activities. Please document the decision-making process up to this point and store the research data in appropriate storage. Also, please publish it as metadata to the institution's platform if possible.

#### Q4. Select a data repository

When you have finished checking the constraints, you need to select an appropriate repository. You can publish your research data using file-sharing services or data management software. However, we recommend using data repositories in related fields or institutional repositories from the viewpoints of organization and preservation, data permanence assurance, user recognition, and security management<sup>9</sup>. Some examples of data repositories in Japan are as below. If you want to search for international data repositories, please see the "List of International Data Repositories."

#### Disciplinary data repositories

- Social sciences
  - SSJDA (https://ssjda.iss.u-tokyo.ac.jp/Direct/)
    - Acceptable data type: Micro data with questionnaires used in various social and statistical surveys
  - RUDA (https://ruda.rikkyo.ac.jp/dspace/)
    - Acceptable data type: Social survey data (Economics, Business Administration, Sociology, Social Psychology, Political Science, Political Psychology, Law, Sociology of Law, Education, Sociology of Education, etc.)
- Life sciences

links.

- DDBJ (https://www.ddbj.nig.ac.jp/index.html)
  - Acceptable data type: Annotated/assembled sequences, Sequencing and alignment data from next-generation sequencing platforms, Functional genomics data, Research project, Biological sample, Human data requiring controlled-access
    - \* Further information: https://www.ddbj.nig.ac.jp/data-categories.html
- NBDC human database (https://humandbs.biosciencedbc.jp/)
  - Acceptable data type: Human data produced from publicly funded research

<sup>&</sup>lt;sup>9</sup> Even when research data is published as an Appendix or Supplement to a research paper, registering it in repositories and databases in related fields will further increase its discoverability and make it more likely to be used. It also facilitates maintenance of broken

- jPOSTrepo (https://repository.jpostdb.org/)
  - Acceptable data type: ProteOme data in Japan
- GlyTouCan (https://glytoucan.org/)
  - Acceptable data type: Glycan structures data
- Life Science Database Archive (https://dbarchive.biosciencedbc.jp/index.html)
  - Acceptable data type: Datasets generated by domestic life science researchers
- · Earth science
  - DIAS (http://www.diasjp.net/)
    - Acceptable data type: Earth and Environmental data
  - IUGONET (http://search.iugonet.org/list.jsp)
    - Acceptable data type: Solar-Terrestrial Science Observations data
  - Global Environment Database (http://db.cger.nies.go.jp/portal/)
    - Acceptable data type: Global Environmental Research Data
- Biological science
  - Biological Information System for Marine Life (BISMaL) (https://www.godac.jamstec.go.jp/bismal/j/)
    - Acceptable data type: Data on marine biotic occurrence records
  - Global Biodiversity Information Facility Japan Node (JBIF) (http://www.gbif.jp/v2/)
    - Acceptable data type: World's biodiversity data
    - Contact: http://www.gbif.jp/v2/regist/index.html
- Synchrotron radiation science
  - SPring-8 case studies & reports cross research
     (http://www.spring8.or.jp/ja/science/customsearch/)
    - Acceptable data type: Data on polymers, organic thin films, and green energy fields
  - SPring-8 BL14B2 XAFS Standard Sample Database (https://support.spring8.or.jp/xafs/standardDB/standardDB.html)
    - Acceptable data type: XAFS (X-ray absorption fine structure) data
- Other fields
  - List of international data repositories (https://www.re3data.org/)

### Institutional repositories

• List of Japanese institutional repositories (<a href="https://www.nii.ac.jp/irp/list/">https://www.nii.ac.jp/irp/list/</a>)

#### Considerations

- In the event of data leakage or unauthorized use, you will warn the data reuser and request an injunction against the data reuse. Depending on the circumstances, you may consider injunctive relief, damages, or criminal legal proceedings. Protection may be available under the Copyright Act, or relief may be obtained under the Unfair Competition Prevention Act. You should consult with the department in charge and follow the appropriate procedures.
- When selecting a data repository, information such as whether it conforms to international standards certification and which country's laws it complies with may be helpful.

