

## 挖掘大數據！政府資源與Open Data： 開放資料在研究上的應用

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# 課程大綱

Chapter 01	<b>Open? Data? Research!</b> 開放資料與再用
Chapter 02	<b>Open Government Data</b> 開放政府資料哪裡找?
Chapter 03	<b>Open Research Data</b> 開放研究資料哪裡找
Chapter 04	<b>How to Evaluate the Data</b> 如何評估開放資料
Chapter 05	<b>How to Cite the Data</b> 如何引用資料



# 01

A decorative graphic consisting of several overlapping circles in various shades of gray and brown, positioned on the left side of the slide.

## Open? Data? Research!

- 研究上我們會運用到哪些資料?
- 為什麼需要再用資料?
- 什麼是開放資料?政府資料?研究資料?
- 綜合型開放資料查詢平台



# 資料

廣義的資料 (data) 指，為參考或分析而經審慎考量的紀錄資訊 (Recorded Information)，能夠描述事物、思想、情況及處境。以多種內容形式呈現，以不同載體紀錄，其存在於情境與脈絡中，故定義常依使用資料的領域或背景而有所不同。



# 研究資料

- 在研究計畫執行的過程中產生，用於驗證、重建、分析研究結果或現象之紀錄事實性材料，為研究的重要基礎。
- 所有的資料都可能成為研究資料，了解資料成為研究資料的時間點，較研究資料的定義重要。
  - 資訊可能成為研究資料：如輿情分析
  - 研究資料可能是他人的資訊：如文本
- 研究資料是科學研究的基礎，近年來，資料導向的研究更倚賴大量，難以獨立蒐集的資料集。



# 研究資料的種類

## 觀測型

利用儀器或觀察工具即時捕捉

## 實驗型

實驗室或受條件控制下的數據

## 模擬型

模擬生成的測試數據

## 調查回覆

## 文獻紀錄

## 科學

- 文字資料 (實驗紀錄簿等)
- 試算表
- 影音
- 設計、統計等軟體檔案編輯檔案
- 資料集 (庫)
- 地理資訊、空間資料
- 非數位影像
- 數位複製影像
- 生物、有機體或非有機體樣本、標本
- 程式碼
- 蛋白或基因序列
- 藝術作品
- 標準作業流程或協定
- 研究過程中產製的所有數位物件
- 網頁檔案 (書籤、我的最愛)

## 社會科學

- 調查、問卷資料、數據
- 問卷、訪談文字記錄
- 圖片
- 影音多媒體
- 原始量測資料
- 指標統計
- 文字文獻
- 空間資料

## 人文學

- Scholarly Edition
- 語料庫
- 帶有XML等標記的結構式文字紀錄
- 主題分析資料 (含文字、影像等)
- 經註記或分析的一手數位物件
- 檔案查檢工具、書目等資訊地圖



# 研究資料一定要自己產生嗎？

## 資料再用 (Data Re-Use)

- 使用他人因特定的研究目的或活動產製之一手資料進行新的知識創造或原創性的衍生分析。
- 即運用二手資料進行研究。
- 再用動機：
  - 補充或強化現行研究的資料基礎
  - 整合比較
  - 測試研究模型或工具
  - 補充背景知識，熟悉研究主題，拓展既存議題
  - 所需資料樣本數龐大、需長期或回溯取得
  - 權威單位的資料較具公信力
  - 資料僅由特定單位提供，不得不使用
  - 驗證前人研究



# 資料再用案例-生醫

## CDX2 as a prognostic biomarker in stage II and stage III colon cancer

Dalerba P, Sahoo D, Paik S, et al. CDX2 as a prognostic biomarker in stage II and stage III colon cancer. N Engl J Med 2016;374:211-222

- 研究主題：  
辨識高風險的第二期結腸癌，是決定治療後是否仍須搭配其他輔助醫療的關鍵，研究找到新的方式，並須進行臨床價值之檢測。
- 資料使用動機：  
需大量已保存其組織且接受相對同質醫療方式之病患
- 資料種類：組織、臨床測試結果
- 資料來源：  
National Cancer Institute-  
National Surgical Adjuvant Breast  
and Bowel Project (NSABP)



# 資料再用案例-化學

**The distance between  
a pair of atoms of  
specified types  
depends on the  
chemical environment.**

Murray-Rust, P. (2008, 2008/01/18). Open Data in  
Science. Nature Precedings.  
<https://doi.org/10.1038/npre.2008.1526.1>

- 研究主題：  
運用大量Crystallographic Information File Standard (CIF) 描述的晶體學論文，彙整不同化學環境下原子間的距離。
- 資料使用動機：  
彙整前人研究，統整併視覺化從中衍伸新的研究
- 資料種類：  
實驗記錄簿、研究論文、論文附件
- 資料來源：已出版且開放取用之文章



# 資料再用案例-政策

## The Missing Main Effect of Welfare State Regimes: A Replication of 'Social Policy Responsiveness in Developed Democracies' by Brooks and Manza

Breznau, N. (2015). The Missing Main Effect of Welfare State Regimes: A Replication of 'Social Policy Responsiveness in Developed Democracies' by Brooks and Manza. *Sociological Science*, 2, 440-441. <https://doi.org/10.15195/v2.a20>

- 研究主題：  
原著者將自由和非自由政權的差異作為2個互相不獨立的自變項，採交互作用方式分析，但並未先應證這兩者間的不同完全對社會福利支出沒有影響。
- 資料使用動機：  
反證他人的研究，再用其統計模型，推翻後提出新的論點
- 資料種類：前人研究的原始資料
- 資料來源：  
Brooks, C., & Manza, J. (2006, 2006/06/01). Social Policy Responsiveness in Developed Democracies. *American Sociological Review*, 71(3), 474-494.



# 資料再用案例-交通

## Assessment of large-scale transitions in public transport networks using open timetable data: case of Helsinki metro extension

Data Journal : 、 、

Kujala, R., Weckström, C., Darst, R. K., Mladenović, M. N., & Saramäki, J. (2018). A collection of public transport network data sets for 25 cities. Scientific Data, 5(1), 180089. <https://doi.org/10.1038/sdata.2018.89>

Weckström, C., Kujala, R., Mladenović, M. N., & Saramäki, J. (2019). Assessment of large-scale transitions in public transport networks using open timetable data: case of Helsinki metro extension. Journal of Transport Geography, 79, 102470. <https://doi.org/10.1016/j.jtrangeo.2019.102470>

- 研究主題：  
運用大眾運輸時刻表及路線圖，評估大規模大眾捷運系統擴大的最佳策略
- 資料使用動機：  
資料僅由特定單位釋出
- 資料種類：  
數位文字資料 (General Transit Feed Specification (GTFS) 格式)
- 資料來源：政府機關、Data paper



# 資料再用案例-農經

## 台灣非農家計糧食消費與家計糧食安全之分析

柳婉郁, 林國慶, & 林信維. (2017). 台灣非農家計糧食消費與家計糧食安全之分析 [An Economic Analysis on Household Food Consumption and Household Food Security in Taiwan]. *農業經濟叢刊*, 23(1), 1-43.

<https://doi.org/10.6196/TAER.2017.23.1.1>

- 研究主題：  
分析台灣非農家計糧食消費與糧食安全程度，估計台灣非農家計糧食消費之需求體系，並計算台灣非農家計之糧食支出彈性、所得彈性，以及不同結構家計之糧食等值規模與等值支出
- 資料使用動機：  
資料僅由特定單位釋出
- 資料種類：調查原始資料及統計數據
- 資料來源：  
行政院主計總處1999年至2013年家庭收支調查原始檔，以及物價統計月報



# 該如何取得可再用的資料呢？

## 開放資料

About “OPEN”

- Legally open：採開放(資料)授權方式。
- Technically open：不需花費額外成本即可再製、機讀、整批取得。

About “OPEN DATA”

不受版權、專利、經濟、法律或技術等機制而限制取得和使用的資料，可供進一步分析、再處理、複製、分享，因而得以供研究分析、檢討效能、支援決策。



# 開放資料的來源

政府機關

研究單位

非營利組織



# 開放政府資料

政府機關將業務上所產製或蒐集的原始資料數位化，且經過整理分類以及內容結構化之後釋出，讓公眾、非營利組織、企業等透過網際網路搜尋，如經由政府資料開放平台等，由網路下載或應用程式介面介接，以取得所需或感興趣的資料集，再分析使用之。

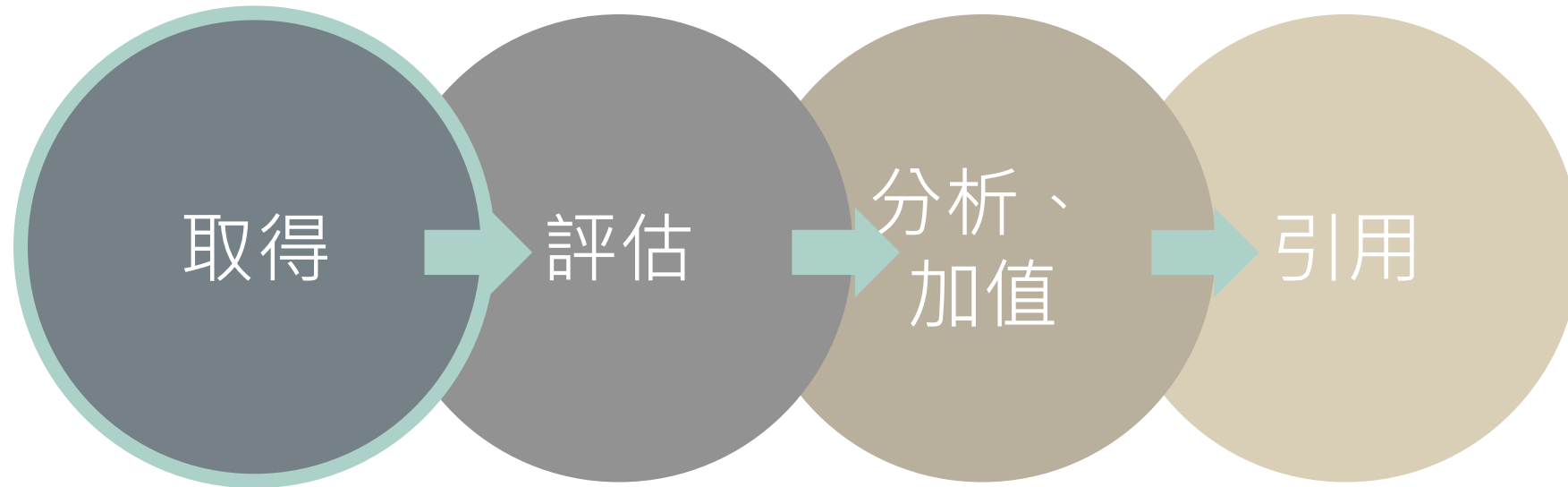


# 開放研究資料

符合“開放資料”定義之“研究資料”，即研究者將在研究計畫執行的過程中產生，用於驗證、重建、分析研究結果或現象之紀錄事實性材料，有計畫地，透過典藏平台公開給予其他研究者再用，以提升研究影響力、驗證與重現研究、增進學界合作、降低重複研究、測試或實驗並回饋社會。



# About Data re-use





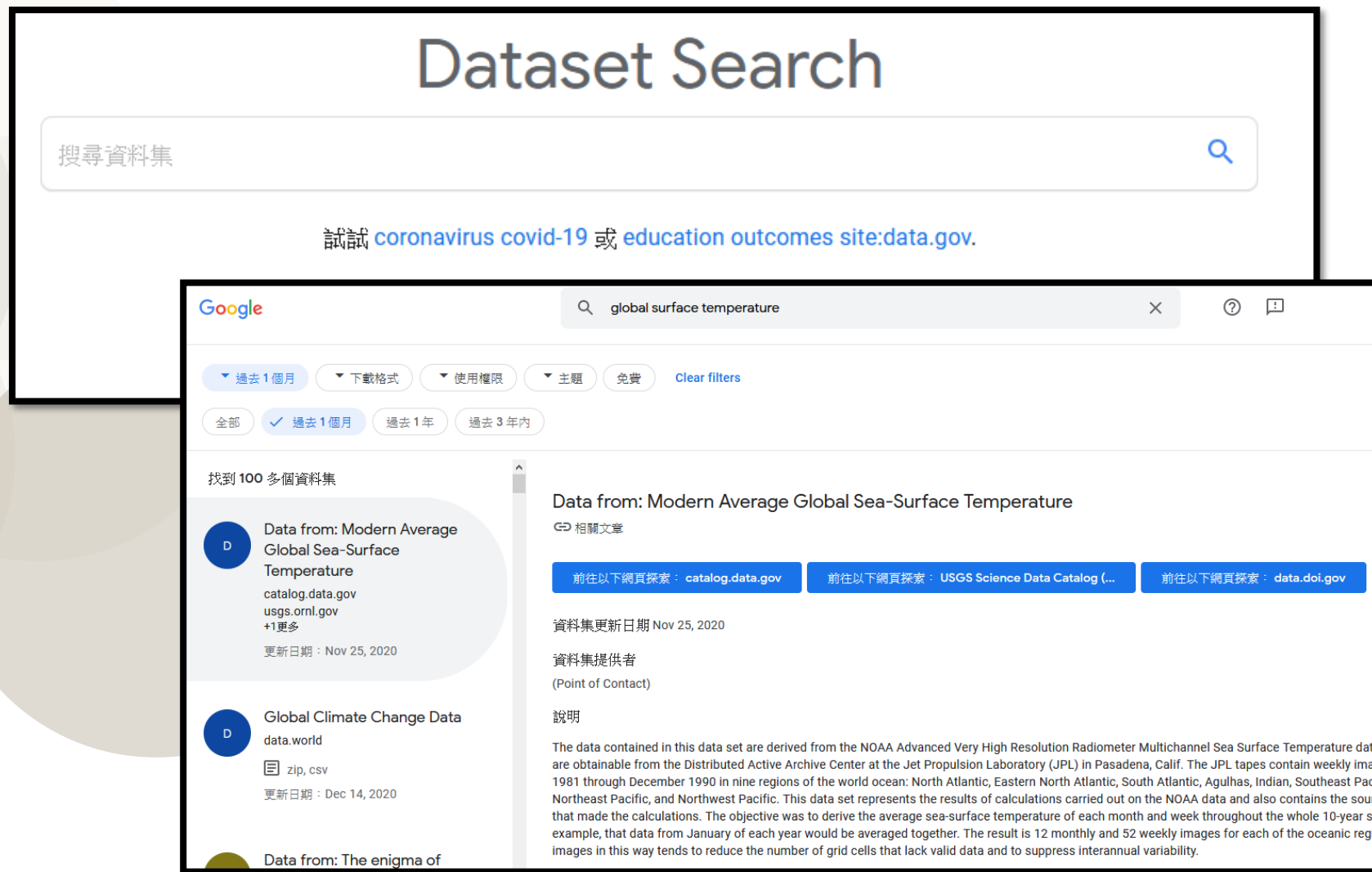


# 綜合型開放資料 查詢平台



# Google Dataset Search

- 整合查詢各公私單位之資料集。
- 包含研究資料、政府資料。
- 提供資料在學術文章的被引資訊及簡介。
- 取得完整資料集可能須付費。
- 提供後分類篩選功能





# Open data network

- 整合查詢美國政府資料為主，輔以研究資料及其他國家或國際組織資料。
- 由提供資料平台及管理分析、視覺化服務Socrata公司建置。
- 整合各國政府、學校、研究機構、非營利組織或公司之公開資料集，如NASA、地方政府調查統計資料、鐵路公司資料等。

## OPEN DATA NETWORK

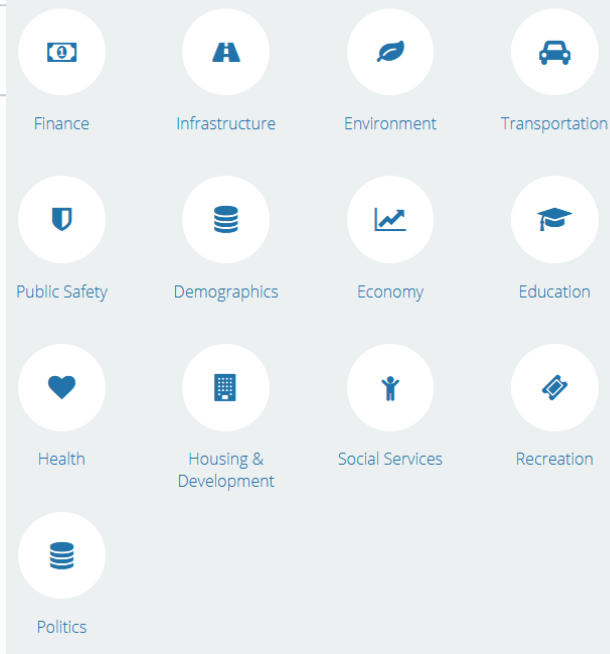
Publish data and share. Find data and build. Answer questions.

population count

### 查詢Tips：

1. 廣泛檢索定位可能提供資料平台
2. 從平台的角度思考資料集命名方式

#### DATA CATEGORIES





# 02

## Open Government Data

- 國際組織資料平台
- 各國政府資料平台
- 台灣政府資料查詢方式



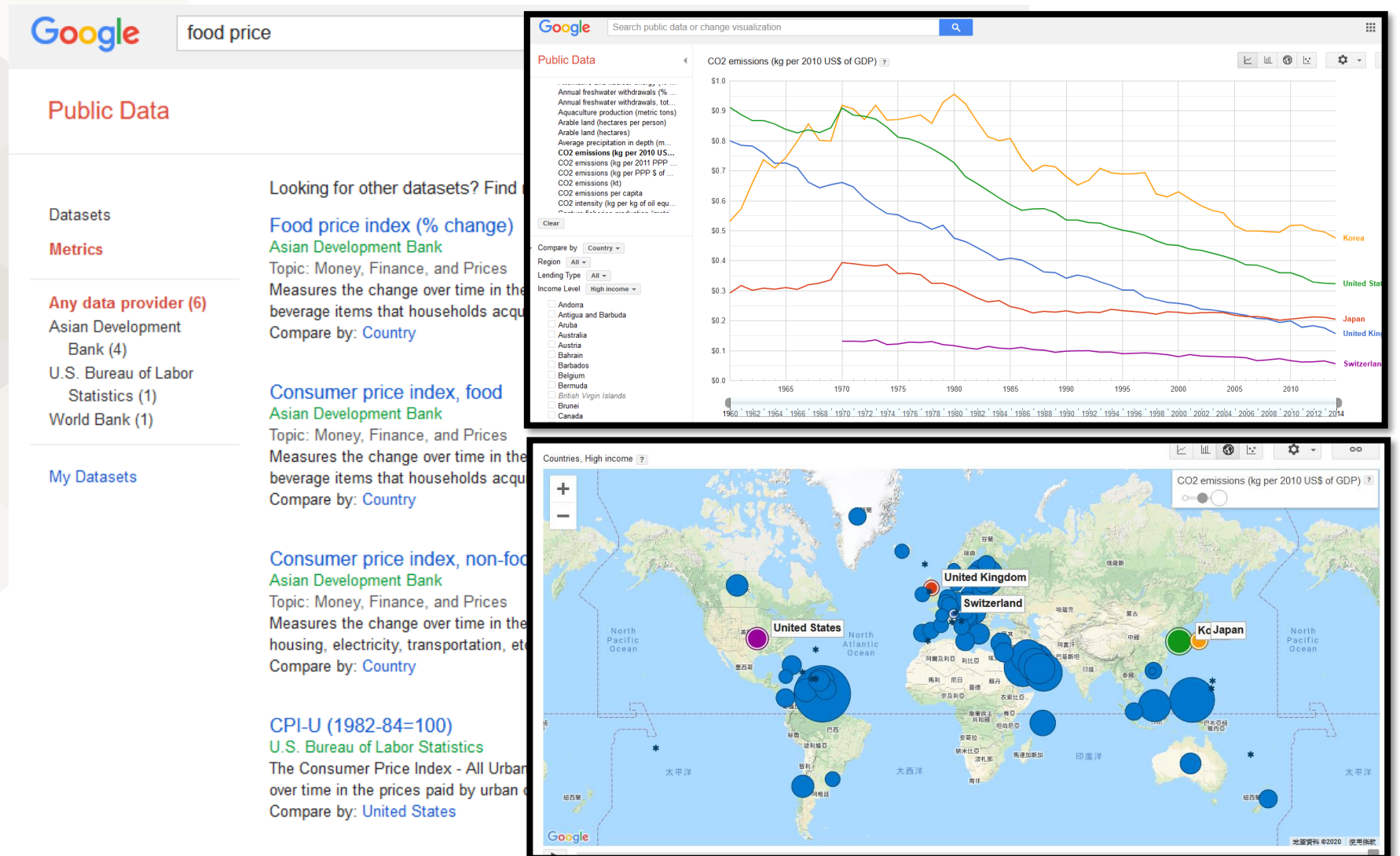


# 國際組織 資料平台



# Google Public Data Explorer

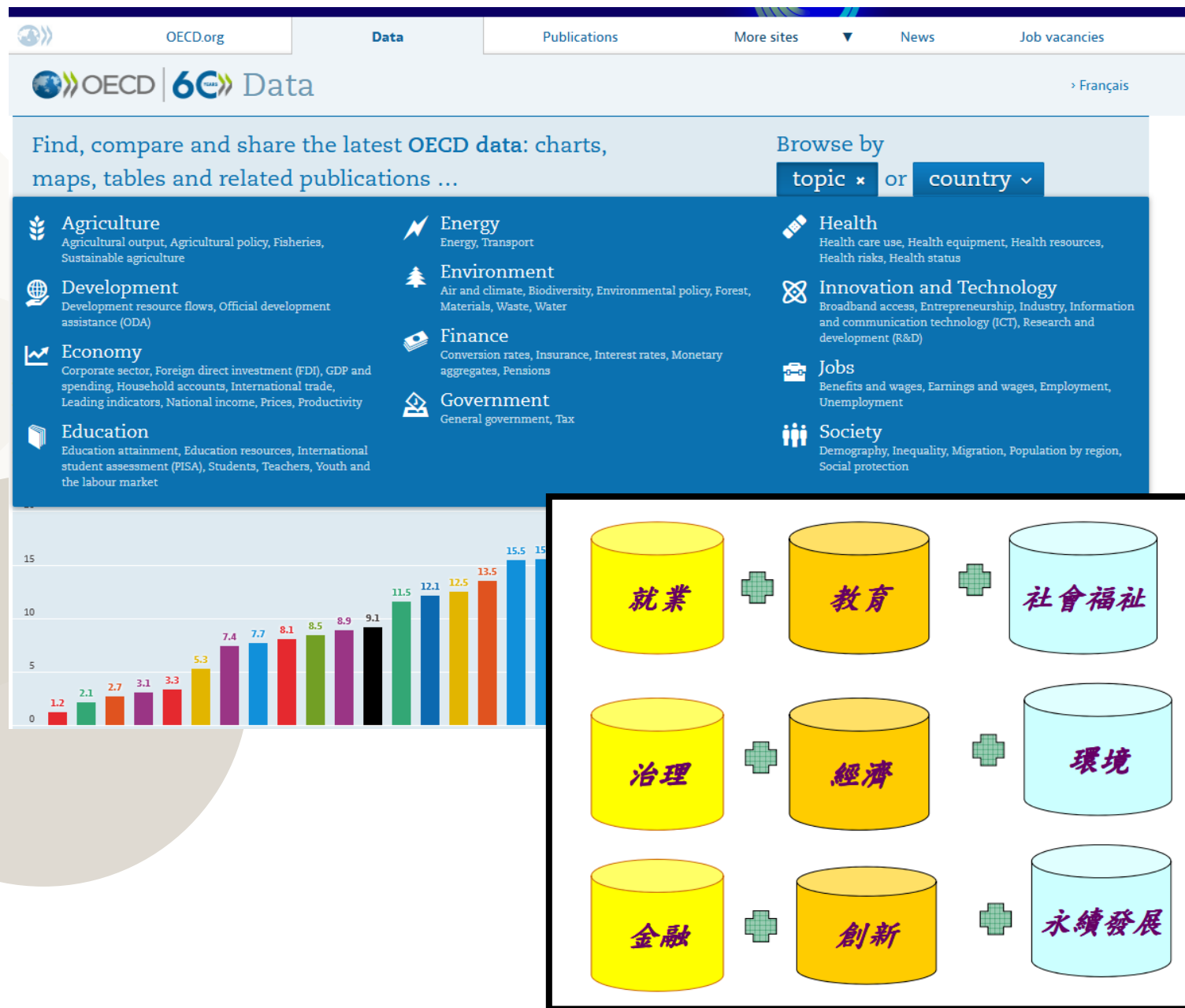
- 政府資料查詢
- 以提供國際組織資料為主，輔以部分國家中央、地方政府之開放資料集或指標
- 提供資料分析視覺化功能
- 部分即時更新