#### [Ref. 1] FAIR principles

- FAIR principles as a standard for data sharing (https://doi.org/10.18908/a.2018041901)
- · Is the repository listed on the "FAIRsharing" website? (https://fairsharing.org/)
- · Is the repository listed on the "Repository Finder," which complies with FAIR principles? (https://repositoryfinder.datacite.org/)

#### [Ref. 2] International Standards Certification

- · From the re3data.org search page (https://www.re3data.org/search), select "Certificates" in the Filter to check.
- A list of recommended repositories may be provided by the publisher.
   Ex. Nature "Scientific Data. Recommended Data Repositories"
   https://www.nature.com/sdata/policies/repositories

#### List of Legal Protection of Data in Japan

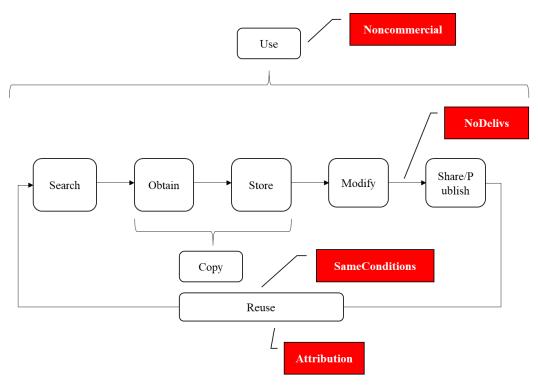
					Criminal			
	Require	ments	Civil Affairs		Affairs	Comparison with Limited		
	Data to be protected	Misconduct	Demand an Claim for		Imprisonment	Provision Data		
	Data to be protected	Misconduct	Injunction	Damages	/Fines			
Database works (Copyright Act Article 12-2 (1))	A database that, by reason of the selection or systematic construction of information contained therein, constitutes a creation	Reproduction or any other acts without the permission of the right holder (regardless of the maliciousness of the form)	0		0	Data that is not creative (e.g., factory operating data) is not protected		
Patented invention (Patent Act Article 2 (1), Article 29)	the highly advanced creation of technical ideas utilizing the laws of nature     an invention for which a patent has been granted	Implementation or any other acts without the permission of the right holder (regardless of the maliciousness of the form)	0		0			
Trade secrets (Unfair Competition Prevention Act Article 2 (1) (iv) to (x))	confidentiality     non-public     value	Unauthorized acquisition, unauthorized use, etc. (list malicious acts)	0		0	Data widely available to the public is not protected		
Disclosing shared data (Unfair Competition Prevention Act Article 2 (1) (xi) to (xvi))	shared data with limited access     managed by electronic or magnetic means     accumulated to a significant extent	Unauthorized acquisition, unauthorized use, etc. (list malicious acts)	0		0		×	-
Torts (Civil Code Article 709)	Data in general	intentionally or negligently infringed the rights or legally protected interests	× (Except in Moral rights infringement)	0	×	No injunction is available (in principle)		
Contract (Non-Performance) (Civil Code Article 415)	Data in general (depends on contract)	Violation of contract	(only contracting parties)		×	Cannot be applied to other than contracting parties		

Ref. Ministry of Economy, Trade and Industry, Japan. Major legal systems against data misuse https://www.meti.go.jp/policy/economy/chizai/chiteki/H30nen\_fukyohoshosai.pdf

#### Q5. Choose appropriate conditions of use

Once you have decided where to publish the data, you need to specify the conditions of use for your research data. When you have multiple datasets or are publishing them together with derived data, it is convenient to specify their conditions of use together. Specified conditions of use should be appropriately described as metadata<sup>10</sup> when registering to the repository.

Flow of research data reuse and actions subject to recommended conditions of use specification



- Please clearly indicate the following four points: attribution, same conditions, NoDelivs, and Noncommercial.
- "NoDelivs" means that the release of modified data is prohibited.

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<sup>&</sup>lt;sup>10</sup> To ensure transparency, we strongly recommend that a description of how data is acquired and modified be created in the metadata according to the conditions of use or a link be provided to a report or data paper describing the procedure.