# OECD Data

- <https://data.oecd.org>
- OECD關心全球經濟成長及跨國政府間的經濟合作與發展，進行多元的社會經濟狀況調查。
- 提供專家調查報告及可供彈性下載運用之指標、數據集。
- 台大訂購付費之OECD iLibrary資料庫。





# UN Data

- <http://data.un.org/Default.aspx>
- 整合聯合國各組織或部分國際組織之統計資料集
- 可依分類瀏覽資料集，資料集透過表格方式彙整呈現，並可自行調整
- 可依國家瀏覽個國家經濟、環境及社會指標概況

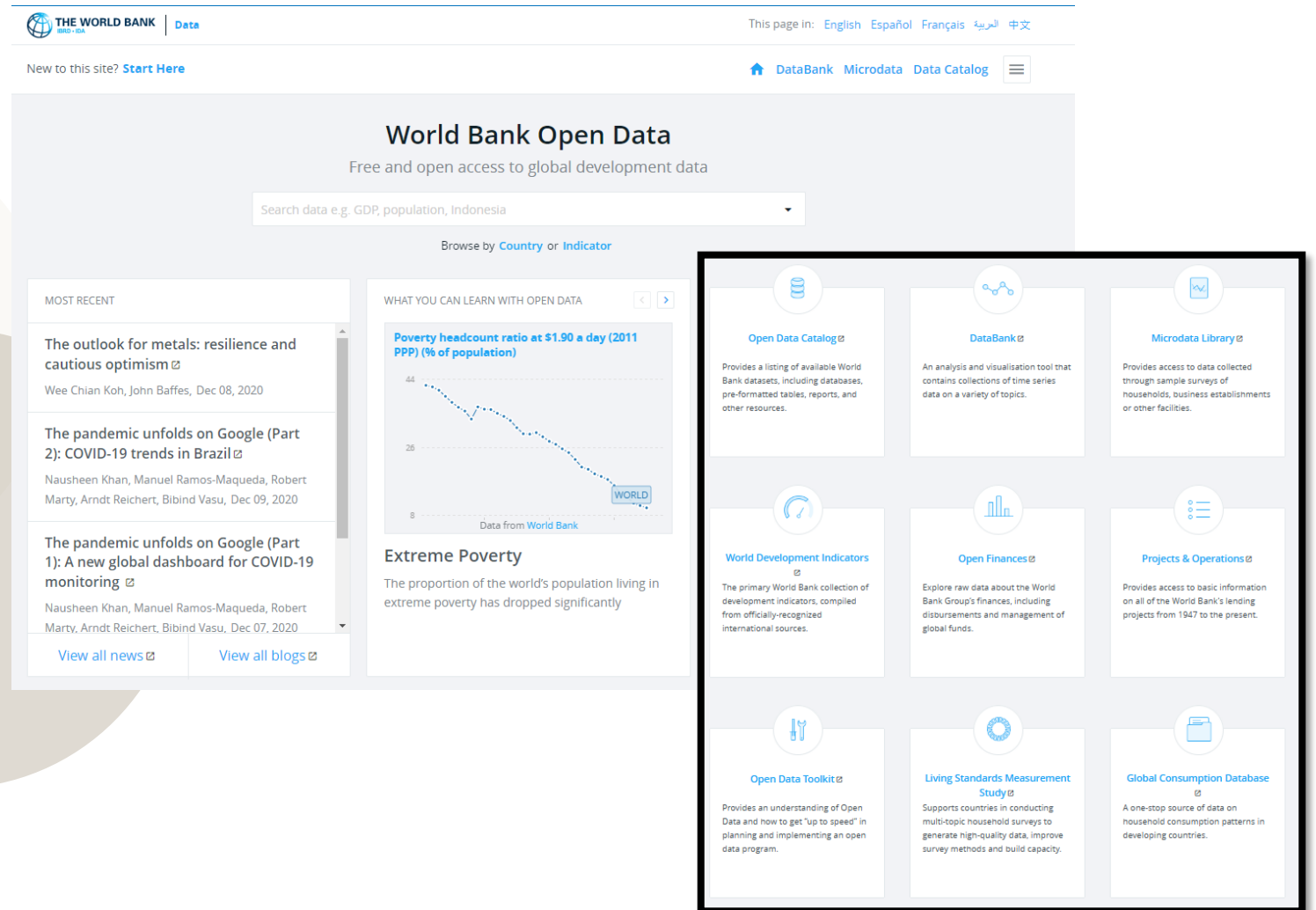
The screenshot displays the UNdata website interface. At the top, the UNdata logo is visible with the tagline "A world of information". Below the logo, there is a navigation bar with links: "Datamarts", "Update Calendar", "Glossary", "API", and "More". A search bar is also present. The main content area is titled "Explorer" and features a tree view of categories: "Crime", "Education", "Energy", "Environment", "Finance", "Food and Agriculture", and "Tea". The "Food and Agriculture" category is expanded, showing sub-categories like "FAOSTAT", "Crops", "Fertilizers by P", "Food Supply", "Forestry Pro", "Land Use", "Live Animals", "Livestock Prim", "Production Ind", and "Suite of Food". The "FAOSTAT" category is selected, and a data table is displayed. The table has columns for years from 2005 to 2018 and rows for various indicators. A sidebar on the left allows for filtering by "Country or Area" (listing Africa, Americas, Argentina, Asia, Azerbaijan, and Bangladesh) and "Year" (listing 2018, 2017, 2016, 2015, 2014, and 2013). The table shows numerical data for each indicator across the years.

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
254,333.00	253,513.00	260,491.00	265,578.00	284,164.00	296,019.00	304,189.00	315,006.00	351,989.00	362,208.00	372,424.00	361,839.00	379,068.00	384,801.00
564,903.00	524,997.00	608,797.00	576,161.00	575,786.00	666,279.00	630,784.00	636,672.00	711,452.00	741,975.00	704,868.00	781,216.00	749,013.00	810,262.00
22,211.00	20,709.00	23,371.00	21,695.00	20,262.00	22,508.00	20,737.00	20,211.00	20,212.00	20,485.00	18,927.00	21,590.00	19,759.00	21,057.00
43,429.00	45,058.00	46,023.00	47,563.00	44,766.00	44,338.00	43,767.00	44,642.00	42,602.00	44,204.00	44,319.00	44,177.00	43,558.00	43,900.00
79,957.00	84,414.00	84,763.00	94,756.00	83,966.00	103,972.00	103,409.00	91,538.00	89,276.00	91,605.00	90,562.00	92,351.00	87,505.00	87,059.00
18,411.00	18,735.00	18,418.00	19,922.00	18,756.00	23,450.00	23,627.00	20,505.00	20,956.00	20,723.00	20,434.00	20,905.00	20,089.00	19,831.00
36,335.00	38,000.00	40,000.00	39,000.00	37,201.00	37,221.00	36,989.00	39,322.00	37,730.00	38,715.00	39,600.00	39,600.00	39,600.00	39,600.00
67,871.00	72,129.00	76,000.00	80,142.00	71,715.00	92,417.00	92,892.00	82,813.00	80,423.00	82,628.00	82,492.00	85,015.00	81,476.00	81,981.00
18,679.00	18,981.00	19,000.00	20,549.00	19,278.00	24,829.00	25,113.00	21,060.00	21,316.00	21,343.00	20,831.00	21,468.00	20,575.00	20,702.00
2,380,148.00	2,415,796.00	2,570,191.00	2,667,539.00	2,707,519.00	2,810,530.00	3,050,290.00	3,139,679.00	3,219,446.00	3,377,881.00	3,464,294.00	3,495,680.00	3,619,969.00	3,759,796.00
3,221,163.00	3,234,318.00	3,471,956.00	3,588,609.00	3,644,751.00	3,844,900.00	4,099,126.00	4,308,108.00	4,521,905.00	4,670,179.00	4,988,709.00	4,979,957.00	5,205,200.00	5,434,370.00
13,533.00	13,388.00	13,509.00	13,453.00	13,462.00	13,680.00	13,438.00	13,721.00	14,046.00	13,826.00	14,400.00	14,246.00	14,379.00	14,454.00
2,915.00	1,796.00	1,717.00	1,004.00	784.00	579.00	544.00	543.00	473.00	472.00	469.00	664.00	642.00	663.00



# World bank open data(1/3)

- <https://data.worldbank.org/>
- 為借款或補助開發中或低度開發國家之國際金融機構
- 旨在消弭貧窮，協助國家社會發展(Working for a World Free of Poverty)
- 提供國際發展資料與指標





# World bank open data(2/3)

- Open data catalog
  - Time Series：長期調查資料集與統計指標
  - Microdata：個別議題之抽樣、普查資料
  - Geospatial：包含地理空間資訊資料
  - 可依國家瀏覽

The screenshot displays the World Bank Data Catalog interface. At the top, the logo for 'THE WORLD BANK' and 'Data Catalog' are visible, along with a 'Login' button. Below the header, there are navigation links: 'Data', 'Collections', 'Getting Started', and 'FAQs'. The main content area is divided into two sections. On the left, a 'REFINED BY' sidebar allows filtering by 'COUNTRY' (listing Uzbekistan, Vanuatu, Venezuela, Vietnam, Virgin Islands, Yemen, Zambia, and Zimbabwe) and 'DATA TYPE' (with 'Time Series' selected). The right section shows search results for 'groundwater'. It includes a search bar with the criteria 'All Words' selected, tabs for 'All', 'Datasets', 'Indicators', and 'Visualizations', and a 'Sort By' dropdown set to 'Most Relevant'. Two results are shown: 'Renewable Internal Freshwater Resources, Total (Billion Cubic Meters)' and 'Renewable Internal Freshwater Resources Per Capita (Cubic Meters)'. Each result includes a description, code, data type, periodicity, dataset, source, last updated date, and access options (Query Tool, API, Download). Icons for 'Preview', 'Data Availability', and 'Also Found In' are provided for each result.

THE WORLD BANK | Data Catalog

Login

Data Collections Getting Started FAQs

REFINED BY RESET

COUNTRY

- ☐ Uzbekistan (4)
- ☐ Vanuatu (2)
- ☐ Venezuela, RB (2)
- ☐ Vietnam (2)
- ☐ Virgin Islands (U.S.) (2)
- ☐ Yemen, Rep. (2)
- ☐ Zambia (2)
- ☐ Zimbabwe (2)

DATA TYPE

- ☒ Time Series (2)

PERIODICITY

RATING

Search Criteria: ☒ All Words ☐ Any Word

groundwater

All Datasets Indicators Visualizations

Sort By: Most Relevant | Alphabetical | Last Updated Showing 1 - 2 of 2 results

**Renewable Internal Freshwater Resources, Total (Billion Cubic Meters)**

Renewable internal freshwater resources flows refer to internal renewable resources (internal river flows and groundwater from rainfall) in the country.

Code: ER.H2O.INTR.K3 Data Type: Time Series Periodicity: Annual Dataset: World Development Indicators Source: Food and Agriculture Organization, AQUASTAT data. Last Updated: Oct 15, 2020 Access Options: Query Tool, API, Download

Preview Data Availability Also Found In

**Renewable Internal Freshwater Resources Per Capita (Cubic Meters)**

Renewable internal freshwater resources flows refer to internal renewable resources (internal river flows and groundwater from rainfall) in the country. Renewable internal freshwater resources per capita are calculated using...

See More

Code: ER.H2O.INTR.PC Data Type: Time Series Periodicity: Annual Dataset: World Development Indicators Source: Food and Agriculture Organization, AQUASTAT data. Last Updated: Oct 15, 2020 Access Options: Query Tool, API, Download

Preview Data Availability Also Found In



# Data Bank

- 資料視覺化及分析工具
- 跨資料集、跨指標、國家、年代整合資料



The screenshot displays the DataBank World Development Indicators interface. The top navigation bar includes language options: English, Español, Français, العربية, and 中文. The main title is "DataBank | World Development Indicators". Below the title, there are tabs for "Variables", "Layout", "Styles", "Save", "Share", and "Embed". The "Variables" tab is active, showing a list of variables under the "Country" category. The "Available" count is 217, and the "Selected" count is 1. A search bar is present with the text "Enter Keywords for". Below the search bar, a list of countries is shown, each with a checkbox and a small icon. The countries listed are Afghanistan, Albania, Algeria, American Samoa, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Brunei Darussalam, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Cape Verde, Central Europe and the Baltics, Chad, Chile, China, Colombia, Costa Rica, Cote d'Ivoire, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Estonia, Ethiopia, European Union, Fiji, Finland, France, Gabon, Gambia, Germany, Ghana, Greece, Greenland, Guatemala, Guinea, Guinea-Bissau, Guyana, Honduras, Hungary, Iceland, India, Indonesia, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Korea, Democratic, Korea, Republic of, Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Latvia, Lebanon, Lesotho, Liberia, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Mauritania, Mauritius, Mexico, Moldova, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Myanmar, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Russian Federation, Rwanda, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, South Africa, South Asia, South Korea, Spain, Sri Lanka, Sudan, Suriname, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Timor-Leste, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, United Arab Emirates, United Kingdom, United States, Uruguay, Uzbekistan, Vanuatu, Venezuela, Viet Nam, Yemen, Zambia, and Zimbabwe. The "Preview" tab is also visible, showing a table of data for the variable "Renewable internal freshwater resources, total (billion cubic meters)". The table has columns for the year (1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000) and rows for Curacao, Cyprus, Czech Republic, and Denmark. The data values are: Curacao (..), Cyprus (..), Czech Republic (..), Denmark (..), 1994 (..), 1995 (..), 1996 (..), 1997 (0.8, 13.2), 1998 (..), 1999 (..), and 2000 (..).

- 資料視覺化及分析工具
- 跨資料集、跨指標、國家、年代整合資料

- 資料視覺化及分析工具
- 跨資料集、跨指標、國家、年代整合資料

[illegible]



# ILOSTAT(1/2)

- <https://ilostat.ilo.org/>
- 國際勞工組織建置之世界勞動力相關調查、研究資料平台。
- 關注勞動力的供給、工作條件、競爭力、收入、待遇、生活條件等議題。
- Excel的表單資料為主
- 提供excel 外掛程式快速導入資料。

The screenshot displays the ILOSTAT website, which is the leading source of labour statistics. The homepage features a dark blue header with the ILO logo and navigation links: DATA, COUNTRY PROFILES, RESOURCES, and a search icon. Below the header, the main heading reads "The leading source of labour statistics." followed by a grid of key topics: Key topics (COVID-19, Sustainable development, Child labour, Unpaid work), Labour supply (Population and labour force, Employment, Unemployment), Working conditions (Wages, Working time, Safety and health at work), and Poverty and inequality (Working poor, Labour income and inequality, Informal economy, Social protection). A section titled "Competitiveness" (Labour productivity, Labour costs, Inflation) is also visible. The "Data catalogue" section is shown below, featuring a search bar with filters for Frequency and Database, and a table of data indicators.

Filename	Zipped csv	Data Explorer	Excel summary
+ SDG indicator 1.1.1 - Working poverty rate (percentage of employed living below US\$1.90 PPP) (%)   Annual	gz	<a href="#">View</a>	<a href="#">xlsx</a>
+ SDG indicator 1.3.1 - Proportion of population covered by social protection floors/systems (%)   Annual	gz	<a href="#">View</a>	<a href="#">xlsx</a>
+ SDG indicator 5.5.2 - Female share of employment in managerial positions (%)   Annual	gz	<a href="#">View</a>	<a href="#">xlsx</a>
+ SDG indicator 8.2.1 - Annual growth rate of output per worker (GDP constant 2011 international \$ in PPP) (%)   Annual	gz	<a href="#">View</a>	<a href="#">xlsx</a>
+ SDG indicator 8.2.1 - Annual growth rate of output per worker (GDP constant 2010 US \$) (%)   Annual	gz	<a href="#">View</a>	<a href="#">xlsx</a>
+ SDG indicator 8.3.1 - Proportion of informal employment in total employment by sex and sector (%)   Annual	gz	<a href="#">View</a>	<a href="#">xlsx</a>
+ SDG indicator 8.5.1 - Average hourly earnings of employees by sex (Local currency)   Annual	gz	<a href="#">View</a>	<a href="#">xlsx</a>

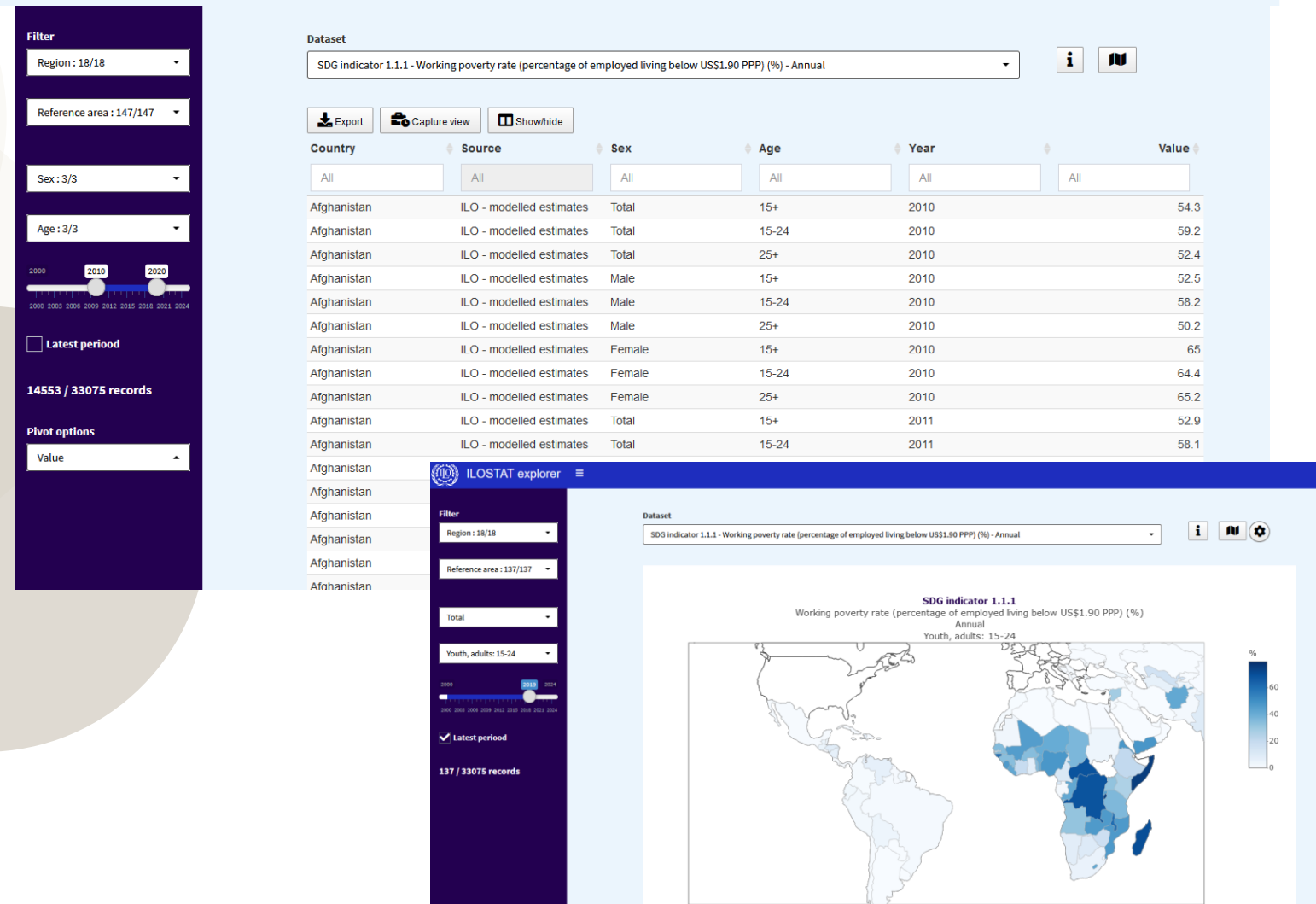


# ILOSTAT(2/2)

## • Data Explorer

- 選定資料集後點選View
- 提供各指標，跨國家、勞動年齡、性別、指標值之表格比較，並可匯出
- 提供地圖呈現各地特定族群的指標數值

Filename	Zipped csv	Data Explorer	Excel summary
+ SDG indicator 1.1.1 - Working poverty rate (percentage of employed living below US\$1.90 PPP) (%)   Annual	gz	<a href="#">View</a>	<a href="#">xlsx</a>
+ SDG indicator 1.3.1 - Proportion of population covered by social protection floors/systems (%)   Annual	gz	<a href="#">View</a>	<a href="#">xlsx</a>





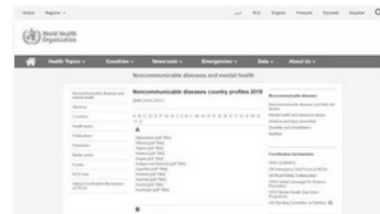
# WHO Data

- <https://www.who.int/data/collections>
- 提供全球健康、安全與生活福祉相關資料，包含特定疾病、食品安全、交通安全、飲用水、健康支出或研究等。
- 提供多主題平台，可依需求使用。

## Data collections

The World Health Organization manages and maintains a wide range of data collections related to global health and well-being as mandated by our Member States.

Explore our key health data products and resources from across the organization.



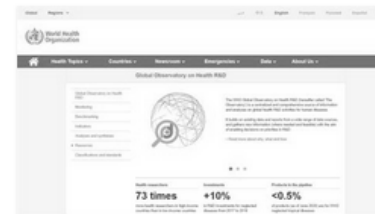
### Noncommunicable diseases profiles

Number of lives that can be saved by implementing WHO 'best buys', Risk of premature death, National targets, Risk factors, National Systems Response



### e-SPAR

Electronic State Parties Self-Assessment Annual Reporting Tool (e-SPAR) is a web-based platform proposed to support State Parties of the International Health Regulations (IHR) to fulfil their obligation to



### The global observatory for health research and development

The WHO Global Observatory on Health R&D is a centralized and comprehensive source of information and analyses on global health R&D



### HIV laws and policies database

Laws and Policies Analytics is a platform to view data on HIV-related laws and policies in countries compiled from official sources and reported by both national authorities and civil society to UNAIDS and



### Maternal and perinatal health



### UNAIDS AID Sinfo



### TB Data



### Neglected tropical diseases: Preventive chemotherapy



# IMF Data

- <https://data.imf.org/?sk=388dfa60-1d26-4ade-b505-a05a558d9a42>
- 國際貨幣基金組織
- 提供金融、匯率及國際貨幣相關指標。
- 須登入財下載資料
- 可於平台上操作調整為所需表格

The screenshot shows the IMF Data website interface. The top navigation bar includes the IMF logo, the text 'INTERNATIONAL MONETARY FUND', and links for 'SIGN IN' and 'REGISTER'. Below this, a secondary navigation bar lists 'IMF.ORG', 'ELIBRARY', 'BOOKSTORE', 'MCM DATA', 'DATASETS', 'DATA TOPICS', and 'HELP'. The main header area reads 'IMF DATA ACCESS TO MACROECONOMIC & FINANCIAL DATA'. The page content is titled 'Asia and Pacific Regional Economic Outlook' and includes a definition of the APD Regional Economic Outlook (REO). It also provides geographic coverage, methodology, and sectoral coverage information. A table of 'Gross domestic product, constant prices, National Currency, percent change' is displayed, showing data for various countries from 2016 to 2025. The table is organized with columns for years and rows for countries. The countries listed are Australia, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, P.R.: Hong Kong, China, P.R.: Macao, China, P.R.: Mainland, Fiji, India, Indonesia, Japan, Kiribati, Korea, Republic of, Lao People's Democratic Republic, and Malaysia. The data shows a general upward trend in GDP growth for most countries, with some fluctuations in the early years.

**INTERNATIONAL MONETARY FUND**

SIGN IN OR REGISTER

IMF.ORG ELIBRARY BOOKSTORE MCM DATA DATASETS DATA TOPICS HELP

IMF DATA ACCESS TO MACROECONOMIC & FINANCIAL DATA

Home Datasets Data Topics Download IMF Data

Search for IMF data: Search GO

Why sign in or register?

**INTERNATIONAL MONETARY FUND**

SIGN IN OR REGISTER

IMF.ORG ELIBRARY BOOKSTORE MCM DATA DATASETS DATA TOPICS HELP

IMF DATA ACCESS TO MACROECONOMIC & FINANCIAL DATA

Regional Economic Outlook: Asia and Pacific

Latest Update Date: 10/21/2020 Data are based on IMF WEO April 2020

At a Glance By Country By Indicator Query Documents Archive

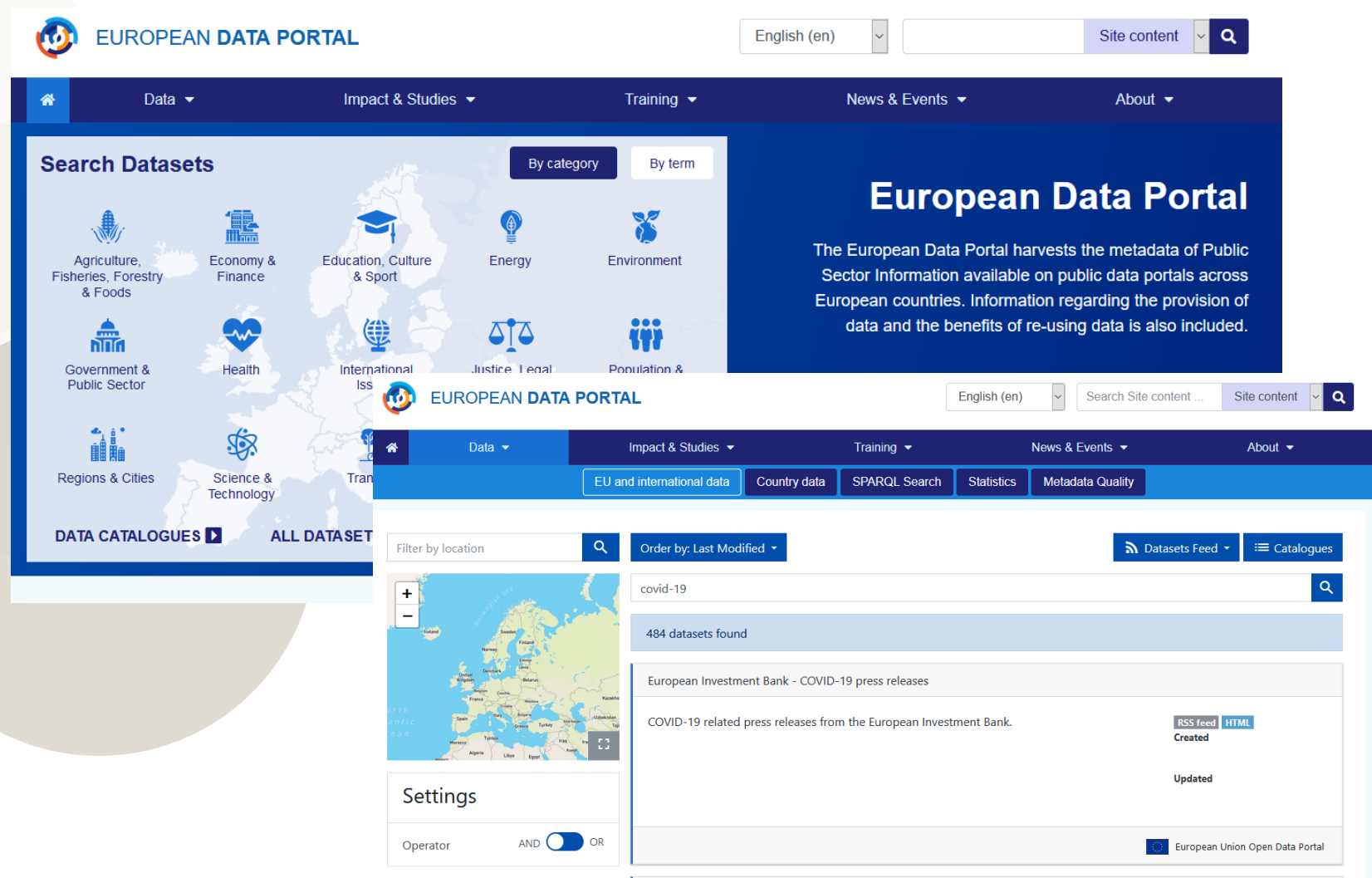
Gross domestic product, constant prices, National Currency, percent change

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Australia	2.8	2.4	2.8	1.8	-4.2	3.0	2.8	2.6	2.6	2.5
Bangladesh	7.1	7.3	7.9	8.2	3.8	4.4	7.9	7.3	7.3	7.3
Bhutan	7.4	6.3	3.8	3.8	0.6	-0.5	5.8	6.9	8.1	6.0
Brunei Darussalam	-2.5	1.3	0.1	3.9	0.1	3.2	3.7	2.3	2.0	1.8
Cambodia	6.9	7.0	7.5	7.0	-2.8	6.8	7.3	7.4	7.4	6.9
China, P.R.: Hong Kong	2.2	3.8	2.8	-1.2	-7.5	3.7	3.4	2.8	2.8	2.9
China, P.R.: Macao	-0.7	9.9	5.4	-4.7	-52.3	23.9	30.0	25.1	8.2	6.0
China, P.R.: Mainland	6.8	6.9	6.7	6.1	1.9	8.2	5.8	5.7	5.6	5.5
Fiji	2.5	5.4	3.5	-1.3	-21.0	11.5	8.5	5.0	4.0	2.2
India	8.3	7.0	6.1	4.2	-10.3	8.8	8.0	7.6	7.4	7.2
Indonesia	5.0	5.1	5.2	5.0	-1.5	6.1	5.3	5.2	5.1	5.1
Japan	0.5	2.2	0.3	0.7	-5.3	2.3	1.7	1.2	1.0	0.6
Kiribati	5.1	0.9	2.3	2.3	-1.1	3.0	1.9	1.9	1.8	1.8
Korea, Republic of	2.9	3.2	2.9	2.0	-1.9	2.9	3.1	2.9	2.6	2.4
Lao People's Democratic Republic	7.0	6.8	6.3	5.2	0.2	4.8	5.6	5.8	5.8	6.1
Malaysia	4.4	5.8	4.8	4.3	-6.0	7.8	6.0	5.7	5.3	5.0



# European Data Portal

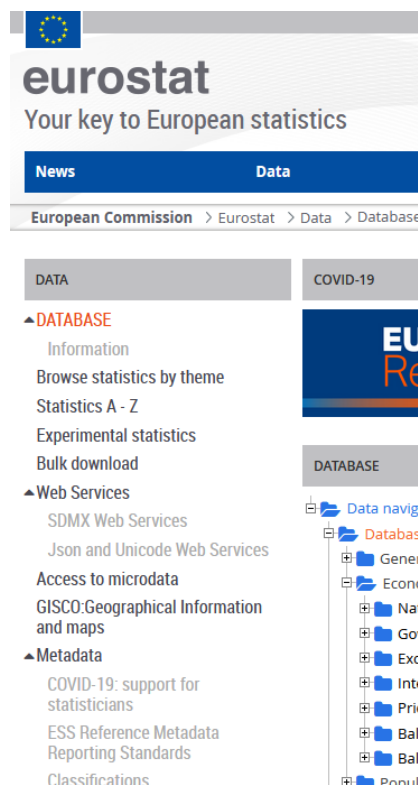
- <https://www.europeandataportal.eu/en>
- 檢索時選擇by country，提供跨各國平台檢索，查找國家、地區資料。
- 檢索時選擇EU and International Data查找歐盟資料。
- 可依主題、國家瀏覽



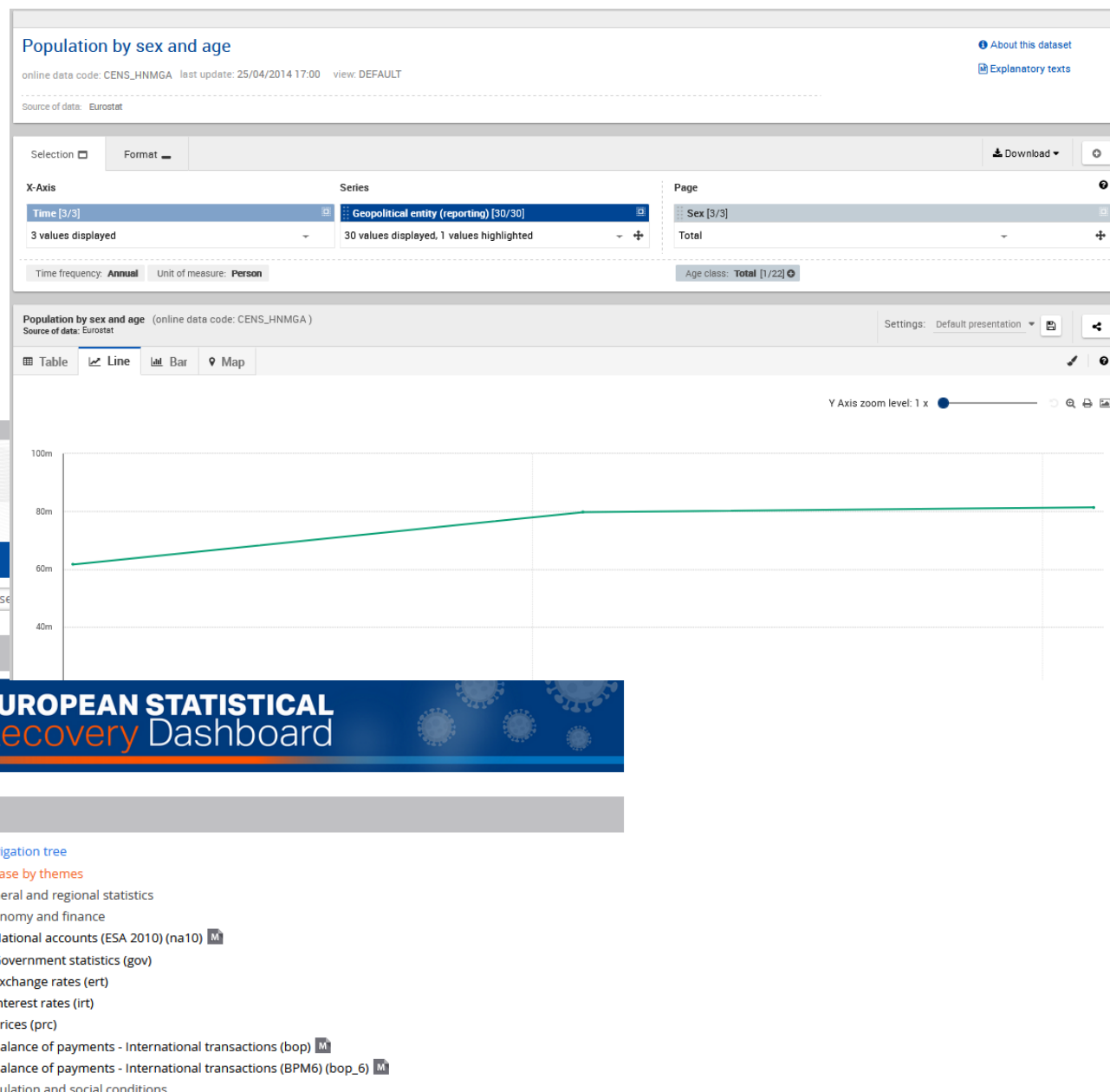


# Eurostat

- <https://ec.europa.eu/eurostat/web/main/data/database>
- 歐洲統計局，歐盟統計機構整合各國相關部焚資料彙整為歐盟概況統計與指標。
- 含歐盟人口、經濟、金融、交通、農業、環境、貿易、能源、科技等發展統計與指標。
- 瀏覽查找資料集，提供壓縮檔下載或線上表格、圖表，可彈性調整。



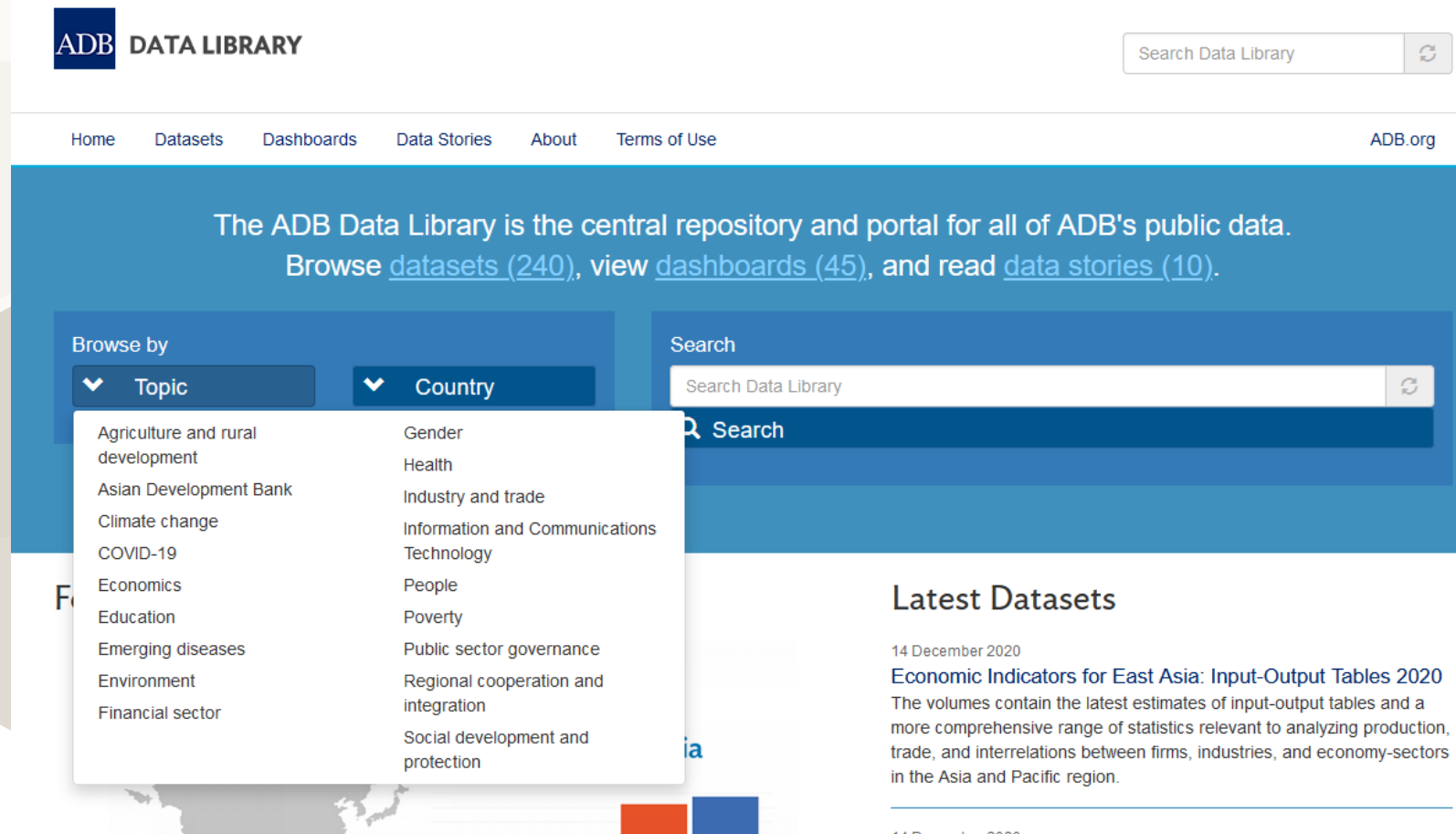
The image shows the Eurostat logo with the tagline "Your key to European statistics". Below the logo is a navigation menu with "News" and "Data" tabs. The "Data" tab is selected, showing a breadcrumb trail: "European Commission > Eurostat > Data > Database". Below this, there are sections for "DATA" and "COVID-19". The "DATA" section includes links for "DATABASE", "Information", "Browse statistics by theme", "Statistics A - Z", "Experimental statistics", and "Bulk download". The "COVID-19" section includes links for "Web Services", "SDMX Web Services", "Json and Unicode Web Services", "Access to microdata", "GISCO: Geographical Information and maps", "Metadata", "COVID-19: support for statisticians", "ESS Reference Metadata Reporting Standards", and "Classifications".





# ADB Data Library

- <https://data.adb.org/>
- 亞洲開發銀行，促進亞洲經濟與社會發展的國際金融機構
- 主要提供亞洲各國經融、經濟相關資料下載
- 可依國家、主題瀏覽







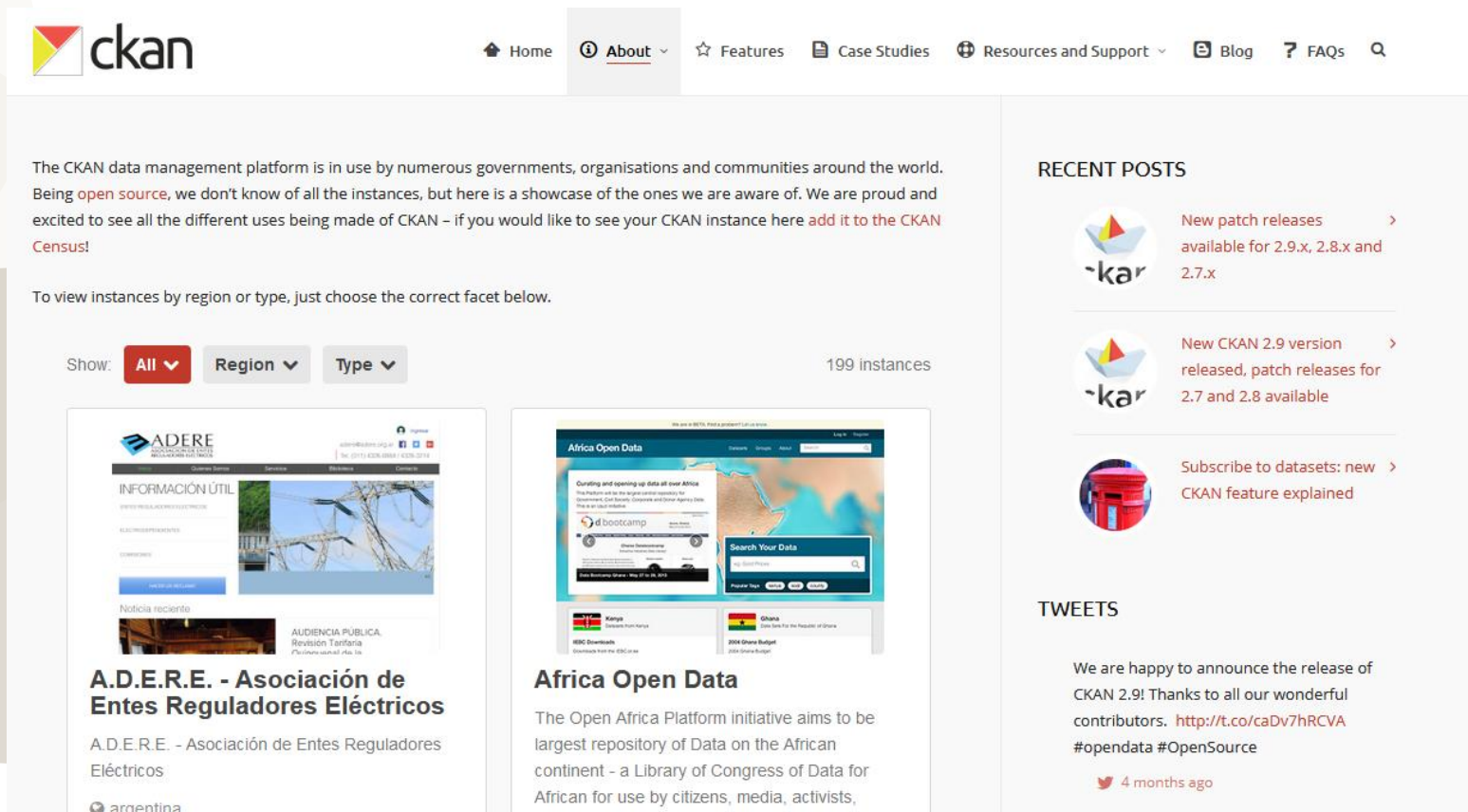
# 各國政府 資料平台



# Ckan




## 名錄

- <https://ckan.org/about/instances/>
- Ckan提供為政府資料管理開源工具
- 在其網站整合所有應用其工具的各國中央、地方政府網站
- 為各國政府開放資料網站名錄



The screenshot displays the CKAN website's 'About' page, which features a list of data instances. The page has a navigation bar with links for Home, About, Features, Case Studies, Resources and Support, Blog, and FAQs. The main content area includes a description of CKAN as a data management platform used by governments and communities. Below this, there are filters for 'Show' (All, Region, Type) and a count of '199 instances'. Two featured instances are shown: 'A.D.E.R.E. - Asociación de Entes Reguladores Eléctricos' and 'Africa Open Data'. The 'Africa Open Data' instance is highlighted with a larger preview image and a description of the Open Africa Platform initiative. On the right side, there are sections for 'RECENT POSTS' and 'TWEETS'.

**RECENT POSTS**

-  New patch releases available for 2.9.x, 2.8.x and 2.7.x
-  New CKAN 2.9 version released, patch releases for 2.7 and 2.8 available
-  Subscribe to datasets: new CKAN feature explained

**TWEETS**

We are happy to announce the release of CKAN 2.9! Thanks to all our wonderful contributors. <http://t.co/caDv7hRCVA> #opendata #OpenSource

4 months ago



# Amazon AWS

- <https://registry.opendata.aws/>
- 為Amazon提供的open data管理工具
- 提供以美國為主的開放資料平台名錄
- 以政府資料為主，亦包含FB等私人單位，未履行社會責人提供之開放資料。

## 名錄

### Registry of Open Data on AWS



#### About

This registry exists to help people discover and share datasets that are available via AWS resources. [Learn more about sharing data on AWS.](#)

[See all usage examples for datasets listed in this registry.](#)

See datasets from [Facebook Data for Good](#), [NASA Space Act Agreement](#), [NIH STRIDES](#), [NOAA Big Data Program](#), [Space Telescope Science Institute](#), and [Amazon Sustainability Data Initiative](#).

#### Search datasets (currently 205 matching datasets)

#### Add to this registry

If you want to add a dataset or example of how to use a dataset to this registry, please follow the instructions on the [Registry of Open Data on AWS GitHub repository](#).

Unless specifically stated in the applicable dataset documentation, datasets available through the Registry of Open Data on AWS are not provided and maintained by AWS. Datasets are provided and maintained by a variety of third parties under a variety of licenses. Please check dataset licenses and related documentation to determine if a dataset may be used for your application.