#### Recommended conditions of use

In specifying the conditions of use, you can combine some conditions such as attribution and/or permission for modification. You can also choose to waive your rights. The description in square brackets for each conditional specification can be used when describing the conditions of use.

List of conditions of use combinations

Conditions of use	Description
Waiver	Freely available
Attribution	Clearly indicate the data source and credit information
Attribution - Noncommercial	Clearly indicate the data source and credit information; Commercial use prohibited
Attribution - NoDelivs	Clearly indicate the data source and credit information; the release of modified data prohibited
Attribution - Noncommercial - NoDelivs	Clearly indicate the data source and credit information; Commercial use prohibited; the release of modified data prohibited
Attribution - SameConditions	Clearly indicate the data source and credit information; the release of modified data granted different conditions of use prohibited
Attribution - SameConditions - Noncommercial	Clearly indicate the data source and credit information; the release of modified data granted different conditions of use prohibited; Commercial use prohibited
Other	Individual restrictions by contract (e.g., limited sharing)

- Although these guidelines aim to set appropriate conditions of use for a non-copyrighted data, there are many cases in which it is difficult to determine whether or not a copyrighted work. The conditions of use recommended in this section are compatible with the Creative Commons License (https://creativecommons.jp/licenses/) International 4.0, and you can use these conditions of use regardless of their copyrightability.
- Note that when research data are based on derived data (see p. 5), it is impossible to grant fewer conditions of use than the source data. For example, you cannot grant

- "Waiver" if the original conditions of use are "Attribution," even if the research data was published by yourself.
- "Waiver" can be understood as a declaration by the data provider that they waive the right to take legal action against copyright infringement. However, even if the data provider declares a "waiver," moral rights, privacy rights, and the right to prevent unfair competition remain. Trademark and patent rights are not also waived. Therefore, legal action against rights infringement other than copyright can be considered by the data provider, the institution to which the data belongs, or the repository manager.

  Cf. https://creativecommons.jp/sciencecommons/aboutcc0/
- "NoDelivs" prohibits the sharing or publication of modified data, so it does not prohibit private data reuse. Also, even under conditions of use that do not grant "NoDelivs," the Unfair Competition Prevention Act may be applied in case of data falsification.

#### 1) Waiver

• The data are freely available for commercial or non-commercial purposes. It is unnecessary to indicate the data source information or the modification methods.

#### [Description (Japanese)]

• 本データの利用に当たり、原則として、何らの制約はありません。

※本データが著作物である場合は、CCO(権利放棄)が付与されます。

#### [Notice]

- If you select a "waiver," you may not revoke or change your choice in the future. Please check carefully with your institution or professional before selection.
- This conditions of use will be interpreted that the data reuser does not require third parties to indicate the data source information or the same conditions of use as the original data.
- Even if the data provider has waived their rights, it may be necessary to indicate the data source information according to the someone's policy, such as journal policy. You need to cite data appropriately, taking into account research ethics regulations.

#### 2) Attribution

• The data are freely available as long as the data source and credit information are clearly indicated.

#### [Description (Japanese)]

- ▶ 本データの公開に当たっては、出所を明示してください。
- ▶ 本データを改変した場合には、その手順を何らかの手段で明記してください。

※本データに著作権が発生する場合、クリエイティブ・コモンズ表示 4.0 国際ライセンス (CC-BY) の条件で利用することが可能です。著作権が発生しない場合でも、出所の明示を条件に利用することが可能です。

#### [Notice]

- In displaying attribution for your research data, clearly indicate the credit information, including the version and date/time information on the landing page.
- There are several ways to specify the means of data modification: 1) mentioning when the data source is referred, 2) including it in the metadata, and 3) writing a report or data paper that describes the procedure in more detail. Choose a method appropriate to the degree of alteration.

- 3) Attribution Noncommercial
- For noncommercial purposes, the data are freely available as long as the data source and credit information are clearly indicated.