#### The Cancer Genome Atlas

[cancer](#) [genomic](#) [life sciences](#) [STRIDES](#) [whole genome sequencing](#)

The Cancer Genome Atlas (TCGA), a collaboration between the National Cancer Institute (NCI) and National Human Genome Research Institute (NHGRI), aims to generate comprehensive, multi-dimensional maps of the key genomic changes in major types and subtypes of cancer. TCGA has analyzed matched tumor and normal tissues from 11,000 patients, allowing for the comprehensive characterization of 33 cancer types and subtypes, including 10 rare cancers. The dataset contains open Clinical Supplement, Biospecimen Supplement, RNA-Seq Gene Expression Quantification, miRNA-Seq Isoform Expression Quantification...

[Details](#) →

#### Usage examples

- [A Pan-Cancer Analysis of Enhancer Expression in Nearly 9000 Patient Samples](#) by Han Chen, Chunyan Li, et al.
- [Spatial Organization And Molecular Correlation Of Tumor-Infiltrating Lymphocytes Using Deep Learning On Pathology Images](#) by Joel Saltz, Rajarsi Gupta, et al.
- [Cell-of-Origin Patterns Dominate the Molecular Classification of 10,000 Tumors from 33 Types of Cancer](#) by Katherine A. Hoadley, Christina Yau, et al.
- [GDC Legacy Archive](#) by National Cancer Institute
- [An Integrated TCGA Pan-Cancer Clinical Data Resource to Drive High-Quality Survival Outcome Analytics](#) by Jianfang Liu, Tara Lichtenberg, et al.

[See 29 usage examples](#) →

#### Therapeutically Applicable Research to Generate Effective Treatments (TARGET)

[cancer](#) [genomic](#) [life sciences](#) [STRIDES](#) [whole genome sequencing](#)



# Data.Gov

- 發展較早且相對完整的政府開放資料平台
- 整合檢索美國各政府機關開放資料平台
- 可檢索或依資料集、地區瀏覽資料
- 資料可直接下載或導向至其他平台取得

The screenshot displays the Data.Gov website interface. At the top, the header includes the Data.Gov logo and navigation links: DATA, TOPICS, RESOURCES, STRATEGY, DEVELOPERS, and CONTACT. Below the header, a blue banner reads "The home of the U.S. Government's open data" and provides information on how to use the site, including a link to the Coronavirus/COVID-19 page.

The main content area shows search results for "unemployment". The search bar contains "unemployment" and the results are ordered by Relevance. A sidebar on the left allows filtering by location, with a list of topics including Local Government (78), Education (5), and Consumer (4). The main results list shows 165 datasets found for "unemployment". The first result is "Unemployment Rate" from the City of Sioux Falls, followed by "Unemployment Insurance Query (UIQ)" from the Social Security Administration, "Local Area Unemployment Statistics" from the Department of Labor, and "Missourians Receiving Unemployment Benefits" from the State of Missouri.

On the right side, there is a section for "State of New York" with a "Save" button. Below this, there is a "DATA CATALOG" section with "Organizations" and "Datasets" tabs. The "Datasets" tab is selected, showing a list of datasets for the State of New York. The first dataset is "Unemployment Insurance Average Duration: Beginning 2002" with a metadata update date of December 17, 2020. The dataset description states it contains unemployment insurance average duration by region and county from January 2002 to the present. It also includes a "Share on Social Sites" section with links to NY Open Data, Twitter, and Facebook.

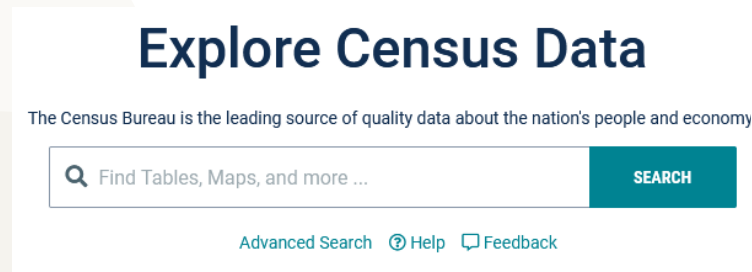
At the bottom right, there is a "Downloads & Resources" section with links to download the dataset in various formats: Comma Separated Values File (49 views), RDF File, and JSON File. Each format has a "Download" button and a link to the dataset page.

入口網站



# Explore Census Data

- <https://data.census.gov/cedsci/>
- 由美國人口普查局建置之平台。
- 以提供美國人口和經濟統計為主
- 進入進階檢索後可依主題、地區、年代、調查名稱瀏覽
- 包含地圖、圖表或文字資料



// Search / Advanced Search

## Advanced Search

Table ID (e.g., DP05)

Narrow search with filters

FIND A FILTER

Q e.g. 336111 - Automobile Manufacturing

### BROWSE FILTERS

#### Topics

Geography

Years

Surveys

Codes

### TOPICS

Business and Economy

#### Education

Employment

Families and Living Arrangements

Government

Health

Housing

Income and Poverty

Populations and People

### EDUCATION

☐ Education

☐ Educational Attainment

#### School Enrollment

### SCHOOL ENROLLMENT

☒ School Enrollment

☐ Grade Enrolled

☐ Type of School

☐ Vocational Training

// Search / Tables / S1401

## SCHOOL ENROLLMENT

Survey/Program: American Community Survey TableID: S1401 Product: 2019: ACS 1-Year Estimates Subject Tables

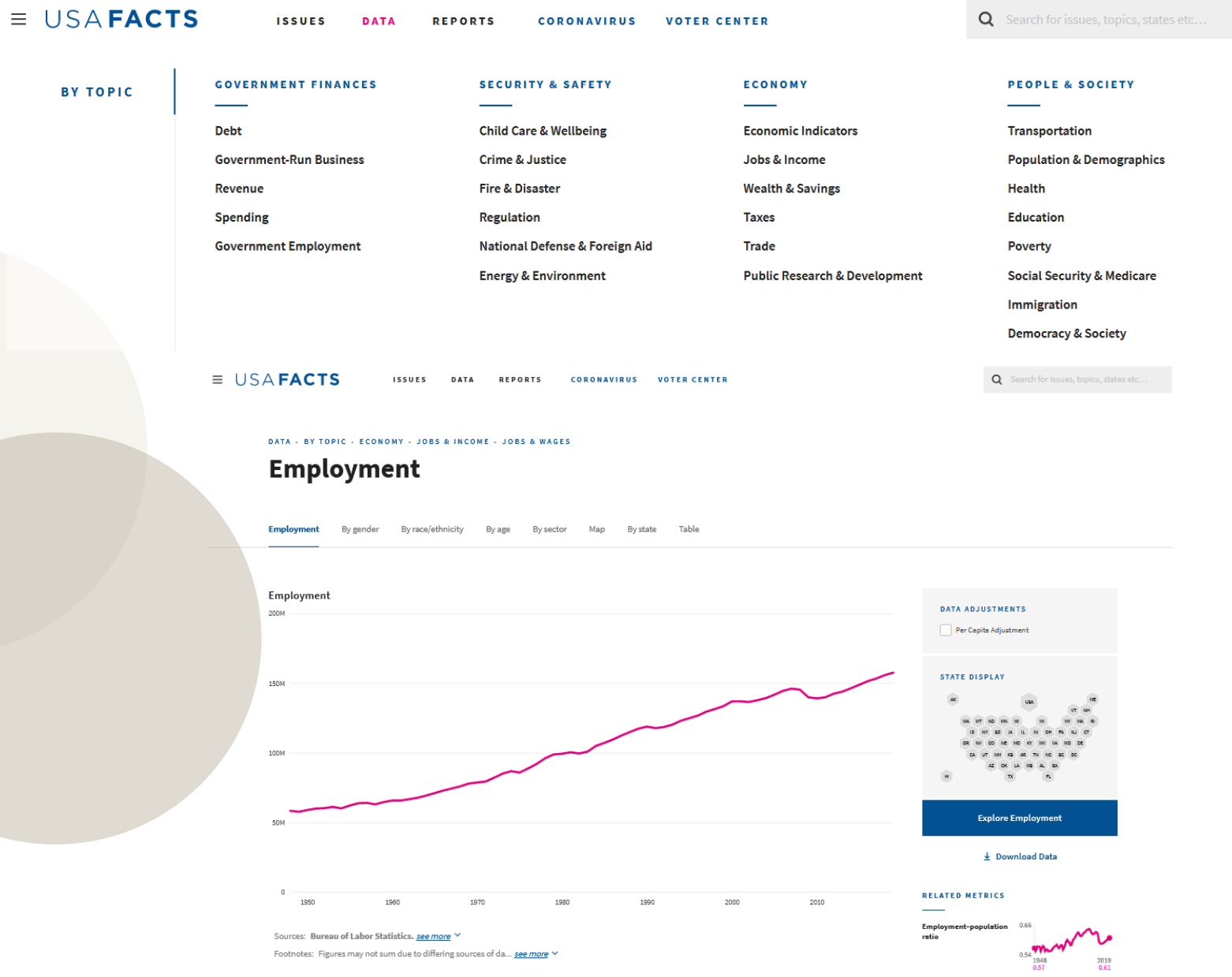
Notes Selections Geos Years 1 Topic Surveys Codes 123 Hide Transpose Filter Margin of Error Restore Export Download More Data Map

Label	United States					
	Total		Percent		In public school	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Population 3 years and over enrolled in school	80,465,620	±90,327	(X)	(X)	(X)	(X)
Nursery school, preschool	5,044,389	±39,125	6.3%	±0.1	3,012,296	±28,447
Population 5 to 12th grade	53,591,923	±56,277	66.6%	±0.1	47,882,800	±75,092
Kindergarten	4,011,764	±36,839	5.0%	±0.1	3,515,358	±36,286
Elementary: grade 1 to grade 4	15,728,625	±56,885	19.5%	±0.1	14,061,521	±59,434
Elementary: grade 5 to grade 8	16,918,899	±64,578	21.0%	±0.1	15,096,854	±67,521
High school: grade 9 to grade 12	16,932,635	±40,046	21.0%	±0.1	15,209,067	±39,751
College, undergraduate	17,507,427	±67,260	21.8%	±0.1	13,817,325	±61,543
Graduate, professional school	4,321,881	±44,244	5.4%	±0.1	2,593,952	±30,990
Population enrolled in college or graduate school	21,829,308	±77,075	27.1%	±0.1	16,411,277	±73,023
Males enrolled in college or graduate school	9,702,145	±51,311	24.4%	±0.1	7,358,207	±46,419
Females enrolled in college or graduate school	12,127,163	±54,283	29.8%	±0.1	9,053,070	±53,498
Population 3 to 4 years	8,157,769	±40,694	(X)	(X)	(X)	(X)
3 to 4 year olds enrolled in school	3,992,318	±33,018	48.9%	±0.4	2,372,329	±25,826
Population 5 to 9 years	19,690,437	±69,224	(X)	(X)	(X)	(X)
5 to 9 year olds enrolled in school	18,765,258	±68,335	95.3%	±0.1	16,408,336	±71,463



# USA Facts

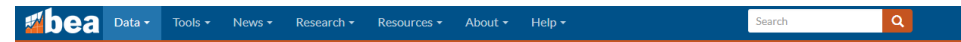
- 非營利組織USA Facts彙整分析提供美國人口、財政及政府影響之資料與報告
- 資料主題包含財政、安全、經濟、社會
- 提供視覺化圖、表及地圖，並可下載原始資料之csv檔





# U.S. Bureau of Economic Analysis(BAE)

- 美國經濟分析局，提供美國經濟表現資料。
- 依主題、地區瀏覽，或以國家、地區、產業為單位了解概況。
- 點選Interactive Data查看表格、圖表，並可自行調整指標、範圍



## BEA Data

To find a statistic, or to explore BEA's data, start with one of the groupings below.

### Browse Data by Topic

Gross Domestic Product (GDP) • Consumer Spending • Income & Saving • Industries • International Trade & Investment • Investment in Fixed Assets • Employment • Government • Special Topics

### Browse Data by Place

United States • United States & the World • States and Territories • County, Metro, and Other Local Areas

### Browse Data by Economic Accounts

National • Regional • Industry • International

## Data by Topic

Gross Domestic Product (GDP)

Consumer Spending

Income & Saving

Industries

International Trade & Investment

Prices & Inflation

Investment in Fixed Assets

Employment

Government

Special Topics

All Topics

## Consumer Spending

### Consumer Spending

The nation's primary measure of consumer spending, or personal consumption expenditures (PCE), is the value of the goods and services purchased by, or on the behalf of, U.S. residents. At the national level, BEA publishes annual, quarterly, and monthly estimates of consumer spending.

### Consumer Spending by State

Spending by residents of the 50 states and D.C.

### Personal Consumption Expenditures Price Index

Measures inflation in the prices paid by people living in the United States

### Personal Consumption Expenditures Price Index, Excludes

The core PCE price index excludes two volatile categories to reveal underlying inflation.

## Consumer Spending

### Consumer Spending

October 2020	0.5 percent
September 2020	1.2 percent
August 2020	1.2 percent
July 2020	1.5 percent

Consumer spending, or personal consumption expenditures (PCE), is the value of the goods and services purchased by, or on the behalf of, U.S. residents. At the national level, BEA publishes annual, quarterly, and monthly estimates of consumer spending.

Current Release

Quick Guide: Personal Income and Outlays Releases

Current Release: November 25, 2020 Next Release: December 23, 2020



### Interactive Data

Supplemental Data and Additional Information

### What is Consumer Spending?

The goods and services purchased by, or on

## National Data

### National Income and Product Accounts

Publication Category NIPA Tables Interactive Data

### Table 3.2. Federal Government Current Receipts and Expenditures

[Billions of dollars] Seasonally adjusted at annual rates

Last Revised on: November 25, 2020 - Next Release Date December 22, 2020

Line		2018				2019				2020		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
1	Current receipts	3,492.4	3,527.5	3,617.6	3,633.0	3,674.1	3,704.5	3,702.4	3,763.7	3,753.1	3,468.8	3,687.7
2	Current tax receipts	1,962.9	1,995.0	2,030.5	2,080.0	2,108.5	2,123.4	2,117.7	2,177.1	2,150.0	1,929.7	2,064.5
3	Personal current taxes <sup>1</sup>	1,598.6	1,608.9	1,628.3	1,634.2	1,695.5	1,703.1	1,713.2	1,740.2	1,756.6	1,600.1	1,687.2
4	Taxes on production and imports <sup>2</sup>	150.1	155.2	162.1	183.5	172.1	168.3	175.1	179.2	183.8	131.4	144.7
5	Excise taxes	107.1	107.1	108.5	110.2	95.4	95.0	94.4	94.0	101.6	71.6	78.6
6	Customs duties	41.8	46.9	52.3	72.1	75.5	72.1	79.4	84.0	81.0	58.6	64.8
7	Other	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
8	Taxes on corporate income	188.7	204.7	214.2	234.7	213.8	224.2	201.6	229.7	180.5	171.5	205.3
9	Taxes from the rest of the world	25.4	26.2	26.0	27.5	27.1	27.8	27.9	27.9	29.1	26.6	27.3
10	Contributions for government social insurance	1,327.8	1,337.2	1,353.1	1,360.3	1,391.9	1,397.8	1,402.3	1,416.9	1,436.4	1,374.2	1,434.8
11	From persons	1,322.7	1,332.1	1,347.9	1,355.2	1,386.7	1,392.6	1,397.2	1,411.7	1,431.2	1,369.2	1,429.6
12	From the rest of the world <sup>3</sup>	5.2	5.2	5.2	5.1	5.2	5.2	5.1	5.2	5.3	5.0	5.2
13	Income receipts on assets	119.2	113.8	129.9	127.7	110.3	122.2	101.6	111.2	112.8	107.4	129.7
14	Interest receipts <sup>4</sup>	33.5	35.1	36.8	37.9	37.9	38.6	39.5	40.1	35.8	16.6	16.0



# EDGAR



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EXCHANGE COMMISSION

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## EDGAR | Company Filings

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Name, ticker symbol, or CIK

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### How to Research Public Companies

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### Form Types

Review [reference versions](#) of EDGAR forms filed by companies, funds, and individuals.

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Your [online resource](#) to help you make sound investment decisions and avoid fraud.



## How to Use this Search?



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### Facebook Inc CIK#: 0001326801 (see all company filings)

SIC: 7370 - SERVICES-COMPUTER PROGRAMMING, DATA PROCESSING, ETC.  
State location: CA | State of Inc.: DE | Fiscal Year End: 1231  
(Office of Technology)  
[Get insider transactions](#) for this issuer.

#### Filter Results

Filing Type:

Prior to: (YYYYMMDD)

Ownership?

☐ include ☒ exclude ☐ only

Lim

40

Items 1 - 40 [RSS Feed](#)

Filings	Format	Description
10-Q	<a href="#">Documents</a> <a href="#">Interactive Data</a>	Quarterly report [Sections 13 or 15(d)] Acc-no: 0001326801-20-000084 (34 Act) Size: 12 MB
8-K	<a href="#">Documents</a> <a href="#">Interactive Data</a>	Current report, items 2.02 and 9.01 Acc-no: 0001326801-20-000081 (34 Act) Size: 593 KB
10-Q	<a href="#">Documents</a> <a href="#">Interactive Data</a>	Quarterly report [Sections 13 or 15(d)] Acc-no: 0001326801-20-000076 (34 Act) Size: 10 MB
8-K	<a href="#">Documents</a> <a href="#">Interactive Data</a>	Current report, items 2.02 and 9.01 Acc-no: 0001326801-20-000073 (34 Act) Size: 592 KB
DEFA14C	<a href="#">Documents</a>	Additional information statement materials, definitive Acc-no: 0001326801-20-000067 (34 Act) Size: 810 KB
DEF 14C	<a href="#">Documents</a>	Other definitive information statements Acc-no: 0001326801-20-000066 (34 Act) Size: 462 KB
PRE 14C	<a href="#">Documents</a>	Other preliminary information statements Acc-no: 0001326801-20-000061 (34 Act) Size: 462 KB
8-K	<a href="#">Documents</a> <a href="#">Interactive Data</a>	Current report, items 5.07 and 9.01 Acc-no: 0001326801-20-000058 (34 Act) Size: 256 KB
PX14A6G	<a href="#">Documents</a>	Notice of exempt solicitation submitted by non-management Acc-no: 0001214659-20-004962 (34 Act) Size: 99 KB

SEC.gov | EDGAR

Document word or phrase ?

google

Company name, ticker, CIK number or individual's name

Company name, ticker, CIK number or individual's name

Filing category

View all

Browse filing types

Filed date range

Last 5 years

Filed from

2015-12-19

Filed to

2020-12-19

Principal executive offices in ?

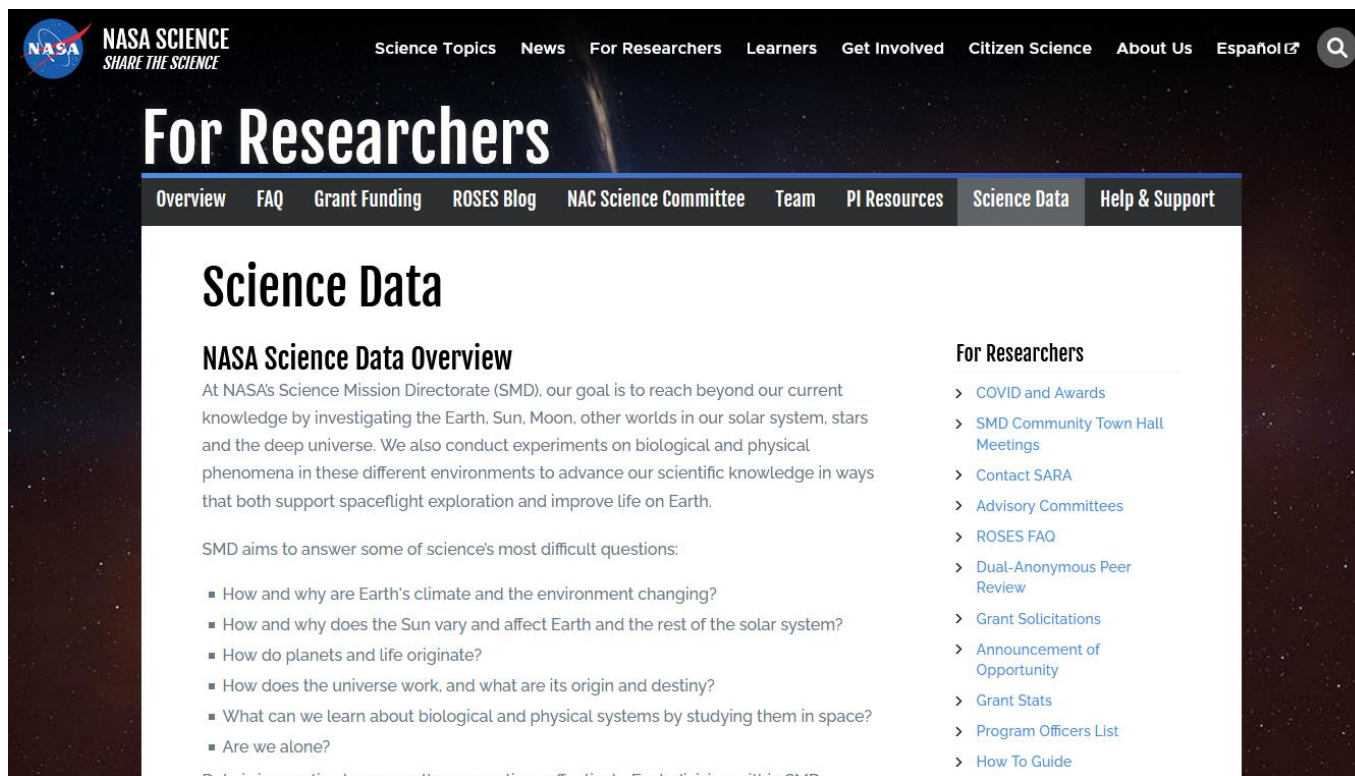
View all

- less search options SEARCH Clear all



# NASA Science Data

- NASA藉由各項太空任務觀測、研究之大量資料屆多個主題平台開放使用
- 分為五大主題
  - Astrophysics Data(天體物理)
  - Planetary Science Data(行星科學)
  - Heliophysics Data(太陽物理)
  - Earth Science Data(地球科學)
  - Biological and Physical Sciences Data(生物、物理科學)





# UK Data Service

- 由英國Economic and Social Research Council建置
- 提供英國及國際的社會、政治、人口資料，是人文社會領域的重要研究資料平台
- 收錄來自英國政府的調查研究，與跨國調查資料。
- 需登入取得資料

UK Data Service

UK Data Service logo

Navigation links: [About us](#) [Get data](#) [Use data](#) [Manage data](#) [Deposit data](#) [News and events](#)

Utility links: [Login / Register](#) [Help](#) [Accessibility](#) [Data catalogue](#)

Social media: [f](#) [in](#) [it!](#) [t](#) [v](#)

Search bar: Enter search term [x] [Q]

Links: [Variable and question bank >](#) [QualiBank >](#)

Filters: **STUDIES (8091)** **SERIES (77)**

Date filters: Date from: 440 Date to: 2020 [Refine date]

Topic: [ ]

Results: Displaying 1 - 10 of 8091 results Page 1 of 810

Results per page: 10 Sort by: Most recently released

SN 7252 | [Crime Survey for England and Wales, 2011-2012](#)

Office for National Statistics





# 台灣政府資料 查詢方式



# DATA.GOV.TAIWAN

## 入口網站

- 掌握台灣中央及地方各層級單位業務產出資料
- 可直接於站內下載資料檔案
- 可供確認資料提供機關及聯絡人
- 以提供機關為主要瀏覽方式，需明確了解政府相關單位業務與權責

The screenshot displays the DATA.GOV.TAIWAN website interface. At the top, a dark navigation bar contains the logo and menu items: 全部資料集, 網站導覽, 互動專區, 資料故事館, 最新消息, 諮詢小組, 關於平臺, and EN. Below this, a breadcrumb trail reads: 首頁 > 資料集 > 查詢資料集: 地下水. A search bar prompts users to enter keywords. Filter buttons show counts for 資料集 (63), 最新消息 (3), 活化應用 (0), 我有話要說 (11), and 我想要更多 (3). The left sidebar lists government agencies (中央機關: 行政院 26; 地方機關: 嘉義市 1, 宜蘭縣 5, 新北市 3, 桃園市 1, 臺中市 11, 臺北市 3, 臺南市 6, 臺東縣 1, 雲林縣 3, 高雄市 3) and categories (主題分類: 其他 49, 政府統計 14). The main content area, titled '資料集列表 | Datasets', shows search filters (篩選條件: 地下水) and sorting options (排序方式: 上架日期 新至舊). It displays a list of datasets, with the first entry being '臺北市地下水監測結果' (Taipei City Groundwater Monitoring Results), which includes a description of the data and a download button (XLS). The second entry is '臺東縣土壤及地下水監測' (Tainan County Soil and Groundwater Monitoring).



# PRIDE政策研究指標資料庫

- 由國家實驗研究院科技政策研究與資訊中心建置，登入後方可使用
- 整合Erostat, OECD, WEF, World Bank等國際組織與機構，以及國內機關等多種來源指標資料。

Chiang Chien Ju 參觀者  
chienjuisme@ntu.edu.tw

指標清單查詢

分類查詢 國內指標 國外指標

ACADEMIC RESEARCH CAPACITY (學術能量統計類)

AGRICULTURE (農業類)

DEMOGRAPHY (人口統計類)

ECONOMIC GLOBALIZATION (經濟全球化類)

ECONOMY & FINANCE (經濟與金融類)

EDUCATION (教育類)

ENERGY (能源類)

ENVIRONMENT (環境類)

GOVERNMENT EFFICIENCY (政府效能類)

LABOR (勞工類)

返回首頁

指標查詢

清單查詢

進階查詢

我的最愛指標

圖形繪製

學術能量統計

個人化繪圖

專題分析報導

個人設定

登入

國家基本概況

選擇國家 台灣 或可 下載多國基本概況(EXCEL檔)

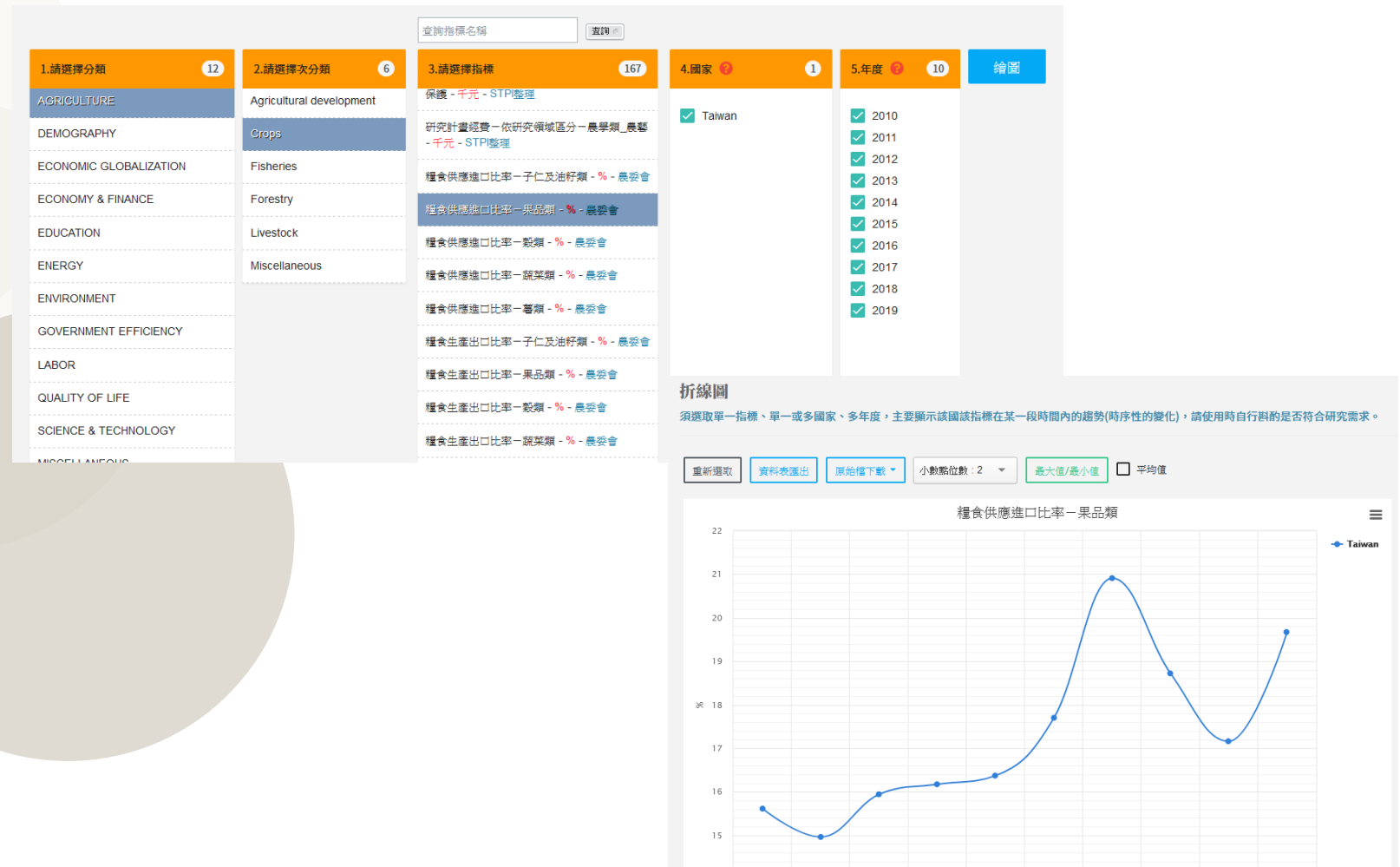
地理與人口結構 社會與經濟 財政與政府效能 醫療與教育 交通與資訊 能源與環境

土地面積 35.96 千平方公里 + 詳細資料	總人口數 23,607 千人 + 詳細資料	人口密度 645 人 / 平方公里 + 詳細資料	總生育率 1.12 人 + 詳細資料
粗死亡率 7.3 ‰ + 詳細資料	0-14歲之間的人口 12.92 占總人口百分比(%) + 詳細資料	15-64歲之間的人口 72.52 占總人口百分比(%) + 詳細資料	65歲以上人口 14.54 % + 詳細資料
扶養比 37.89 + 詳細資料			



# PRIDE政策研究指標資料庫

- 內容有各國人口、經濟、財政、教育、能源、環境、勞工、政府效能、生活品質、科學技術等調查統計或排名資料
- 登入後提供指標清單下載及圖表繪製功能
- 提供各國概況比較
- 延伸閱讀：  
<http://tul.blog.ntu.edu.tw/archives/14342>





# 公開資訊觀測站

- 查詢台灣查詢上市公司、上櫃公司、興櫃公司及公開發行公司之公開資訊
- 包含公司基本資料、財務報表、營運概況、公司治理、及時重大新聞等資訊
- 可運用財務比較e點通平台，製作各公司財務概況比較圖表及下載原始資料





# 中華民國統計資訊網

- 由行政院主計總處建置
- 提供主計總處統計資料部分為可下載資料檔案及圖表製作功能，部分為文字報告
- 另為全國統計資料之入口網站，連結至其他單位之網站。

中華民國統計資訊網  
National Statistics, R.O.C.(Taiwan)

一般民眾 專業人士 兒童/學生

**主計總處統計專區**

- 物價指數
- 國民所得及經濟成長
- 綠色國民所得
- 家庭收支調查
- 就業、失業統計
- 薪資及生產力統計
- 社會指標
- 工業及服務業普查
- 人口及住宅普查
- 農林漁牧業普查
- 國富統計
- 產業關聯統計
- 其他專案調查

**個人CPI體驗區**  
[輪播各圖片說明與連結](#)

**最新指標**

經濟成長率(yoy)(%)	3.83	110年預測
消費者物價指數年增率(%)	0.09	109年11月
失業率(%)	3.80	109年10月
工業及服務業每人每月經常性薪資(元)	42,756	109年10月
工業生產指數年增率(%)	7.06	109年10月
外銷訂單(百萬美元)	51,590	109年10月
進口年增率(%)	10.0	109年11月
出口年增率(%)	12.0	109年11月
人口數(期底)(人)	23,563,356	109年11月
外匯存底(期底)(十億美元)	513.40	109年11月
景氣領先指標不含趨勢指數(點)	106.92	109年10月
來臺旅客人次(人次)	18,982	109年10月

**資訊服務**

## 主計總處統計專區

物價指數

國民所得及經濟成長

綠色國民所得

家庭收支調查

就業、失業統計

薪資及生產力統計

社會指標

工業及服務業普查

人口及住宅普查

農林漁牧業普查

國富統計

產業關聯統計

其他專案調查

## 全國統計資料

資料下載

地理及環境

人口

勞工

教育、科學、文化及大眾傳播

衛生

司法、公共秩序及安全

社會保險及福利

國民經濟

農林漁牧業

工礦業

商業貿易

運輸、倉儲及通信業

財政金融

物價

一般政務

其他



# 各單位業務資料查詢方式

輸入關鍵字搜尋

☒ Open Data ☒ 付費 Data ☒ Open API

首頁 / 資料目錄 / 所有資料集

再輸入關鍵字搜尋

檢索提示

分類篩選工具

機關分組 共 94 個

搜尋/選擇

主題分組 共 22 個

統計(837) 0

行政區分組 共 12 區

搜尋/選擇

更新時間分組 共 2 個

搜尋/選擇

資料格式分組 共 21 種

搜尋/選擇

資料類型 共 3 種

搜尋/選擇

篩選

資料名稱	資料集描述	更新時間	使用次數/瀏覽次數	資料類型	資料格式
臺北市婚姻概況按月別	臺北市婚姻概況按月別時間數列統計資料	2020-12-15	35次	Open Data	CSV
臺北市原住民及新移民按月別	臺北市原住民及新移民按月別時間數列統計資料	2020-12-15	20次	Open Data	CSV
臺北市各區人口消長按月別	臺北市各區人口消長按月別時間數列統計資料	2020-12-15	18次	Open Data	CSV
臺北市人口成長按月別	臺北市人口成長按月別時間數列統計資料	2020-12-15	88次	Open Data	CSV
臺北市各區人口年齡分配(年齡)按月別	臺北市各區人口年齡分配(年齡)按月別時間數列統計資料	2020-12-15	26次	Open Data	CSV
臺北市人口年齡分配(年齡)按月別	臺北市人口年齡分配(年齡)按月別時間數列統計資料	2020-12-15	25次	Open Data	CSV
臺北市人口年齡分配按月別	臺北市人口年齡分配按月別時間數列統計資料	2020-12-15	44次	Open Data	CSV
臺北市各區土地人口按月別	臺北市各區土地人口按月別時間數列統計資料	2020-12-15	43次	Open Data	CSV

## 臺北市地下水監測結果

☆☆☆☆  
平均0 (0人/次投票)

分享: [f](#) [t](#)

加入收藏

資料項目

109年1至3月地下水監測結果

下載 (6次) 預覽

顯示更多

詮釋資料

主題分類

政府網站分類

資料集描述

主要權位說明

國發會政府資料開放平台資料集類型

最後更新時間

資料量

發布時間

更新頻率

環保

公共資訊

提供臺北市地下水監測結果

監測井編號及井址、採樣時間、天氣狀況、

原始資料

2020-10-30 17:31:03

1

2020-10-30

每季

轉純文字

臺北市 109 年 1 月至 3 月地下水監測結果

填報單位：臺北市政府環境保護局

填表日期：109年3月16日

監測井編號及井址	採樣時間	天氣狀況	採樣水位	水溫	pH 值	導電度	氨氮	氫氧	硫酸鹽	硝酸鹽	總溶解固體	總硬度	銅	鎳	汞	鉛	鉍	砷	大腸桿菌群
25344B011	109-02-24 11:10	晴	783	26.0	7.3	1730	6.44	68.7	377	ND	1300	718	ND	ND	ND	ND	1.56	63.1	1.5x10 <sup>2</sup>
北投區大度路115號	109-02-25 10:15	晴	510	23.4	7.1	967	3.55	74.7	8.95	ND	518	275	ND	0.645	ND	0.918	3.51	6.45	25
25342B051	109-02-24 10:15	晴	432	26.5	7.1	420	0.25	33.1	24.4	0.31	281	179	ND	1.52	ND	0.692	2.10	1.83	4.4x10 <sup>2</sup>
內湖焚化廠門口	15:30	晴	432	26.5	7.1	420	0.25	33.1	24.4	0.31	281	179	ND	1.52	ND	0.692	2.10	1.83	4.4x10 <sup>2</sup>
內湖焚化廠值勤室門口	15:30	晴	432	26.5	7.1	420	0.25	33.1	24.4	0.31	281	179	ND	1.52	ND	0.692	2.10	1.83	4.4x10 <sup>2</sup>

單位：(1) 氫離子濃度指數：無單位  
(2) 大腸桿菌群：CFU/100毫升

資料來源：本局環境檢驗中心



# 各單位業務資料查詢方式



三

 臺北市環境品質資訊網

網站導覽 | English | 回首頁

全站搜尋

首頁 > 檢測資訊 > 地下水質檢測

地下水質環境測定站

地下水質檢測介紹

本局地下水檢測每季檢測乙次，監測井地點：北投區大度路 115 號、內湖焚化廠門口、內湖焚化廠值勤室門口。  
檢測項目包含：檢測水溫、pH值、導電度、氨氮、氯鹽、硫酸鹽、硝酸鹽氮、總溶解固體量、總硬度及重金屬 (Cd、Cu、Hg、Pb、Zn、As)、大腸桿菌群等十六項目。  
如欲查詢詳細資料請到 [資料下載](#) 查詢。

地下水質檢測統計概況

監測井址 內湖焚化廠門口  
資料時間 109 年 第一季

查詢

內湖焚化廠門口檢測統計概況



A decorative graphic consisting of several overlapping circles in various shades of gray and beige, located on the left side of the slide.

# 03

## Open Research Data

- 綜合型研究資料平台
- 領域研究資料平台





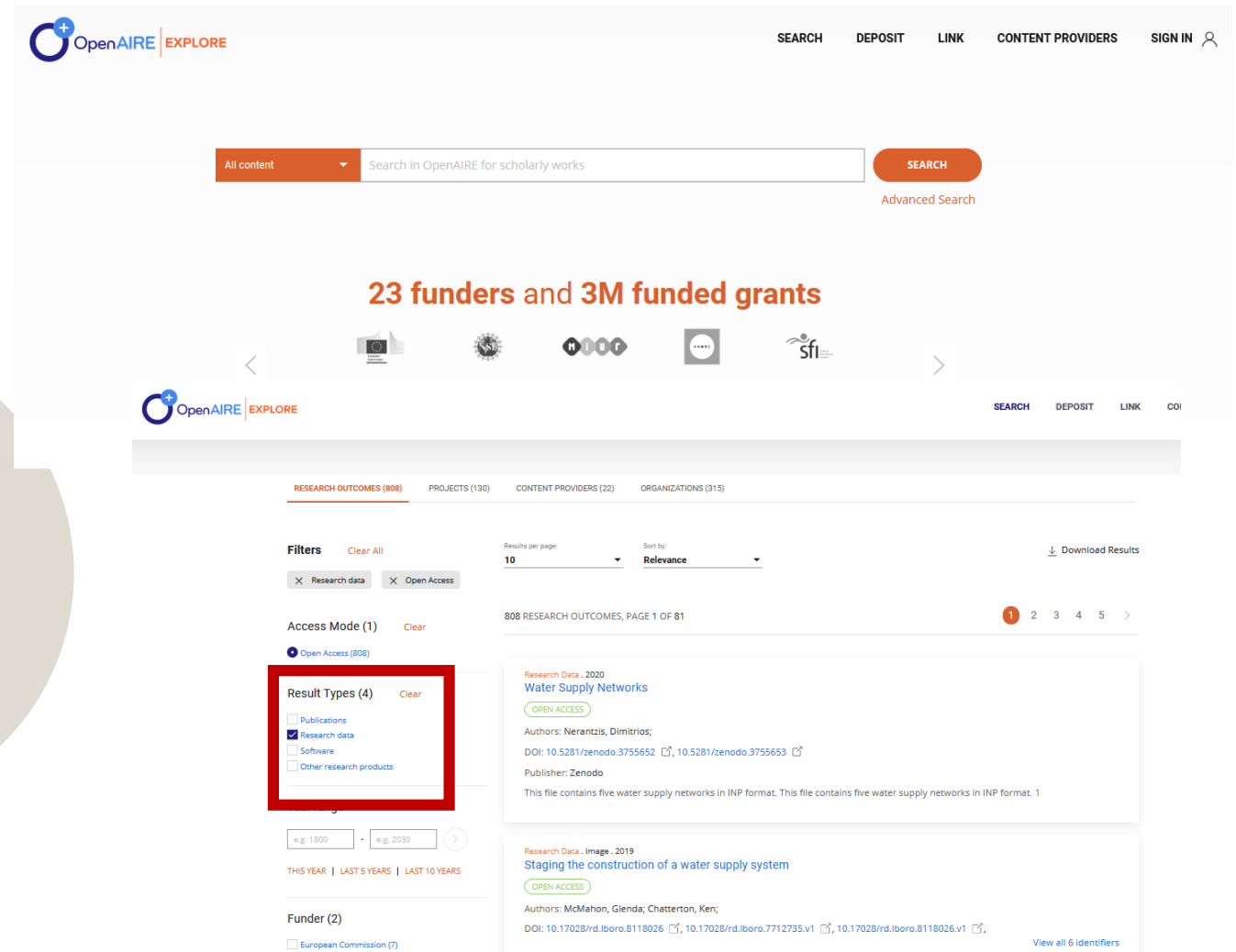
# 綜合型 研究資料平台



# OpenAire Explore (1/2)

入口網站

- <https://explore.openaire.eu/>
- OpenAire為歐盟資助的開放科學推動組織，致力於提升科學研究之開放與透明，使研究成果為大眾所用。
- OpenAire整合開放取用出版品、資料典藏平台，提供期刊論文、書籍、數據、軟體、程式碼等各類開放之研究產出。
- 整合大型資料平台，含DataCite、Medeley Data、Figshare等。
- 須以後分類篩選Research Data。





# OpenAire Explore (2/2)

The screenshot displays the OpenAire Explore interface with three main panels. The top-left panel shows a dataset titled 'Water Supply Networks' by Dimitrios Nerantzis, published on April 17, 2020. It includes a summary, abstract, and subjects. A red box highlights the 'Download from' section, which lists 'Zenodo' as the provider. A red arrow points from this box to the 'water\_supply\_networks.zip' file in the 'Preview' section. The top-right panel shows the 'zenodo' logo and search bar. The bottom panel shows a publication titled 'Description of the targeted water supply and hygiene response strategy implemented during the cholera outbreak of 2017-2018 in Kinshasa, DRC.' by Bompangue, Didier, et al., published on 01 Dec 2020. A red box highlights the 'RELATED RESEARCH' section, which shows a link to 'The potential impact of case-area targeted interventions in response to cholera outbreaks: A modeling study'. A red box also highlights the 'Data!' label next to the link. A red box highlights the 'Data!' label next to the link.

**Water Supply Networks**  
Dimitrios Nerantzis  
April 17, 2020  
This file contains five water supply networks in INP format

**Download from**

- Zenodo Dataset - 2020
- Zenodo Dataset - 2020
- Spiral - Imperial College Dataset - 2020
- Zenodo Dataset - 2020

**Preview**

- water\_supply\_networks.zip 44.4 kB
- BWSN.inp 30.5 kB
- Net3.inp 97.5 kB
- ReadMe.pdf 25.9 kB
- Richmond\_skeleton.inp 5.8 kB
- SimpleNet.inp 8.7 kB
- VanZyl.inp

**Related research data**

- Multifunctional Wetlands: Pollution Abatement by Natural and Constructed Wetlands  
Metcalf, Chris D. , Nagabhatla, Nidhi , Fitzgerald, Shona K.  
Springer International Publishing
- Invertebrates in Created and Restored Wetlands  
Ruhí, Albert , et al  
Springer International Publishing

**Data!**

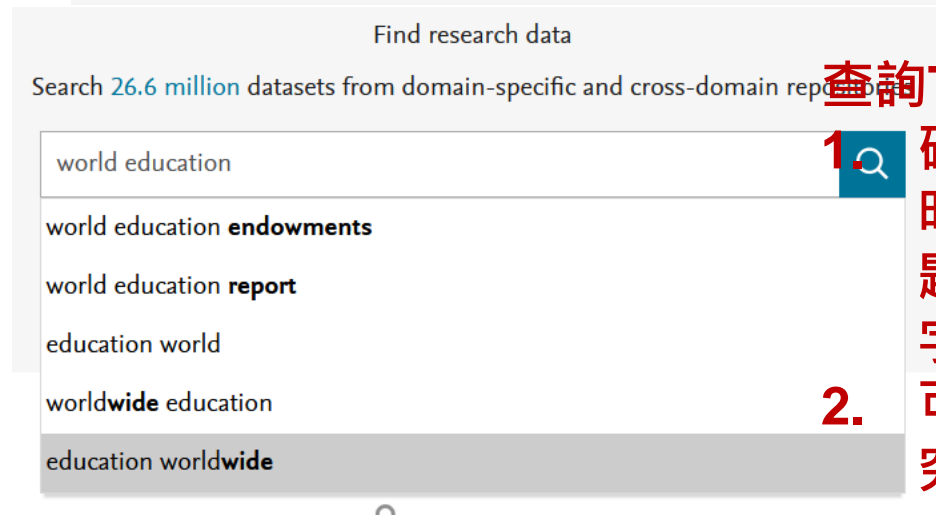
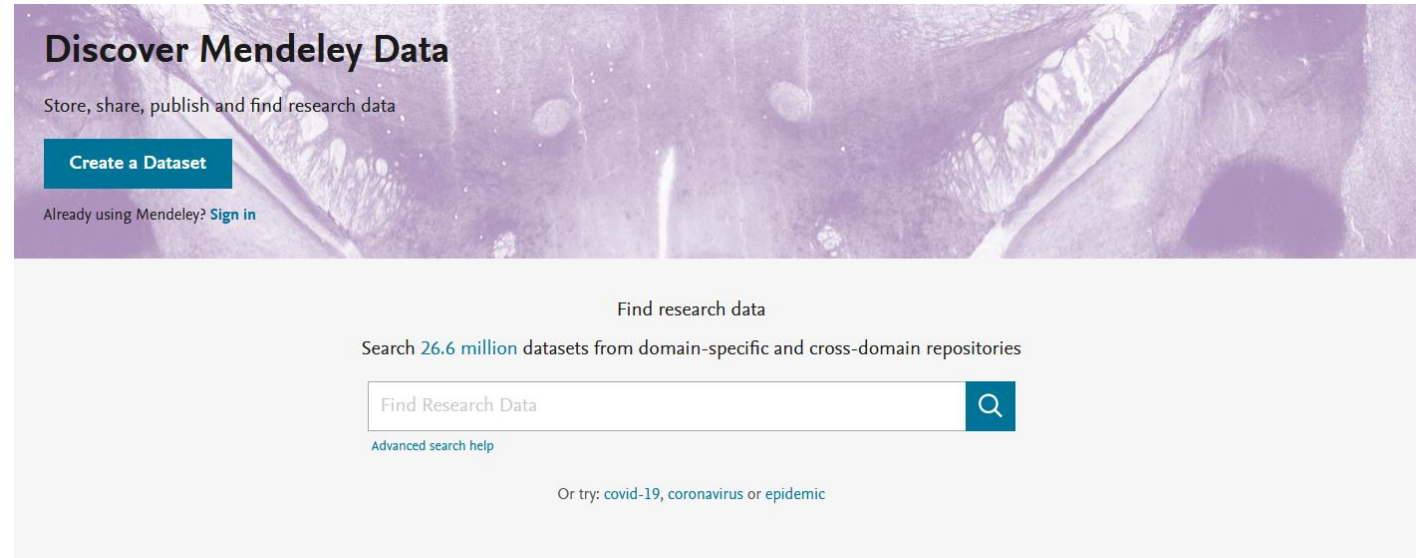
## 查詢Tips :

1. 研究資料集的名稱或說明可能相對簡略(或無標題)，檢索時以簡單關鍵字再瀏覽。
2. 可以學術文章連結其研究資料
3. OpenAire的出版品與資料連結服務在Scopus上也有提供。



# Mendeley Data

- <https://data.mendeley.com/>
- 由Elsevier出版社建置。
- 整合DataCite、Dataverse Network、OpenAire、ICPSR、Zenodo等綜合、主題或機構資料典藏庫
- 出版品、資料集、表格、程式碼軟體、圖像、影音、文字、地理資訊、簡報等。
- 登入後，可依作者、作者ID、關鍵字、主題、所屬機構、所屬機構ID、DOI及來源文章(DOI)等進階檢索



## 查詢Tips：

1. 研究資料集的名稱或說明可能相對簡略(或無標題)，檢索時以簡單關鍵字再瀏覽。
2. 可以學術文章連結其研究資料



# DataCite

- <https://search.datacite.org/>
- 為提供研究資料DOI申請的代表性國際非營利組織設置
- 整合查詢各典藏平台之研究資料。
- 收錄包含Zenodo、Dryad、Havard DataVerse等綜合、主題或機構典藏庫
- 資料類型包含資料集、Data Paper、軟體、圖像、影音、文字、模型等
- 檢索功能相對較少，書目資料精簡





# Harvard Dataverse

- <https://search.datacite.org/>
- Dataverse Network為開源的應用程式，用以分享、保存、引用、檢索及分析研究資料，以應用於建置各主題、出版品與機構的資料典藏庫
- Harvard Dataverse為目前廣為各領域使用的研究資料典藏平台，亦整合多元來源的研究資料。
- 可依年代、主題、作者、作者所屬單位篩選資料集，並能以DOI、ID、資助單位、資料類型等進階檢索

The image shows two screenshots of the Harvard Dataverse website. The top screenshot is the main landing page, which features a navigation bar with links like 'Add Data', 'Search', 'About', 'User Guide', 'Support', 'Sign Up', and 'Log In'. Below the navigation bar, there are three main sections: 'Deposit and share your data. Get academic credit.', 'Organize datasets and gather metrics in your own repository.', and 'Publishing your data is easy on Harvard Dataverse!'. Each section has a corresponding 'Add a dataset', 'Add a dataverse', or 'Getting started' button. The bottom section of the landing page is a search bar with the text 'Find data across research fields, preview metadata, and download files' and a search button.