- ▶ 本データの公開に当たっては、出所を明示してください。
- ▶ 本データは、営利目的で利用することができません。
- ▶ 本データを改変した場合には、その手順を何らかの手段で明記してください。
- ※本データに著作権が発生する場合、クリエイティブ・コモンズ表示-非営利 4.0 国際ライセンス(CC-BY-NC)の条件で利用することが可能です。著作権が発生しない場合でも、出所の明示及び非営利目的での利用を条件に利用することが可能です。

- 4) Attribution NoDelivs
- The data are freely available as long as the data source and credit information are clearly indicated; The release of modified data is prohibited.

- ▶ 本データの公開に当たっては、出所を明示してください。
- ▶ 本データを改変した場合、改変されたデータを公開することはできません。
- ※本データに著作権が発生する場合、クリエイティブ・コモンズ表示-改変禁止 4.0 国際ライセンス(CC-BY-ND)の条件で利用することが可能です。著作権が発生しない場合でも、出所の明示及び改変されたデータを公開しないことを条件に利用することが可能です。

#### [Notice]

- It is common for data acquired by third parties to be modified in the reuse process, except when the data is only for observation, viewing, or browsing. If you have a particular modification method that you want to prohibit, clearly state it.
- The term "Modified" includes partially altered from the source data and derived data. For example, this applies when tabular data are prepared based on individual data or estimates are organized based on observed data.

- 5) Attribution Noncommercial NoDelivs
- For noncommercial purposes, the data are freely available as long as the data source and credit information are clearly indicated; The release of modified data is prohibited.

- ▶ 本データの公開に当たっては、出所を明示してください。
- ▶ 本データは、営利目的で利用することができません。
- ▶ 本データを改変した場合、改変されたデータを公開することはできません。
- ※本データに著作権が発生する場合、クリエイティブ・コモンズ表示-非営利-改変禁止 4.0 国際ライセンス(CC-BY-NC-ND)の条件で利用することが可能です。 著作権が発生しない場合でも、出所の明示、非営利目的での利用及び改変されたデータを公開しないことを条件に利用することが可能です。

- 6) Attribution SameConditions
- The data are freely available as long as the data source and credit information are clearly indicated; The release of modified data granted different conditions of use is prohibited.

- ▶ 本データの公開に当たっては、出所を明示してください。
- ▶ 本データを改変した場合には、本データと同じ利用条件で公開し、かつその手順を何らかの手段で明記してください。
- ※本データに著作権が発生する場合、クリエイティブ・コモンズ表示-継承 4.0 国際ライセンス (CC-BY-SA) の条件で利用することが可能です。著作権が発生しない場合でも、出所の明示及び元データと同じ利用条件要素を付与することを条件に利用することが可能です。

- 7) Attribution SameConditions Noncommercial
- For noncommercial purposes, the data are freely available as long as the data source and credit information are clearly indicated; The release of modified data granted different conditions of use is prohibited.

- ▶ 本データの公開に当たっては、出所を明示してください。
- ▶ 本データは、営利目的で利用することができません。
- ▶ 本データを改変した場合には、本データと同じ利用条件で公開し、かつその手順を何らかの手段で明記してください。
- ※本データに著作権が発生する場合、クリエイティブ・コモンズ表示-継承-非営利4.0国際ライセンス (CC-BY-SA-NC) の条件で利用することが可能です。著作権が発生しない場合でも、出所の明示、非営利目的での利用及び元データと同じ利用条件要素を付与することを条件に利用することが可能です。

#### 8) Additional conditions of use

In cases of some additional conditions of use caused by an institution's data policy or individual contracts, the detailed description will be more readily understood when displayed along with the usage notes. We recommend preparing a concise user guide with references to these policies or contracts. Note that any new conditions granted to the data will no longer make it compatible with the Creative Commons License.

#### Appendix. Terms of use statement

Since the research data assumed by these guidelines are not protected by copyright law, it is necessary to indicate the specified terms of use in the metadata and establish more detailed terms in advance to legally guarantee the specified conditions of use. Referring to the following sample format, please check your description, such as the data source and credit information, an example of how to modify the data, and a disclaimer. If there is missing information in the landing page, add the necessary information to the metadata and consider changing the data repository if necessary.