The bottom screenshot shows a search results page for 'COVID-19 Data Collection'. It features a sidebar with 'Browse by subject' and 'Dataverse Category'. The main content area displays a list of search results, including 'TDC' (Therapeutic Data Commons) and 'G. W. Skinner Regional Systems Analysis'. Each result includes a title, date, and a link to the dataset.



# 其他跨領域研究資料典藏平台

- [Zenodo](#)(歐洲)：由歐洲核子研究組織維護的  
跨國、跨領域研究資料典藏庫，為  
OpenAire子計畫
- [Dryad](#)(美國)：經同儕審查期刊文章之研究  
資料跨領域典藏庫，以生命科學資料為主。





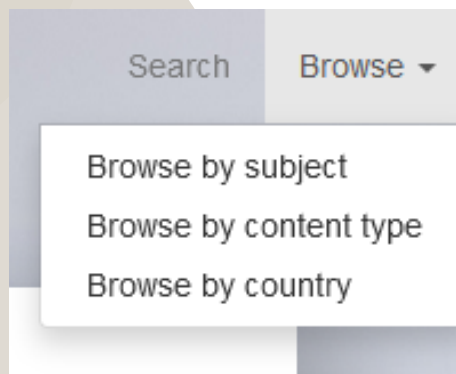


# 領域 研究資料平台



# Re3data

- 全球研究資料典藏庫名錄，由German Research Foundation (DFG)資助建置，並與多國圖書館合作。
- 可依國家、主題或資料類型瀏覽，或篩選，檢索時更可篩選語言、資料授權等
- 提供一致且結構化的書目資料供完整了解個平台



## 名錄

Repository details

### Human protein-protein interaction network database search

General Institutions Terms Standards

Name of repository Human protein-protein interaction network database search

Repository URL [http://artemis.mdc-berlin.de/y2h\\_network/ppi\\_search.php](http://artemis.mdc-berlin.de/y2h_network/ppi_search.php)

Subject(s) [Structural Biology](#) [Bioinformatics and Theoretical Biology](#) [Neurosciences](#) [Basic Biological and Medical Research](#) [Biology](#) [Life Sciences](#) [Medicine](#)

Description >>>!!!<<< Offline, actually no valid URL 2020-09-30 >>>!!!<<< A human interactome map. The sequencing of the human genome has provided a surprisingly small number of genes, indicating that the complex organization of life is not reflected in the gene number but, rather, in the gene products – that is, in the proteins. These macromolecules regulate the vast majority of cellular processes by their ability to communicate with each other and to assemble into larger functional units. Therefore, the systematic analysis of protein-protein interactions is fundamental for the understanding of protein function, cellular processes and, ultimately, the complexity of life. Moreover, interactome maps are particularly needed to link new proteins to disease pathways and the identification of novel drug targets.

Content type(s) [Scientific and statistical data formats](#) [Images](#) [Structured graphics](#) [Raw data](#)

Keyword(s) [protein](#) [proteomics](#) [neuroproteomics](#) [cellular process](#) [protein function](#) [intracellular signalling peptides and proteins](#) [human protein](#) [protein-protein interaction](#) [sequencing](#) [protein binding](#) [genetics](#) [two-hybrid system techniques](#)

Repository type(s) disciplinary

Mission statement for designated community <https://www.mdc-berlin.de/wanker>

Research data repository language(s) eng

Data and/or service provider dataProvider


[Back to search](#) [Submit a change request](#) [Get a badge](#)



# NIH-support Repositories list


- 一般綜合型典藏庫中較少生醫領域臨床資料、基金序列、蛋白質結構等資料。
- 美國國家醫學圖書館 (NIH) 提相關資料典藏庫名錄，供檢索查詢。

## 生醫-名錄

 National Library of Medicine

Search NLM

PRODUCTS AND SERVICES ▾ RESOURCES FOR YOU ▾ EXPLORE NLM ▾ GRANTS AND FUNDING ▾

 Trans-NIH BioMedical Informatics Coordinating Committee (BMIC) [BMIC Home](#) [CDE Resource Portal](#)

Home > [BMIC Home](#) > [NIH Data Sharing Repositories](#)

### Open Domain-Specific Data Sharing Repositories

This table lists NIH-supported domain-specific data repositories that make data accessible for reuse and are open for both submitting and accessing data. Submission is typically limited to data of a certain type or related to a certain discipline. The table provides links to information about submitting data to and accessing data from the listed repositories. Repositories in this list have current NIH funding, sustained support, open data submission and access, and open time frame for data deposit, based on information provided by the repository about funding and data availability. This non-exhaustive list is also available in a [downloadable Excel version](#).

Are we missing a domain-specific data sharing repository that should be included in this list? Do you have comments or feedback on this list or the website? [Contact us](#).

Show  entries Search:

ICO	Repository Name	Repository Description	Data Submission Policy	Access to Data
Common Fund	<a href="#">Metabolomics Workbench (MetWB)</a>	The Metabolomics Program's Data Repository and Coordinating Center (DRCC), housed at the San Diego Supercomputer Center (SDSC), University of California, San Diego, has developed the Metabolomics Workbench. MetWB will serve as a national and international repository for metabolomics data and metadata and will provide analysis tools and access to metabolite standards, protocols, tutorials, training, and more.	<a href="#">How to submit data to MetWB</a>	<a href="#">How to access MetWB data</a>
NCI	<a href="#">Cancer Nanotechnology Laboratory (caNanoLab)</a>	caNanoLab is a data sharing portal designed to facilitate information sharing in the biomedical nanotechnology research community to expedite and validate the use of nanotechnology in biomedicine. caNanoLab provides support for the annotation of nanomaterials with characterizations resulting from physico-chemical, in	<a href="#">How to submit data to caNanoLab</a>	<a href="#">How to access caNanoLab data</a>



# Pubmed

- 生醫領域的代表性資料庫 Pubmed
- 可篩選檢索有 Associated Data 文獻，自文章連結資料集。

生醫

PubMed.gov

crispr cas9

Advanced Create alert Create RSS

Save Email Send to

Sorted by

14,535 results

Did you mean *crisp cas9* (36 results)?

☐ CRISPR-Cas9 Structures and Mechanisms.

1 Jiang F, Doudna JA.

Cite Annu Rev Biophys. 2017 May 22;46:505-529. doi: 10.1146/annurev-bio-2017 Mar 30.

Share PMID: 28375731 Review.

Many bacterial **clustered regularly interspaced short palindromic re** associated (Cas) systems employ the dual RNA-guided DNA endonuclease invading phages and conjugative plas ...

☐ What is CRISPR/Cas9?

2 Redman M, King A, Watson C, King D.

Cite Arch Dis Child Educ Pract Ed. 2016 Aug;101(4):213-5. doi: 10.1136/arch-2016 Apr 8.

Share PMID: 27059283 Free PMC article. Review.

☐ CRISPR/Cas9 Immune System as a Tool

Engineered CRISPR-Cas9 nucleases with altered PAM specificities

Nature. 2015 Jul 23;523(7561):481-5. doi: 10.1038/nature14592. Epub 2015 Jun 22.

Benjamin P Kleinstiver <sup>1</sup>, Michelle S Prew <sup>2</sup>, Shengdar Q Tsai <sup>1</sup>, Ved V Topkar <sup>2</sup>, Nhu T Nguyen <sup>2</sup>, Zongli Zheng <sup>2</sup>, Andrew P W Gonzales <sup>4</sup>, Zhuyun Li <sup>5</sup>, Randall T Peterson <sup>4</sup>, Jing-Ruey Joanna Yeh <sup>6</sup>, Martin J Aryee <sup>7</sup>, J Keith Joung <sup>1</sup>

Affiliations + expand

PMID: 26098369 PMCID: PMC4540238 DOI: 10.1038/nature14592

Free PMC article

Abstract

Although CRISPR-Cas9 nucleases are widely used for genome editing, the range of sequences that Cas9 can recognize is constrained by the need for a specific protospacer adjacent motif (PAM). As a result, it can often be difficult to target double-stranded breaks (DSBs) with the precision that is necessary for various genome-editing applications. The ability to engineer Cas9 derivatives with purposefully altered PAM specificities would address this limitation. Here we show that the commonly used *Streptococcus pyogenes* Cas9 (SpCas9) can be modified to recognize alternative PAM sequences using structural information, bacterial selection-based directed evolution, and combinatorial design. These altered PAM specificity variants enable robust editing of endogenous gene sites in zebrafish and human cells not currently targetable by wild-type SpCas9, and their genome-wide specificities are comparable to wild-type SpCas9 as judged by GUIDE-seq analysis. In addition, we identify and characterize another SpCas9 variant that exhibits improved specificity in human cells, possessing better discrimination against off-target sites with non-canonical NAG and NGA PAMs and/or mismatched spacers. We also find that two smaller-size Cas9 orthologues, *Streptococcus thermophilus* Cas9 (St1Cas9) and *Staphylococcus aureus* Cas9 (SaCas9), function efficiently in the bacterial selection systems and in human cells, suggesting that our engineering strategies could be extended to Cas9s from other species. Our findings provide broadly useful SpCas9 variants and, more importantly, establish the feasibility of engineering a wide range of Cas9s with altered and improved PAM specificities.

Full text links

PMC Full text

ACTIONS

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Favorites

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Title & authors

Abstract

Conflict of interest statement

Figures

Comment in

Similar articles

Cited by

References

Publication types

MeSH terms

Substances

Associated data

Summary 20 per page

Send to

View results as an expanded interactive table using the RunSelector. [Send results to Run selector](#)

Search results

Items: 1 to 20 of 25

Showing SRA Experiments for SRP058629

☐ "Targeted sequencing\_Cas9 D1135E"

1. 1 ILLUMINA (Illumina MiSeq) run: 4.9M spots, 1.5G bases, 733.5Mb downloads  
Accession: SRX1036744

☐ "Targeted sequencing\_Cas9 wt"

2. 1 ILLUMINA (Illumina MiSeq) run: 5.9M spots, 1.8G bases, 1,023.9Mb downloads  
Accession: SRX1036743

☐ "Targeted sequencing\_control"

3. 1 ILLUMINA (Illumina MiSeq) run: 9.4M spots, 2.8G bases, 1.4Gb downloads  
Accession: SRX1036742

☐ "GUIDE-seq\_oligo\_only\_#3"

4. 1 ILLUMINA (Illumina MiSeq) run: 2M spots, 592.1M bases, 344.2Mb downloads  
Accession: SRX1036741

☐ "GUIDE-seq\_oligo\_only\_#2"

5. 1 ILLUMINA (Illumina MiSeq) run: 1.8M spots, 551.9M bases, 298Mb downloads  
Accession: SRX1036740



# The Cancer Imaging Archive

生醫

- <https://www.cancerimagingarchive.net/access-data/>
- 典藏去個人識別癌症醫療圖片之平台，資料提供公眾使用。
- 依疾病類型、圖像型態、類型或研究主軸分資料集，依需求選定後檢索。
- 另提供組織病理學、集放射資料跨資料集檢索，並提供更精細進階檢索與篩選功能。
- 資料提供詳盡的病患回饋、醫療細節、專家分析、基因相關資訊



TCIA data are organized as "collections"; typically these are patient cohorts related by a common disease (e.g. lung cancer), image modality or type (MRI, CT, digital histopathology, etc) or research focus. Supporting data related to the images such as patient outcomes, treatment details, genomics and image analyses are also provided when available. Try using the filter box above the table to quickly find collections of interest using keywords. Column headers can also be clicked to change the sorting method.

Show 125 entries

Previous Next

Filter table:

Collection	Cancer Type	Location	Species	Subjects	Image Types	Supporting Data	Access	Status	Updated
Medical Imaging Data Resource Center - RSNA International COVID Radiology Database Release 1a - Chest CT Covid+	COVID-19 (non-cancer)	Lung	Human	110	CT	Clinical	Public	Complete	2020-12-18
Breast Cancer Screening - Digital Breast Tomosynthesis	Breast Cancer	Breast	Human	693	DBT	Clinical	Public	Ongoing	2020-12-14
QIN-PROSTATE-Repeatability	Prostate Cancer	Prostate	Human	15	MR, SEG, SR	Image Analyses	Public	Complete	2020-11-09

[Data Access](#) [Detailed Description](#) [Citations & Data Usage Policy](#) [Versions](#)

## Data Access

Data Type	Download all or Query/Filter
Images (DICOM, 11 GB)	<a href="#">Download</a> <a href="#">Search</a> (Download requires the <a href="#">NBIA Data Retriever</a> ) The search and download buttons are i
Annotations (.json)	<a href="#">Download</a>

Click the Versions tab for more info about data releases.

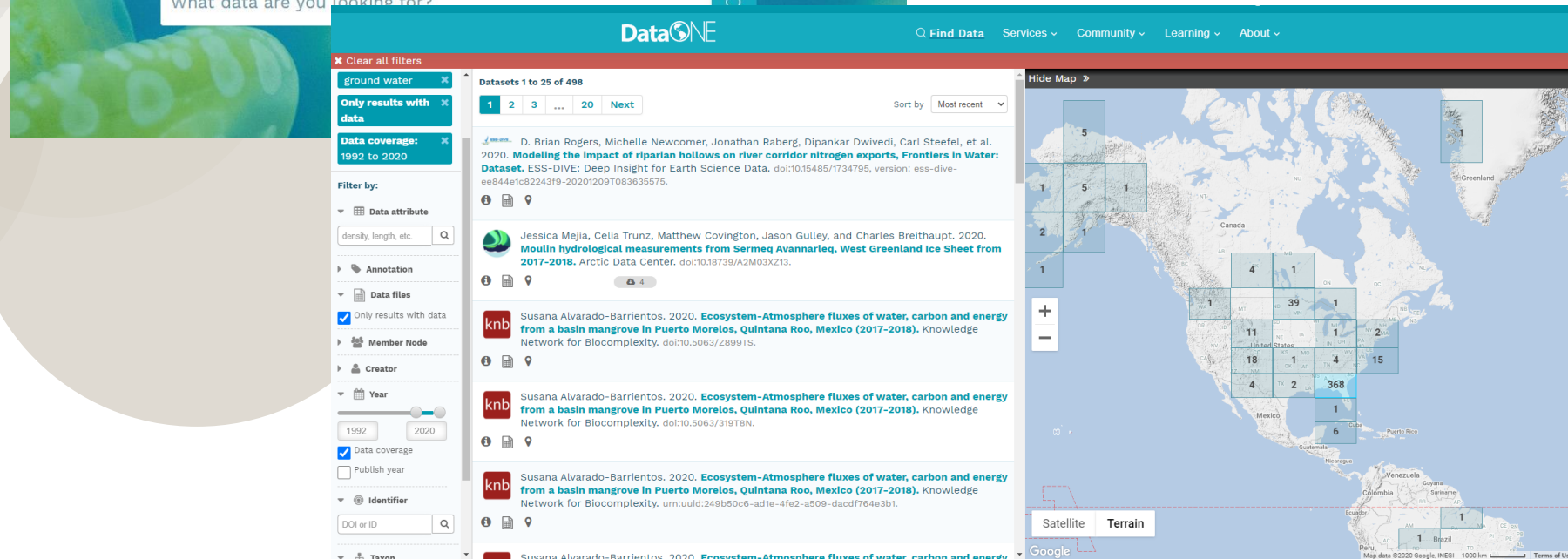
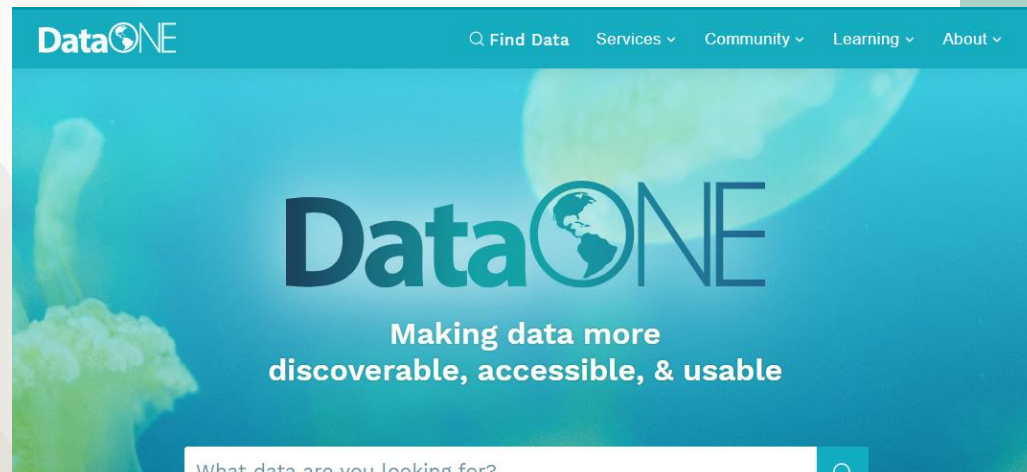
Please contact [help@cancerimagingarchive.net](mailto:help@cancerimagingarchive.net) with any questions regarding usage.



# DataONE

- 整合查詢地球科學與環境相關之典藏庫
- 與圖書館、研究中心、政府、大學、公民科學單位等相關營利或非營利單位合作取得並推廣研究資料。

## 地球與環境科學





# PANGAEA

## 地球與環境科學

- <https://www.pangaea.de/>
- 德國極地與海洋研究中心建置
- 提供地球系統研究資料，並帶有地理空間訊
- 可以經緯度日期檢索資料
- 以主題或地圖瀏覽研究資料

The image shows two screenshots of the PANGAEA website. The top screenshot is the homepage, featuring the PANGAEA logo, a search bar, and a grid of topic categories including Chemistry, Lithosphere, Oceans, Biological Classification, Atmosphere, Paleontology, and Ecology. The bottom screenshot shows a specific data record page for 'Antico, Andrés; Aguiar, Ricardo O; Amsler, Mario L (2017): Paraná River hydrometric data from Rosario City, Argentina: 1875 to 2017'. This page includes the citation, a map of the study area, and an abstract describing the data set.

**PANGAEA.**  
Data Publisher for Earth & Environmental Science

SEARCH SUBMIT HELP ABOUT CONTACT

**Submit Data**

**Welcome to PANGAEA® Data Publisher**

Our services are generally open for archiving, publishing, and re-usage of data. The World Data Center PANGAEA is member of the ICSU World Data System.

**ALL TOPICS**

Search for measurement type, author name, project, taxa,...

**Latest News**

2020-12-14  
**MERRY CHRISTMAS**

The PANGAEA Data Editorial Office is closed from 2020-12-16 to 2021-01-15. Data submissions will not be processed during this time. Happy Holiday Season and all the best for the New Year!

2020-11-18  
**MOSAIC EXPEDITION DOCUMENTARY**

One year in the eternal ice of the Arctic - the experiences and challenges during the MOSAIC expedition were captured in a documentary.

**PANGAEA.**  
Data Publisher for Earth & Environmental Science

SEARCH SUBMIT HELP ABOUT CONTACT

**Citation:** Antico, Andrés; Aguiar, Ricardo O; Amsler, Mario L (2017): Paraná River hydrometric data from Rosario City, Argentina: 1875 to 2017. PANGAEA, <https://doi.org/10.1594/PANGAEA.882613>,  
Supplement to: Antico, A et al. (2018): Hydrometric data rescue in the Paraná River Basin. *Water Resources Research*, **54**, 1368-1381, <https://doi.org/10.1002/2017WR020897>

Always quote citation above when using data! You can download the citation in several formats below.

[RIS Citation](#) [Bibtex Citation](#) [Copy Citation](#) [Facebook](#) [Twitter](#) [Show Map](#) [Google Earth](#)

**Abstract:** Here we provide the data set obtained as described in detail in Antico et al. (2018, [doi:10.1002/2017WR020897](https://doi.org/10.1002/2017WR020897)); a brief description is presented below.  
We imaged and digitized paper format official national data of daily Paraná water level observations taken at Rosario City, Argentina, from January 1875 to July 2017. Quality checks were applied to the digitized official daily levels in order to flag suspicious values. A corrected version of the official level data was obtained by eliminating the errors caused by gauge sinkings that may have occurred from 1875 to 1908. A rating curve was obtained for Rosario and it was used to convert official and corrected levels into official and corrected discharges, respectively. The water level and discharge data provided here constitute the longest (last 143 years) continuous hydrometric records of the Paraná River, one of the ten largest rivers in the world.

**Related to:** Antico, Andrés; Mendizabal, Sophie; Ferreira, Lorena J; Aguiar, Ricardo O; Amsler, Mario L (2019): Improved Paraná River hydrometric data from 1875 to 1883. PANGAEA, <https://doi.org/10.1594/PANGAEA.906056>



# SIMBAD

天文太空

- 由法國斯特拉斯堡天文資料中心建置
- 典藏研究太陽系外的星球、星系之出版品的研究資料。
- 研究資料連結出版品
- 每日更新

The screenshot shows the SIMBAD Astronomical Database website. At the top is a navigation bar with links: Portal, Simbad, VizieR, Aladin, X-Match, Other, and Help. The main title is "SIMBAD Astronomical Database - CDS (Strasbourg)". Below the title is a section "What is SIMBAD ?". The page is divided into three main columns: "Queries", "Documentation", and "Information".