#### • Sample format: in cases for "Attribution" (Japanese)

本データ及び付録資料に収録された情報(以下「本データ等」といいます)に関する一切の権利は、原則として、本データ等の作成に関与した研究者、研究機関又は当該データの提供者(以下「情報提供者」といいます)に帰属します。本データ等に関する権利は、我が国国内法及び国際条約により保護されており、情報提供者が指定する利用規約又はライセンス表示に従う場合を除いて、本データ等を無断で利用することはできません(使用、複製、頒布、上映、公衆送信、上演、出版、送信可能化、翻案、改変及び商用利用を含みますが、これらに限られません)。本データ等の利用に当たっては、情報提供者が指定する利用規約又はライセンス表示に同意したものとみなします。

#### (利用条件)

- 本データの公開に当たっては、出所を明示してください。
- 本データを改変した場合には、その手順を何らかの手段で明記してく ださい。

※本データ等に著作権が発生する場合、クリエイティブ・コモンズ 表示 4.0 国際ライセンス (CC-BY) の条件で利用することが可能です。著作権が発生しない場合でも、出所の明示を条件に利用することが可能です。

(例 1) 出所:「本データ等の名称」(本データ等の作者名) (本データ等の URL) (バージョン表記などの日時情報)

(例 2) 出所:「本データ等の名称」(本データ等の作者名)(本データ等の URL)をもとに(利用者名)が加工して作成

なお、本データ等に関しては、万全を期してはおりますが、正確性、確実性、 目的適合性その他の品質を保証するものではありません。本データ等を用いて行 うすべての行為に関して、その責任はすべて利用者自身に帰属します。

万が一、本データ等を用いたことによって利用者が何らかの損害を被った場合、その損害に関して情報提供者は一切の責任を負うものではありません。得られた情報に基づく決定は、本データ等の利用者ご自身でご判断いただきますようお願い申し上げます。

また、情報提供者は本データ等からアクセス可能な、第三者が権利を有する情報の正確性、信頼性、安全性を何ら保証するものではなく、第三者が権利を有する情報の利用により生じたいかなる損害に関しても、情報提供者は一切の責任を負うものではありません。

本データ等は、予告なく追加、変更、削除されることがありますので、あらか じめご了承ください。

(氏名)

(文書の公開年月日)

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- 4) Liaison Committee of Relevant Ministries and Agencies and Working-Level Consultative Meeting on Collaboration of Digital Archives. "Guidelines for Building, Sharing, and Using Digital Archives" (translated from Japanese). 2017.

  <a href="https://www.kantei.go.jp/jp/singi/titeki2/digitalarchive\_kyougikai/guideline.pdf">https://www.kantei.go.jp/jp/singi/titeki2/digitalarchive\_kyougikai/guideline.pdf</a>, (accessed 2019-12-20).
- 5) Shinnosuke Fukuoka and Hidetoshi Matsumura. Data laws and contracts. SHOJIHOMU. 2019, 440p.
- 6) Alex Ball. How to License Research Data. 2011. <a href="http://www.dcc.ac.uk/resources/how-guides/license-research-data">http://www.dcc.ac.uk/resources/how-guides/license-research-data</a>, (accessed 2019-12-20).
- 7) FORCE11: Data Citation Synthesis Group. Joint Declaration of Data Citation Principles. 2014. <a href="https://doi.org/10.25490/a97f-egyk">https://doi.org/10.25490/a97f-egyk</a>, (accessed 2019-12-20). (Research Data Utilization Forum (RDUF): Research Data Citation Subcommittee, Trans. <a href="https://doi.org/10.11502/rduf\_rdc\_jddcp\_ja">https://doi.org/10.11502/rduf\_rdc\_jddcp\_ja</a>, (accessed 2019-12-20).)
- 8) RDA-CODATA: Legal Interoperability Interest Group. Legal Interoperability of Research Data. Principles and Implementation Guidelines. Zenodo, 2016. https://doi.org/10.5281/zenodo.162241, (accessed 2019-12-20).

<sup>\*</sup> All URLs in the text and footnotes are as of December 20, 2019.

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## Glossary of "Guideline for specifying conditions of use

## in research data publishing"

No.	Term	Definition	Source/Reference		
1	Falsification	Manipulating research materials, equipment, or	Ministry of Education, Culture, Sports,		
		processes to change data or results obtained from	Science and Technology, Japan.		
		research activities.	"Guidelines for Responding to Misconduct		
			in Research"		
			https://www.mext.go.jp/b_menu/shingi/		
			gijyutu/gijyutu12/houkoku/attach/13346		
			<u>60.htm</u> , (accessed 2019-12-25).		
2	Creative	The name of a project or a non-profit organization	Japan Society of Library and Information		
	Commons	that promotes the smooth distribution and reuse of	Science, Dictionary of Terms Editorial		
		copyrighted works by providing copyright holders	Committee. Dictionary of Library and		
		with a means of indicating the conditions of use of	Information Science Terms. 4 <sup>th</sup> edition.		
		their works with a simple mark. By declaring the	2014.		
		conditions of use of texts, photos, videos, sounds,			
		etc. on websites, etc., using the Creative			
		Commons-defined marks in advance, the			
		copyright holder can save users from having to go			
		through the licensing procedure.			
3	Credit	Formal recognition of the contributions made by	RDA-CODATA: Legal Interoperability		
		an individual or group to the research outputs.	Interest Group. "Legal Interoperability of		
			Research Data. Principles and		
			Implementation Guidelines". Zenodo,		
			2016.		
			https://doi.org/10.5281/zenodo.162241,		
			(accessed 2019-12-25).		
4	Research	Digital data used as a source of information for	1) Cabinet Office, Japan. "Report of the		
	data	scientific research. It includes a variety of formats,	Working Group on Research Data		
		such as numerical, textual, image, audio, and	Infrastructure and Global Outreach -		
		video. In these guidelines, it does not include	Strategies for the Development of		
		physical materials such as samples (specimens,	Research Data Infrastructure and		
		samples) or recording media (paper, disks, etc.).	Global Outreach". 2019.		
			https://www8.cao.go.jp/cstp/tyousak		

				ai/kokusaiopen/houkokusho.pdf,
				(accessed 2019-12-25).
			2)	Japan Science and Technology
				Agency. "JST Policy on Open Access
				to Research Publications and
				Research Data Management". 2017.
				https://www.jst.go.jp/pr/intro/opens
				cience/policy_openscience.pdf,
				(accessed 2019-12-25).
			3)	OECD. OECD principles and
				guidelines for access to research data
				from public funding. 2007.
				https://doi.org/10.1787/9789264034
				<u>020-en-fr</u> , (accessed 2019-12-25).
5	Industrial	Four of the intellectual property rights, patent	Jap	an Patent Office. "System of Industrial
	Property	rights, utility model rights, design rights, and	Pro	perty Rights".
	rights	trademark rights, are referred to as industrial	htt	ps://www.jpo.go.jp/system/patent/gai
		property rights. The purpose of a system of	yo/	seidogaiyo/chizai01.html, (accessed
		industrial property rights is to encourage and to	201	19-12-25).
		motivate inventors of inventions and creators of		
		designs, to protect their rights, and to instill		
		confidence in the maintenance of business		
		activities related to trademarks.		
6	Sample	A physical object that has substance, such as a	Sci	ence Council of Japan. "Response:
		specimen to be used for research.	Im	proving Soundness in Scientific
				search" (in Japanese). 2015.
				p://www.scj.go.jp/ja/info/kohyo/pdf/
				nyo-23-k150306.pdf, (accessed 2019-
				25).
7	Information	A person with information shows it to another.	1)	Ministry of Internal Affairs and
	disclosure	This document distinguishes between "access to		Communications, Japan. "Access to
		information," which is done by government		Information System" (in Japanese).
		agencies and academic institutions for the public.		https://www.soumu.go.jp/main_sosi
		In other words, information disclosure may have		ki/gyoukan/kanri/jyohokokai/index.
		some restrictions, such as limiting the scope and		<u>html</u> , (accessed 2019-12-25).
		subject matter of disclosure, confidentiality	2)	Strike Co., Ltd. "Glossary of M&A"