Queries	Documentation	Information
<a href="#">basic search</a>	<a href="#">User's guide</a>	<a href="#">Presentation</a>
<a href="#">by identifier</a>		
<a href="#">by coordinates</a>	<a href="#">Query by urls</a>	<a href="#">Image thumbnails</a>
<a href="#">by criteria</a>	<a href="#">Nomenclature Dictionary</a>	<a href="#">BETA - Mobile version</a>
<a href="#">reference query</a>	<a href="#">Object types</a>	<a href="#">SimWatch</a>
<a href="#">scripts</a>	<a href="#">List of journals</a>	
<a href="#">TAP queries</a>	<a href="#">Measurement description</a>	<a href="#">Release:</a>
	<a href="#">Spectral type coding</a>	<a href="#">SIMBAD4 1.7 - May-2018</a>
<a href="#">options</a>	<a href="#">User annotations documentation</a>	<a href="#">Release history</a>
<a href="#">Display all user annotations</a>	<a href="#">Acknowledgment</a>	

Below the "Queries" column is a "Content" section with the following text:

The SIMBAD astronomical database provides basic data, cross-identifications, bibliography and measurements for astronomical objects outside the solar system.

SIMBAD can be queried by object name, coordinates and various criteria. Lists of objects and scripts can be submitted.

Links to some other on-line services are also provided.

Below the "Documentation" column is a "Basic search" section with a search bar and the following text:

identifier, coordinates (radius=10 arcmin), or bibcode

[SIMBAD search](#) [clear](#) [help](#)

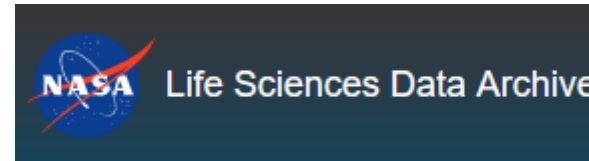
[Install the Simbad basic search in your tool bar](#)



# NASA 研究資料典藏庫

天文太空

- NASA強調與研究者之合作而建立研究資料集典藏平台
  - Task Book
    - NASA資助之計畫成果資料
  - GeneLab
    - 太空生物研究資料典藏、分析平台
  - Life Science Data Archive
    - 生物系統研究資料
  - Physical Science Informatics
    - 太空研究相關單位的實驗資料





# ICPSR (1/2)

- 社會科學領域重要典藏庫，美國政治與社會研究跨校聯盟建置，提供全球社會科學數位資料。
- 登入後下載多數資料
- 連結資料相關出版品
- 可直接檢索資料變數，並跨資料集比較
- 可依地區、年代、主題等篩選

The screenshot displays the ICPSR (Inter-university Consortium for Political and Social Research) website. The main header features the ICPSR logo with the tagline "Sharing data to advance science". Below the logo is a search bar with the placeholder text "Studies, publications, variables, webpages". The navigation menu includes links for Home, Find Data, Share Data, Membership, Summer Program, Teaching & Learning, Data Management, and About. A dropdown menu for "Find Data" is open, showing options: Find Data, Search/Compare Variables, Data-Related Publications, Thematic Data Collections, and Help. The main content area shows a search results page for "Presidential election" with 3,145 results. A sidebar on the left contains various filters such as Subject Terms, Geography, Restriction Type, Data Format, Collection Method, Data Type, Time Method, Time Period, Recent Releases, Funding Agency, Thematic Collection, Data Availability, Classify, Investigator, Mode of Data Collection, Object Type, Archive, Investigator Affiliation, and Series. A search results overlay is visible in the bottom right corner, titled "Search/Compare Variables". It explains that the Social Science Variables Database (SSVD) enables users to examine and compare variables and questions across studies or series. It also mentions that the SSVD does not include the entire collection and provides a link to the "main data search" page. The overlay includes a search bar and a "Search" button. Below the search bar, there are links for "Browse by Study" and "Browse by Series". The overlay also includes a section titled "Comparing Variables" which instructs users to select checkboxes and then select "Compare" from the Actions button to compare the details of the variables they chose.

ICPSR  
Sharing data to advance science

Studies, publications, variables, webpages

Home Find Data Share Data Membership Summer Program Teaching & Learning Data Management About

Find Data  
Search/Compare Variables  
Data-Related Publications  
Thematic Data Collections  
Help

ICPSR  
Sharing data to advance science

Studies, publications, variables, webpages

Home Find Data Share Data Membership Summer Program Teaching & Learning Data Management About

Filters

Series

CBS News/New York Times Poll Series (781)  
ABC News/Washington Post Poll Series (474)  
American National Election Study (ANES) Series (473)  
Afrobarometer Survey Series (286)  
Detroit Area Studies Series (50)

view all

Study

Search Results

Showing 1 - 50 of 3,145 results.

Presidential election

GO VIEW ALL

search tips

Studies (2,069) Variables (3,145) Series (72) Data-related Publications (407) ICPSR Website (109)

Sort by: Relevance

Search/Compare Variables

The Social Science Variables Database (SSVD) enables ICPSR users to examine and compare variables and questions across studies or series. The SSVD currently includes over 5 million variables, representing about 76% of ICPSR's holdings that have quantitative data described in statistical syntax.

The SSVD does not include our entire collection. For a comprehensive search of all datasets, use our [main data search](#), which indexes all of the documentation available for our studies, including the variable descriptions.

Search

Browse by Study  
Browse by Series

Comparing Variables

Select checkboxes, and then select "Compare" from the Actions button. This will take you to a screen where you can compare the details of the variables you chose.



# ICPSR (2/2)

- 資料主題：
  - 人口普查計數
  - 社區與城市研究
  - 衝突，侵略，暴力，戰爭
  - 經濟行為和態度
  - 教育
  - 精英與領導
  - 地理與環境
  - 政府架構、政策和能力
  - 衛生保健設施
- 教學包和計算機程序
- 國際體系
- 法律制度
- 立法和審議機構
- 群眾的政治行為和態度
- 組織行為
- 社會指標
- 社會制度與行為

**Census Enumerations:**  
[Historical and Contemporary Population Characteristics](#)

[View Less](#)

**Census Enumerations:**  
[Historical and Contemporary Population Characteristics](#)

A. [United States](#)

- [Decennial Censuses](#)
  - [1790-1960 Censuses](#)
  - [1970 Census](#)
  - [1980 Census](#)
  - [1990 Census](#)
  - [2000 Census](#)
  - [2010 Census](#)
- [American Housing Survey Series](#)
- [Current Population Survey Series](#)
- [Other Census, Including County and City Data Books](#)


B. [Nations Other Than the United States](#)

## Browse by Topic

Users have two options for identifying studies related to a particular topic.


- [Topic Classifications](#) address topics broadly, and are meant to be a good starting point for exploring the collection.
- The [Thesaurus](#) contains both broad and narrow terms that are more specific to the subject matter of individual studies.
- Our [Thematic Collections](#) are full websites that focus on particular subject areas.

## Topic Classifications




**Census Enumerations:**  
[Historical and Contemporary Population Characteristics](#)

[View More](#)



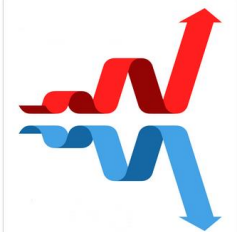
**Community and Urban Studies**

[View More](#)



**Conflict, Aggression, Violence, Wars**

[View More](#)



**Economic Behavior and Attitudes**

[View More](#)



# DANS EASY

- 人文領域重要典藏庫，由荷蘭國家研究資料典藏機構建置。
- 提供以人文為主，社會科學等為輔的資料集
- 資料類型包含文字、表格、數據、影音、口述歷史、圖片等
- 人文部分包含以下主題：
  - 考古學
  - 區域研究
  - 藝術文化
  - 歷史
  - 圖書館
  - 語言
  - 哲學
  - 宗教

Data Archiving and Networked Services  
**DANS**

EASY

Can we ask you a few questions about EASY? [More information.](#)

EASY offers sustainable archiving of research data and access to thousands of datasets.

Search...  [Search help](#)

[Advanced search](#) [Browse](#)

97,737 RESULTS IN PUBLISHED DATASETS

[List](#) [Map](#)

Sort by:

REFINE [1](#)

[Bureauonderzoek en Inventariserend Veldonderzoek d.m.v. boringen R0 en IV0 Weezenland Noord te Zwolle; Antea Group Archeologie 2019/77](#) IN SEARCH OF A LOST LANGUAGE

Date: 20190909-01-01T00:00:00.000+0100  
Creators: Fens, R. (Antea Group), Researcher

[Back to list](#)

[Overview](#) [Description](#) [Data files \(127\)](#)

[Rotterdam Piekstraat. Een bureauonderz door middel van grondboringen; BOORrap](#)

Date: 20190822-01-01T00:00:00.000+0100

[Download](#) [View details](#)

[Dataset Contents](#)

[original](#)

Name	Size	Accessible
<a href="#">Annotation Key.pdf</a>	713890	Yes
<a href="#">Recording 3.4.1 Schubert (Nedbal) Du bist Die Ruh.mp3</a>	4514131	Yes
<a href="#">Recording 3.4.2 Schubert (Tertis) Du bist Die Ruh'.m4a</a>	9145291	Yes
<a href="#">Recording 3.4.3.1 Schubert (Johanna Gadski) Du bist die Ruh.mp3</a>	5568000	Yes
<a href="#">Recording 3.4.3.2 Schubert (Lilli Lehmann) Du bist Die Ruh.mp3</a>	5496000	Yes
<a href="#">Recording 3.4.3.3 Schubert (Elena Gerhardt) Du bist die Ruh.flac</a>	10947041	Yes
<a href="#">Recording 3.4.3.4 Schubert (Julia Culp) Du bist die Ruh.mp3</a>	6312000	Yes
<a href="#">Recording 3.4.3.5 Schubert (Karl Erb) Du bist die Ruh.mp3</a>	5496000	Yes
<a href="#">Recording 3.4.3.6 Schubert (McCormack) Du bist die Ruh.flac</a>	8824007	Yes
<a href="#">Recording 3.4.4 Nedbal (Nedbal) Romanticky Kus.mp3</a>	5494229	Yes



# 學術調查研究資料庫(SRDA)

社會人文

- <https://srda.sinica.edu.tw/>
- 由台灣中研院建置
- 典藏長期主題、追蹤調查研究資料、個別研究資料或其他政府調查資料
- 資料主題以社會科學、人文學、管理學為主。
- 資料集富詳細使用、分析、調查、研究方式說明及年代、摘要、關鍵字等基本資料
- 延伸連結資料集相關出版品
- 需申請會員以下載資料

**SRDA 學術調查研究資料庫**  
Survey Research Data Archive

My SRDA 諮詢服務 關於我們 線上分析

找資料 找問卷 找著作書目 找站內

請輸入關鍵字   進階查詢

熱門查詢詞: 台灣社會變遷基本調查 青少年 家庭收支調查 台灣教育長期追蹤資料庫 社會變遷 教育  
人文社會科學研究中心  
(人社中心)  
人文社會科學館(人社館) →

**SRDA 學術調查研究資料庫**  
Survey Research Data Archive

My SRDA 諮詢服務 關於我們 線上分析

找資料  請輸入關鍵字

首頁 > 資料類型瀏覽 > 長期主題型調查

**依資料類型瀏覽**

- 長期主題型調查
- 長期追蹤調查
- 政府調查
- 個別型計畫

**依學門分類瀏覽**

**長期主題型調查**

**台灣社會變遷基本調查 標準版(63)、限制版(63)**

「台灣社會變遷基本調查」是由行政院國家科學委員會人文社會科學發展處在1983年推動，由社會科學研究人員規劃執行，調查的主要目的在經由抽樣調查研究收集資料提供學術界進行有關社會變遷之研究分析，在基本調查研究的設計上，是以間隔五年為原則，從事貫時性之調查，以集得可做兩個時間點以上之比較分析，達到探究社會變遷為重要目標，「台灣社會變遷基本調查」2001年加入國際社會調查計畫(Internati...(more)

**台灣社會意向調查 標準版(54)**

值此社會快速變遷之際，為迅速掌握台灣社會所面臨的各項實際問題、分析當前所發生之重要社會現象、有效了解民意之意向及主觀評價，藉由嚴謹的學術調查資料，以瞭解民眾對目前社會現象的意涵、對日新月異之社會事件的評估，確實記錄下台灣地區社會變遷所代表的真正意義，台灣社會意向調查(以下簡稱「意向調查」)即以長期有系統地從事相關社會科學之學術調查為目標，建立高品質的原始調查資料，提供學術界及政府部門，從不同的層面...(more)

**台灣營養健康狀況變遷調查 標準版(6)**

台灣營養健康狀況變遷調查(Nutrition And Health Survey in Taiwan，簡稱NAHSIT)是以機率抽樣方式抽選民意，再進行中繼民



# HUSSCAT

- 台灣人文社會資料庫名錄檢索平台
- 收錄國內學研、政府或民間機構、個人建置之資料庫，輔以部分國際或特定領域重要平台
- 以學門、關鍵字、資料庫提供者瀏覽，或檢索方式查詢

## 社會人文

人文社會資料庫名錄檢索  
Humanities & Social Science databases Catalog

# HUSSCat

管理者登入

### 關於HUSSCat

人文社會科學領域已有豐富的數位資料庫供研究者取用與分析，然缺乏統一的資訊來源與使用管道，亦無法透過網頁搜尋引擎針對特定領域或主題進行搜尋。為此，「科技部人文社會科學研究中心」全面盤點國內人社領域資料庫，並建置「人文社會資料庫名錄」，以利研究者掌握相關研究資源、探索新的研究領域，並促成更多跨領域研究與合作。[更多內容](#)

本名錄檢索的設置透過大專校院、學研機構與政府補助計畫等主要來源途徑，系統性盤點國內人文社會資料庫，繼而著錄資料庫性質、內容及功能等特性，共收錄20個人文社會學門領域之資料庫，提供使用者以學門或機構別瀏覽資料庫名單，或以特定主題及關鍵字進行資料庫名錄檢索。

由於人文社會研究觸及的議題廣泛，各資料庫收錄之資料類型多樣，格式不一，資料內容或形式可能是具研究價值之古籍、歷史文獻、檔案，乃至於調查資料，故HUSSCat之收錄範圍，以具備內容檢索與瀏覽功能，由國內學研、政府或民間機構，以及個人建置之資料庫為主，但特定領域之重要檔案或資料集，甚至是國外指標型資料庫則選擇性收錄。

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### 收錄學門

依科技部學門分類

- H01文學 [226]
- H04語言學 [203]
- H05文學二 [36]
- H06歷史學 [510]
- H08哲學 [97]
- H09人類學 [103]
- H11教育學 [194]
- H12心理學 [111]
- H13法律學 [107]

### 特色收藏

題名: 雙語詞彙、學術名詞暨辭書資訊網



國家教育研究院  
National Institute for Educational Research

雙語詞彙、學術名詞暨辭書資訊網

詞彙查詢 | 下載專區 | 詞彙建議 | 審譯會

全部 雙語詞彙 學術名詞

- 學術名詞 - 圖書館學與資訊科學名詞新增名詞, 2019-07-12
- 學術名詞 - 教育學名詞-科教科名詞, 歡迎下載使用, 2019-05-31
- 雙語詞彙 - 本網站鏈結小顯示歡迎下載使用, 2013-09-10

More

其他服務

簡易查詢 進階查詢

請輸入檢索詞 題名

資料類型 全部 Search

熱門檢索詞: mean, 塑膠, Integrity, gelatin, 復用, pref, 風景畫, Georgian architecture, 佔地面積

### 分類顯示

作者或維護者

- 中央研究院人文社會科學研究中心調查研究專題中心 (99)
- 國家圖書館 (50)
- 中央研究院歷史語言研究所 (38)
- 經濟部 (38)
- 大緯資訊股份有限公司 (31)
- 國家教育研究院 (30)
- 教育部 (29)
- 行政院主計總處 (29)
- 國立台灣文學館 (27)
- 立法院國會圖書館 (27)

[更多內容](#)

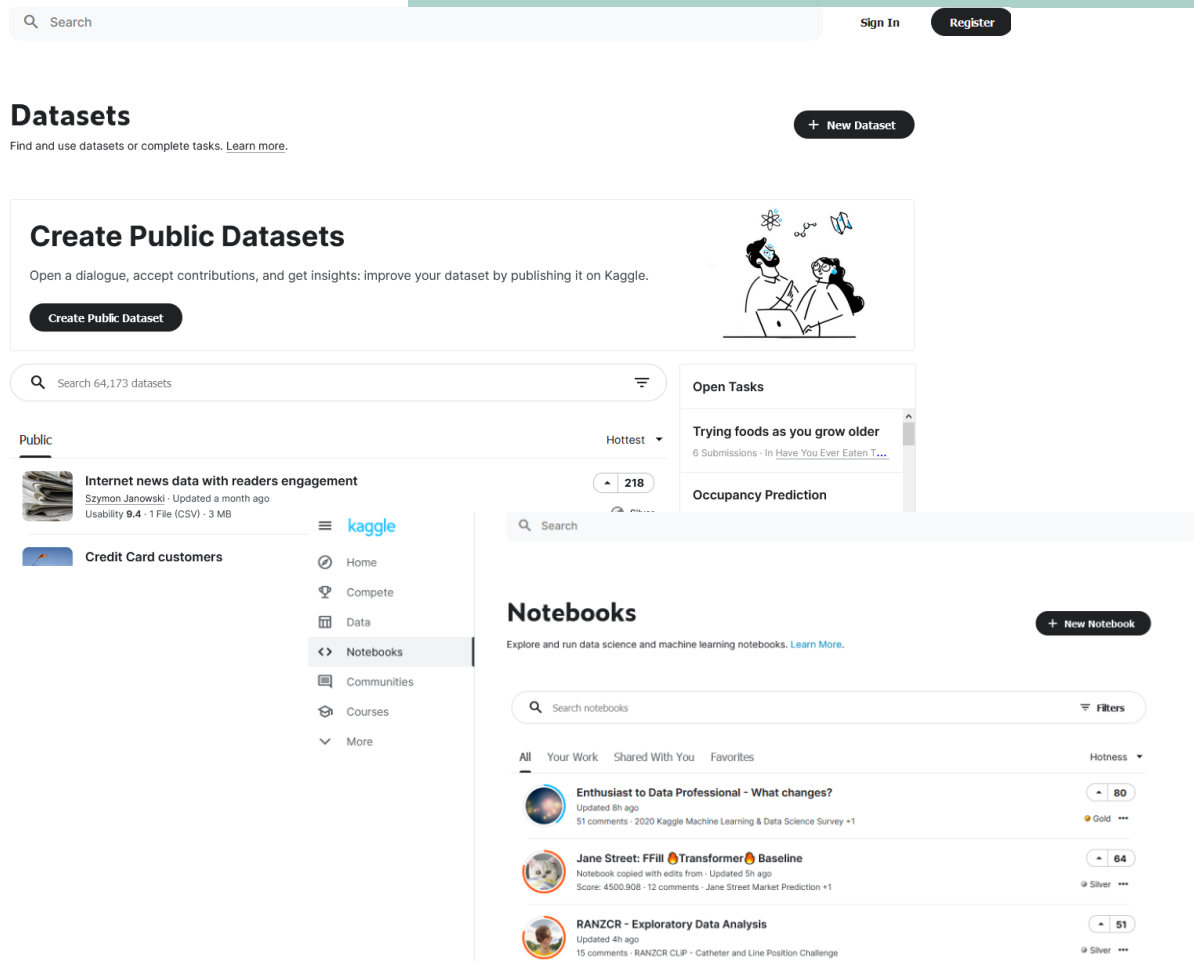
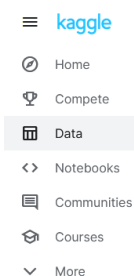
關鍵字

- 期刊 (105) 日治時期 (85) 臺灣史 (64) 名錄 (59) 臺灣文學 (56) 臺灣原住民 (50) 報紙 (49) 地理資訊系統 (48) 大學 (45) 傳記 (42) 史料 (42) 教材 (42) 學位論文 (36) 貿易商 (36) 學術研究 (34) 臺灣研究 (34) 佛教 (33) 手稿 (32) 古籍 (31) 電子書 (31) 古法陣 (20) 詞曲 (20) 檔案 (20) 照



# Kaggle

- 為資料建模與分析競賽平台
- 提供大量經整理的資料集 (CSV、JSON、SQLITE) 與 Python、R 程式碼，供資料科學研究使用
- 提供 Jupyter Notebooks 編輯環境



電機資訊



# GitHub

- <https://github.com/search>
- 軟體原始碼代管服務平台

電機資訊

The screenshot shows the GitHub search results for the query 'covid-19'. The top navigation bar includes links for 'Why GitHub?', 'Team', 'Enterprise', 'Explore', 'Marketplace', and 'Pricing', along with 'Sign in' and 'Sign up' buttons. The search bar contains the text 'covid-19'. Below the search bar, the results are displayed in a grid. On the left, there is a sidebar with 'Repositories' (84k), 'Code', 'Commits' (164k), 'Issues' (35k), 'Discussions' (Beta, 59), 'Packages' (17), 'Marketplace' (5), 'Topics' (220), 'Wikis' (2k), and 'Users' (200). Below this is a 'Languages' section with a list of languages and their respective repository counts: JavaScript (17,852), Jupyter Notebook (13,597), Python (10,314), HTML (8,698), Java (3,378), R (3,136), and TypeScript (2,292). The main content area shows the top repository result for 'COVID-19' by 'CSSEGISandData/COVID-19', which has 84,846 repository results. Below this, there are two more repository results: 'Novel Coronavirus (COVID-19) Cases, provided by JHU CSSE' and 'COVID-19 Italia - Monitoraggio situazione'. The bottom of the page shows a list of repository results for 'covid-19'.

The screenshot shows the GitHub search filters page. The top navigation bar is the same as the previous screenshot. The search bar contains the text 'Search GitHub'. Below the search bar, there is a 'ProTip!' section that says 'For an advanced search, use some of our prefixes.' The main content area is divided into two sections: 'Advanced search' and 'Advanced options'. The 'Advanced search' section has a search bar and a 'Search' button. The 'Advanced options' section has several filters: 'From these owners' (github, atom, electron, octokit), 'In these repositories' (twbs/bootstrap, rails/rails), 'Created on the dates' (>YYYY-MM-DD, YYYY-MM-DD), 'Written in this language' (Any Language), 'With this many stars' (0..100, 200, >1000), 'With this many forks' (50..100, 200, <5), 'Of this size' (Repository size in KB), 'Pushed to' (<YYYY-MM-DD), 'With this license' (Any license), and 'Return repositories' (not including forks).



# 04

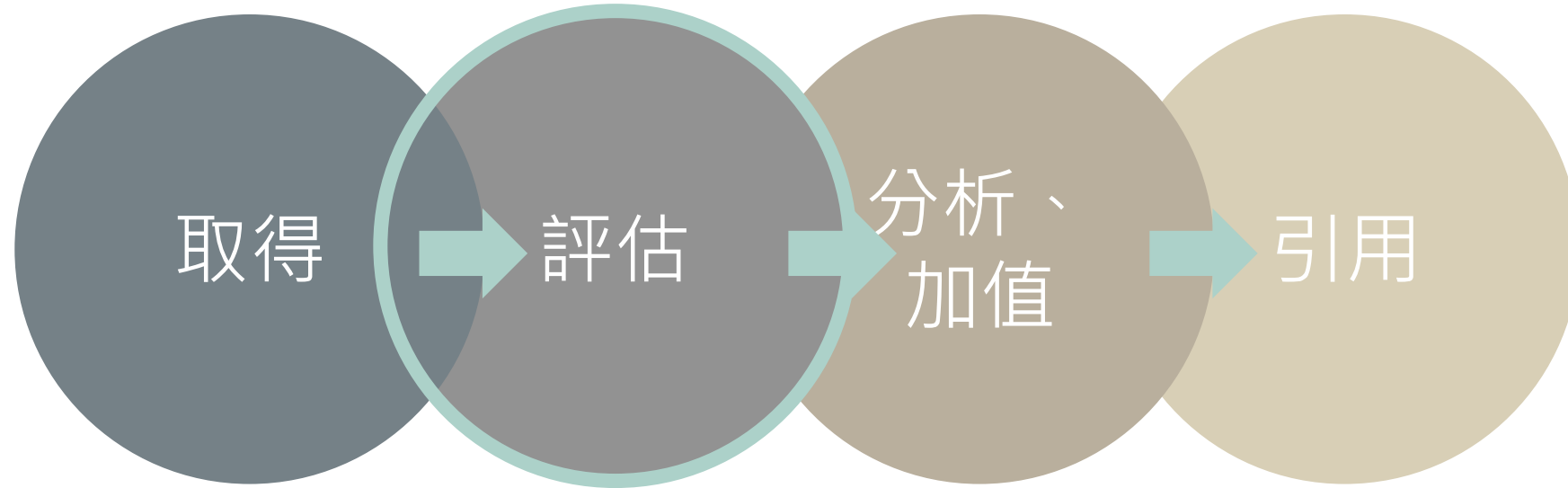
A decorative graphic on the left side of the slide consists of several overlapping circles in various shades of gray and beige, creating a layered, abstract effect.