		obligations, and payment of compensation. When		https://www.strike.co.jp/maword/03
		the transfer, lease, or assignment of rights to that		31.html, (accessed 2019-12-25).
		information is involved, it is called "provision of	3)	Cambridge Dictionary.
		information."		https://dictionary.cambridge.org/ja/
				dictionary/english/disclosure,
				(accessed 2019-12-25).
8	Storage	External memory, one of the main devices that	1)	Online Dictionary for Library and
		make up a computer, is used to store data for an		Information Science,
		unspecified period. This term is used to maintain		https://www.abc-
		its contents even when electricity is not supplied,		clio.com/ODLIS/odlis_s.aspx,
		such as hard disks, optical disks (CDs and DVDs),		(accessed 2019-12-25).
		flash memory storage devices (USB memory sticks	2)	IDC Frontier Inc. "Glossary of Cloud
		and memory cards), magnetic tapes, and so on.		/ Data Center".
				https://www.idcf.jp/words/storage.h
				<u>tml</u> , (accessed 2019-12-25).
9	Data sharing	Providing or disclosing data only to a limited	Cal	oinet Office, Japan. "Report of the
		number of subjects. "Data sharing" term is	Wo	orking Group on Research Data
		sometimes used in the sense of data publishing;	Inf	rastructure and Global Outreach -
		these guidelines distinguish it from data	Str	ategies for the Development of
		publishing.	Res	search Data Infrastructure and Global
			Ou	treach". 2019.
			htt	ps://www8.cao.go.jp/cstp/tyousakai/k
			oku	usaiopen/houkokusho.pdf, (accessed
			201	19-12-25).
10	Data	Publishing data to third parties on websites,	1)	Cabinet Office, Japan. "Report of the
	publishing	repositories, or supplements to research papers		Working Group on Research Data
		and is accessible via the Internet.		Infrastructure and Global Outreach -
				Strategies for the Development of
				Research Data Infrastructure and
				Global Outreach". 2019.
				https://www8.cao.go.jp/cstp/tyousak
				ai/kokusaiopen/houkokusho.pdf,
				(accessed 2019-12-25).
			2)	G7 Science and Technology
				Ministers' Meeting. "Tsukuba
1	1			Communiqué". 2016.

				https://www8.cao.go.jp/cstp/kokusai
				teki/g7_2016/2016communique.html
				, (accessed 2019-12-25).
11	Data paper	A paper that describes the content, acquisition	1)	Vishwas Chavan, Lyubomir Penev.
		method, data format, access information, etc.,		The data paper: a mechanism to
		regarding publicly available data such as		incentivize data publishing in
		observation data, measurement data, analysis data,		biodiversity science. BMC
		and calculation simulation results. It does not		Bioinformatics Vol.12, S2, 2011.
		include analysis, interpretation, or scientific		https://doi.org/10.1186/1471-2105-
		conclusions.		12-S15-S2, (accessed 2019-12-25).
			2)	Introduction of "Data Paper": New
				Category for JAMSTEC-R Article,
				JAMSTEC Report of Research and
				Development, 2017, Vol. 24, P. 21-
				22. 2017,
				https://doi.org/10.5918/jamstecr.24.
				<u>21</u> , (accessed 2019-12-25).
12	Data policy	A statement of the data and information	Res	search Data Canada and CASRAI.
		management processes that the organization has	Tra	ns-Disciplinary Glossary for Research
		designed to support and protect the organization's	Data Management.	
		research data assets. It is a set of high-level	https://dictionary.casrai.org/Data_policy,	
		principles that establishes a guiding framework for	(ac	cessed 2019-12-25).
		data management. Data policies can be used to		
		address strategic aspects such as data access,		
		relevant legal matters, data management issues		
		and storage operations, data acquisition, and other		
		issues.		
13	Anonymizati	A manipulation that reduces the risk of personal	1)	Personal Information Protection
	on	identification by processing information that could		Commission, Government of Japan.
		directly/indirectly identify an individual. It is		"Guidelines for the Act on the
		distinguished from "pseudonymization";		Protection of Personal Information.
		Pseudonymization is an operation that removes or		Anonymized Information section".
		separates information that can directly identify an		2017.
		individual by itself (e.g., name, mug shot,		https://www.ppc.go.jp/files/pdf/rep
		fingerprints, driver's license number, etc.) from		ort_office.pdf, (accessed 2019-12-
		other information. Anonymization involves		25).

		disambiguating or replacing age, gender, occupation, behavior logs, etc., so normal methods	2) Jun Sakuma. Privacy Protection in Data Analysis: Machine Learning		
		cannot recover the original information.	Professional Series. 2016.		
14	Plagiarism	The appropriation of another person's ideas, processes, results, or words without giving appropriate credit.	U.S. Department of Health and Human Service, Office of Research Integrity. Definition of Research Misconduct. 2000.		
			https://ori.hhs.gov/definition- misconduct, (accessed 2019-12-25).		
15	Metadata	Data describing the characteristics of an	Japan Society of Library and Information		
		information resource in order to effectively	Science, Dictionary of Terms Editorial		
		identify, describe, and explore it. Every academic	Committee. Dictionary of Library and		
		community has its unique metadata tied to its	Information Science Terms. 4th edition.		
		information use practices, which are numerous and varied.	2014.		
16	License	To grant official permission for any action, use or	Cambridge Dictionary.		
		possession. It also means an official document that	https://dictionary.cambridge.org/dictiona		
		sets forth the terms and conditions for a patented	ry/english/licence, (accessed 2019-12-		
		invention or the right to use intellectual property	25).		
		such as software. The Creative Commons License			
		and the MIT License are well known in the			
		academic community. In this document, the basic			
		declaration of intent by the rights holder is called			
		a "license indication" and is distinguished from the			
		detailed "conditions of use" set forth in contracts			
		or terms of use.			
17	Landing	In a broad sense, it refers to the first page that a	1) NTTCom Online Marketing		
	page	visitor sees through a website through a link or	Solutions Corporation. Visionalist,		
		advertisement. It is distinguished from the top	"Glossary of Web Marketing".		
		page, which is the entrance to a website. In the	https://www.visionalist.com/glossari		
		academic community, it is a page that describes	es/10_ra_001.html, (accessed 2019-		
		the metadata and access methods for digital	12-25).		
		content in a repository.	2) Basic Inc. ferret, "Web Marketing		
			Dictionary". https://ferret-		
			plus.com/words/1048, (accessed		
			2019-12-25).		
			3) Cambridge Dictionary.		

			4)	https://dictionary.cambridge.org/dictionary/english/landing-page, (accessed 2019-12-25).  Japan Link Center Joint Steering Committee. "Guidelines for Registering DOIs for Research Data". https://doi.org/10.11502/rd_guideline_ja, (accessed 2019-12-25).
18	Repository (Digital repository)	Information systems that capture, store, manage, preserve, and provide access to digital content. Depending on the managing entity, there are different names for institutional repositories, discipline-specific repositories, government repositories, etc. The definition category also differs depending on the purpose of repository construction. For example, an open access repository is defined as a collection of full-text	2)	Iris Xie, Krystyna K. Matusiak, Chapter 1 - Introduction to digital libraries, Discover Digital Libraries. 2016. https://doi.org/10.1016/B978-0-12-417112-1.00001-6, (accessed 2019-12-25).  Iris Xie, Krystyna K. Matusiak, Chapter 9 - Digital preservation, Discover Digital Libraries. 2016.
		documents available in an online database on the Internet and characterized by free and immediate access.		https://doi.org/10.1016/B978-0-12- 417112-1.00009-0, (accessed 2019- 12-25).