## How to Evaluate the Data

- 取得評估
- 品質評估



# About Data re-use





# 確認需求

- 資料來源眾多，應先確認需求，定位資料來源，確認篩選策略
  - 有哪些機構關注研究主題
  - 確認研究主題概念，掌握廣義、狹義、同義及相關詞彙
  - 掌握相關文獻
  - 資料的時間範圍：新穎性或回溯性
  - 資料的類型、檔案格式
  - 資料的地理空間範圍與層級：國際、國家、國內、縣市、地區、組織
  - 資料內容、變數、欄位：如可否分析性別、年齡、收入等
  - 資料測量單位







# 是否可及

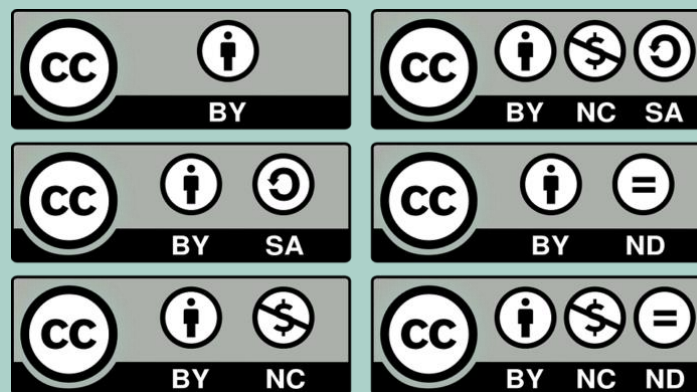
- 影響品質判斷的前提
- 資料整批下載
  - 費用
  - 著作權/授權：CC License
  - 使用規定(是否禁止使用)
  - 儲存平台安全性、使用經驗
- 資料產出方式追溯：
  - 研究方法與流程
  - 分析方式
  - 研究範圍
  - 作者
  - 單位
- 資料使用手冊(Read Me)取得
- 衍伸出版品取得
- 其他背景資料取得

## CC License(創用CC)小檔案

### ✓ 四大要素

- ✓ 姓名標示(BY) 
- ✓ 相同方式分享(SA) 
- ✓ 非商業性(NC) 
- ✓ 禁止改作(ND) 

### ✓ 常見組合



## Read Me File

Complementary Material for “Model Predictive Control for Water Supply Networks”

April 2020

This file includes the five networks used in “Model Predictive Control for Water Supply Networks” in INP format which can be opened/used in the EPANET software. Various modifications were made to the original INP files, and these modifications are outlined below. The enclosed INP files do not include these modifications and the reader has the choice to include these modifications if they wish to reproduce the analyses. In the paper “Model Predictive Control for Water Supply Networks” the INP files were used only as initial imports to IATLAB, which was used for the coding of our optimization and hydraulic simulations.



# 基本資料掌握

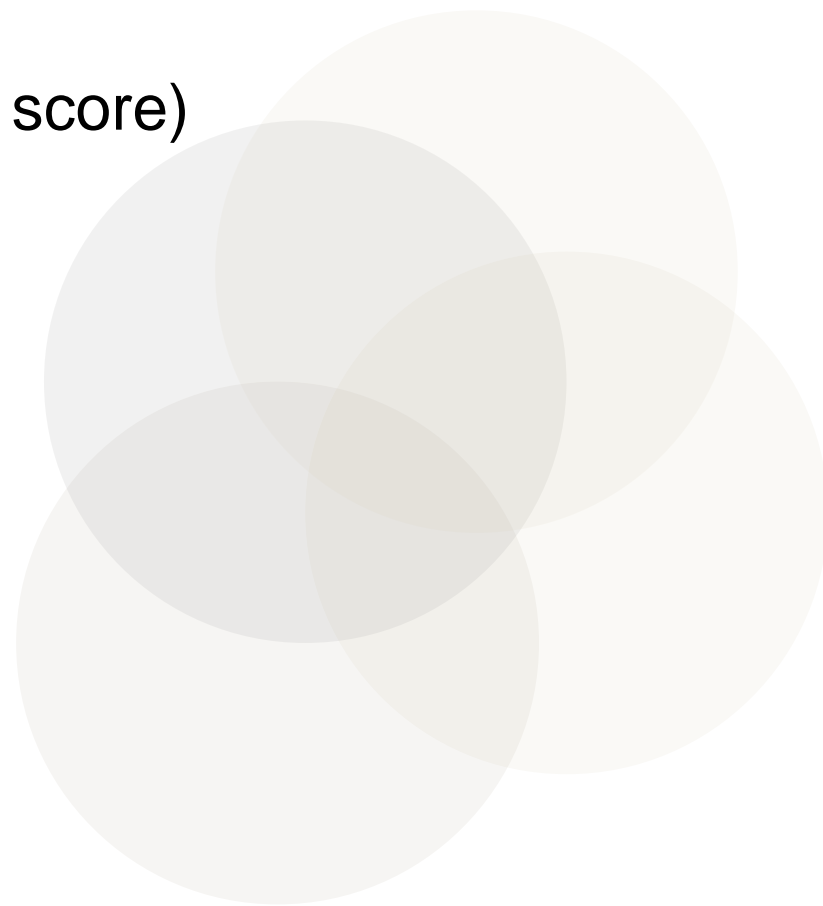
- 掌握基本資料，以進一步判斷品質
  - 資料類型
  - 資料來源
  - 資料蒐集、分析、使用儀器、產出方式
  - 資料時間範圍
  - 資料地理範圍
  - 受測或調查對象
  - 資料量
  - 資料結構是否符合領域標準
  - 資料儲存平台





# 資料評估(1/4)

- 正確/可信：最重要的評斷指標
  - 資料品質：正確無誤、理性客觀
    - 標準化品質認證(如基因註解的品質分數GAQ score)
    - 精確性
    - 信效度
    - 穩定度、一致性
    - 可驗證
    - 完整性
    - 相關資料可追溯





# 資料評估(2/4)

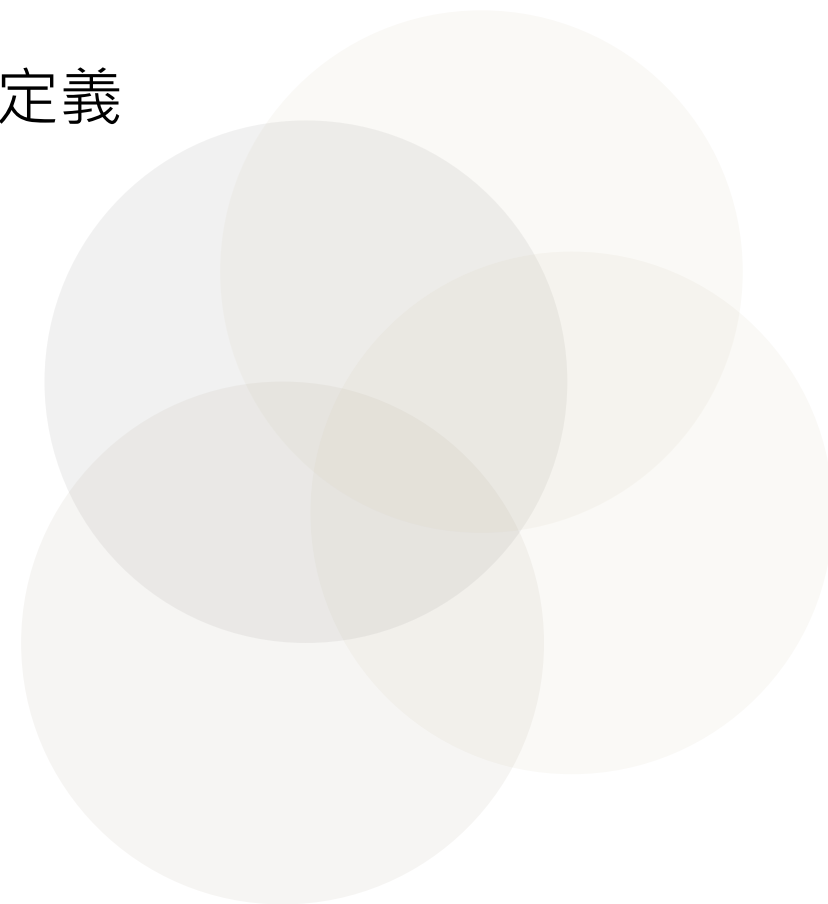
- 正確/可信：最重要的評斷指標
  - 產生方式：分析儀器、蒐集方式、統計分析、測量方式、技術應用等
    - 符合公認標準
    - 客觀、安全
    - 題項
    - 樣本
    - 一致性
  - 來源單位：具聲望、權威、信用、客觀、安全
  - 儲存平台：具聲望、權威、信用、客觀、安全
  - 產出頻率：長期性觀測、調查資料較可信





# 資料評估(3/4)

- 可用：針對資料本身的使用成本評估
  - 可操作：語言、標示、單位、檔案類型、操作型定義
  - 可理解
  - 易於分析運算
  - 一致性
  - 再分析的潛力：變數、欄位、深度、廣度
  - 受測者是否知情同意
  - 資料是否去識別化
  - 資料乾淨、簡明
  - 具加值處理





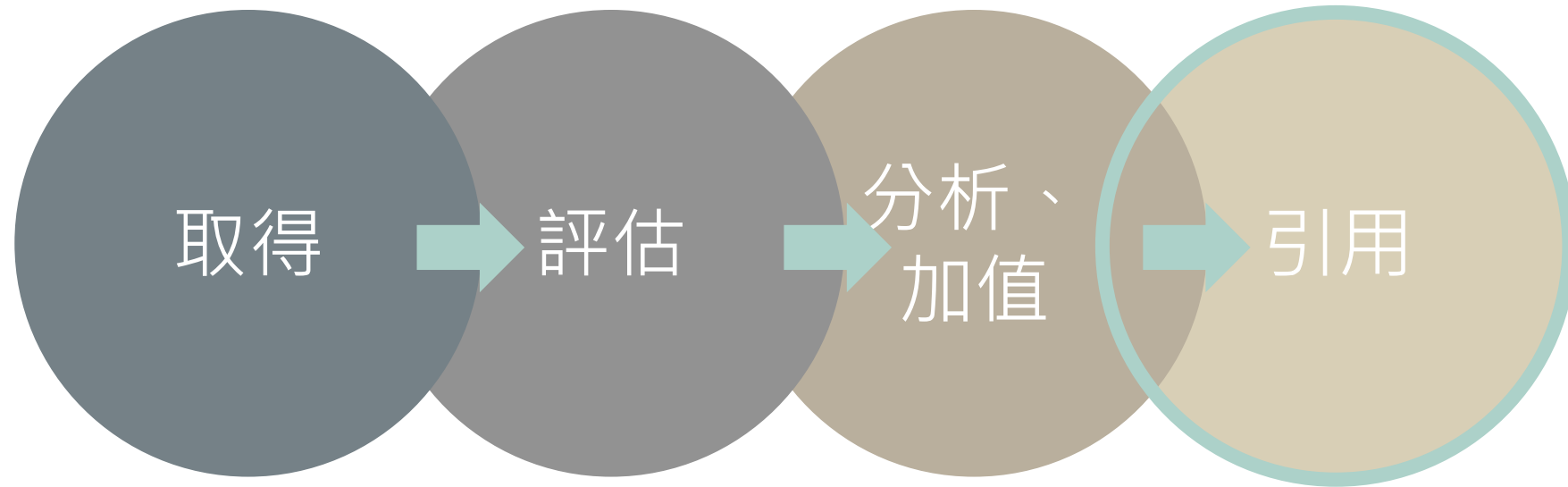
# 資料評估(4/4)

- 相關：資料是否能回應研究問題
  - 時間範圍
  - 資料量
  - 具代表性
  - 最新版本
  - 產製者聲望
  - 加值處理





# About Data re-use





# 05

## How to Cite Data

- 基本原則
- 常見格式舉隅



# 資料引用

使用他人的研究資料進行研究，應註明出處，故需引用資料，以利將影響力回饋給原作者，並加強個人研究依據，以及，幫助他人參考資料集，進而評估研究或進一步探索。



# 基本原則

- 常見資訊：

- 作者(Author)
- 標題(Title)
- 永久識別碼(DOI)
- 出版日期(Date)
- 版本(Version)
- 典藏平台(Distributor)
- 來源單位(Publisher)

- 附加資訊：

- 取用日期
- 取用連結(URL)
- 資料類型
- 版本(Edition)



# 常見格式-引用格式

- **APA :**

Cool, H. E. M., & Bell, M. (2011). *Excavations at St Peter's Church, Barton-upon-Humber* [Data set]. [doi:10.5284/1000389](https://doi.org/10.5284/1000389)

- **Chicago**

(Footnote) H. E. M. Cool and Mark Bell, *Excavations at St Peter's Church, Barton-upon-Humber* (accessed May 1, 2011), [doi:10.5284/1000389](https://doi.org/10.5284/1000389).

(Bibliography) Cool, H. E. M., and Mark Bell. *Excavations at St Peter's Church, Barton-upon-Humber* (accessed May 1, 2011). [doi:10.5284/1000389](https://doi.org/10.5284/1000389).

- **MLA**

Cool, H. E. M., and Mark Bell. "Excavations at St Peter's Church, Barton-upon-Humber." *Archaeology Data Service*, 2001. Web. 1 May 2011. <<http://dx.doi.org/10.5284/1000389>>.

- **Oxford**

Cool, H. E. M. and Bell, M. (2011), *Excavations at St Peter's Church, Barton-upon-Humber* [dataset] (York: Archaeology Data Service), doi: [10.5284/1000389](https://doi.org/10.5284/1000389)



# 常見格式-研究資料平台(1/2)

多數研究資料平台提供引用書目下載或匯出至書目管理軟體

- **Dryad**

Kingsolver JG, Hoekstra HE, Hoekstra JM, Berrigan D, Vignieri SN, Hill CE, Hoang A, Gibert P, Beerli P (2001) Data from: The strength of phenotypic selection in natural populations. Dryad Digital Repository. [doi:10.5061/dryad.166](https://doi.org/10.5061/dryad.166)

- **Dataverse**

Frederico Girosi; Gary King, 2006, 'Cause of Death Data',  
<http://hdl.handle.net/1902.1/UOVMCPSWOL> UNF:3:9JU+SmVyHgwRhAKclQ85Cg== IQSS Dataverse Network [Distributor] V3 [Version].

- **DataCite**

1.Creator (PublicationYear). Title. Publisher. Identifier

2.Creator (PublicationYear). Title. Version. Publisher. ResourceType. Identifier



# 常見格式-研究資料平台(2/2)

多數研究資料平台提供引用書目下載或匯出至書目管理軟體

- **ICPSR**

Schneider, Barbara, and Waite, Linda J. The 500 Family Study [1998-2000: United States]. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2008-06-03.

<https://doi.org/10.3886/ICPSR04549.v1>

- **PANGAEA**

Haider, Fouzia; Timm, Stefan; Bruhns, Torben; Noor, Mizra Nusrat; Sokolova, Inna M (2020): Effect of food limitation on energy metabolism and burrowing activity of an infaunal marine bivalve, *Mya arenaria*. PANGAEA, <https://doi.org/10.1594/PANGAEA.922165>



# 常見格式-無資料集引用規定

- 若所使用的引用格式無資料引用相關規定，可參考通用(Generic)或書籍(Book)格式，輸入前述要件，或參考書籍的格式輸入。
- 若資料集來自政府機關報告、網頁、文件，可視為”政府報告”或”政府部門網頁”引用。
  - 政府報告APA  
National Cancer Institute. (2019). *Taking time: Support for people with cancer* (NIH Publication No. 18-2059). U.S. Department of Health and Human Services, National Institutes of Health. <https://www.cancer.gov/publications/patient-education/takingtime.pdf>
  - 政府部門網頁APA  
National Institute of Mental Health. (2018, July). *Anxiety disorders*. U.S. Department of Health and Human Services, National Institutes of Health. <https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml>



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Question



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# 參考文獻

- Abella, Alberto, Marta Ortiz-de-Urbina-Criado, and Carmen De-Pablos-Heredero. 2019. "The process of open data publication and reuse." *Journal of the Association for Information Science and Technology* 70 (3): 296-300. <https://doi.org/10.1002/asi.24116>.
- Anderson, Deborah W., Katrina Fenlon, Melissa Levine, C. M. Sperberg-McQueen, Alison Babau, Julia Flanders, Trevor Muñoz, David Dubin, Jacob Jett, and Carole L. Palmer. "Digital Humanities Data Curation Guide." <https://archive.mith.umd.edu/dhcurator-guide/guide.dhcurator.org/contributing-editors/index.html>.
- Bordelon, Dominic. "LibGuides: Research Data Management @ Pitt: Finding Data." <https://pitt.libguides.com/managedata/findingdata>.
- ---. "LibGuides: Research Data Management @ Pitt: Understanding Research Data Management." <https://pitt.libguides.com/managedata/understanding>.
- Boté, Juan-José, and Miquel Termens. 2019. "Reusing Data Technical and Ethical Challenges." *DESIDOC Journal of Library & Information Technology* 39 (06): 329-337. <https://doi.org/10.14429/djlit.39.06.14807>. <https://dx.doi.org/10.14429/djlit.39.06.14807>.
- Breznau, Nate. 2015. "The Missing Main Effect of Welfare State Regimes: A Replication of 'Social Policy Responsiveness in Developed Democracies' by Brooks and Manza." *Sociological Science* 2: 440-441. <https://doi.org/10.15195/v2.a20>. <https://dx.doi.org/10.15195/v2.a20>.
- Brooks, Clem, and Jeff Manza. 2006. "Social Policy Responsiveness in Developed Democracies." *American Sociological Review* 71 (3): 474-494. <https://doi.org/10.1177/000312240607100306>. <https://doi.org/10.1177/000312240607100306>.
- Bryant, Tatiana. "Research Guides: Digital Humanities : Humanities Data." <https://guides.lib.uci.edu/c.php?g=334722&p=6470744>.
- Calvert, Scout. "LibGuides: How to Cite Data: General Info." <https://libguides.lib.msu.edu/c.php?g=96245&p=626236>.
- Commons, Scholarly. "LibGuides: Finding Numeric Data: World Data." <https://guides.library.illinois.edu/c.php?g=419728&p=2862805>.
- Custers, Bart, and Helena Uršič. 2016. "Big data and data reuse: a taxonomy of data reuse for balancing big data benefits and personal data protection." *International Data Privacy Law*. ipv028. <https://doi.org/10.1093/idpl/ipv028>. <https://dx.doi.org/10.1093/idpl/ipv028>.
- Dalerba, Piero, Debashis Sahoo, Soonmyung Paik, Xiangqian Guo, Greg Yothers, Nan Song, Nate Wilcox-Fogel, Erna Forgó, Pradeep S. Rajendran, Stephen P. Miranda, Shigeo Hisamori, Jacqueline Hutchison, Tomer Kalisky, Dalong Qian, Norman Wolmark, George A. Fisher, Matt Van De Rijn, and Michael F. Clarke. 2016. "CDX2 as a Prognostic Biomarker in Stage II and Stage III Colon Cancer." *New England Journal of Medicine* 374 (3): 211-222. <https://doi.org/10.1056/nejmoa1506597>. <https://dx.doi.org/10.1056/nejmoa1506597>.
- DataCite. "DataCite - Cite Your Data." <https://datacite.org/cite-your-data.html>.
- Digital Curation, Centre. 2011. "How to Cite Datasets and Link to Publications." <https://www.dcc.ac.uk/guidance/how-guides/cite-datasets>.



# 參考文獻

- Dressler, Virginia. "LibGuides: Finding and Working with Data Sets: Finding Data Sets and Statistics." <https://libguides.library.kent.edu/FindingWorkingWithData/Home>.
- Elmore, Justina. "LibGuides: \* Data and statistics: Open Data Sets by topic." <https://libguides.lib.rochester.edu/c.php?g=384429&p=2606012>.
- Fu, J., K. Li, W. Zhang, C. Wan, J. Zhang, P. Jiang, and X. S. Liu. 2020. "Large-scale public data reuse to model immunotherapy response and resistance." *Genome Med* 12 (1): 21. <https://doi.org/10.1186/s13073-020-0721-z>. <https://www.ncbi.nlm.nih.gov/pubmed/32102694>.
- Gamble, Matthew, and Carole Goble. "Quality, trust, and utility of scientific data on the web." 2011.
- ---. 2011. "Quality, trust, and utility of scientific data on the web: towards a joint model." Proceedings of the 3rd International Web Science Conference, Koblenz, Germany. <https://doi.org/10.1145/2527031.2527048>.
- Greene, Casey S., Lana X. Garmire, Jack A. Gilbert, Marylyn D. Ritchie, and Lawrence E. Hunter. 2017b. "Celebrating parasites." *Nature Genetics* 49 (4): 483-484. <https://doi.org/10.1038/ng.3830>. <https://dx.doi.org/10.1038/ng.3830>.
- Gregory, Kathleen. 2020. "A dataset describing data discovery and reuse practices in research." *Scientific Data* 7 (1). <https://doi.org/10.1038/s41597-020-0569-5>. <https://dx.doi.org/10.1038/s41597-020-0569-5>.
- Grynock, Tess. "Resource Guides: Research Data Management Resources: Open and Publicly Available Data." [https://libraryguides.umassmed.edu/research\\_data\\_management\\_resources/open\\_public\\_data](https://libraryguides.umassmed.edu/research_data_management_resources/open_public_data).
- He, Lin, and Vinita Nahar. 2016. "Reuse of scientific data in academic publications." *Aslib Journal of Information Management* 68 (4): 478-494. <https://doi.org/10.1108/ajim-01-2016-0008>. <https://dx.doi.org/10.1108/ajim-01-2016-0008>.
- Huang, Hong, Besiki Stvilia, Corinne Jörgensen, and Hank W. Bass. 2012. "Prioritization of data quality dimensions and skills requirements in genome annotation work." *Journal of the American Society for Information Science and Technology* 63 (1): 195-207. <https://doi.org/10.1002/asi.21652>. <https://dx.doi.org/10.1002/asi.21652>.
- Icpsr. "How to Cite Data." <https://www.icpsr.umich.edu/web/pages/datamanagement/citations.html>.
- Kim, Youngseek, and Ayoung Yoon. 2017. "Scientists' data reuse behaviors: A multilevel analysis." *Journal of the Association for Information Science and Technology* 68 (12): 2709-2719. <https://doi.org/10.1002/asi.23892>. <https://dx.doi.org/10.1002/asi.23892>.
- Kujala, Rainer, Christoffer Weckström, Richard K. Darst, Miloš N. Mladenović, and Jari Saramäki. 2018. "A collection of public transport network data sets for 25 cities." *Scientific Data* 5 (1): 180089. <https://doi.org/10.1038/sdata.2018.89>. <https://dx.doi.org/10.1038/sdata.2018.89>.



# 參考文獻

- Library, N. I. H. SEARCHING OPEN DATA SETS.
- Library, Ucla. "Research Guides: Social Statistics and Data: Getting Started." <https://guides.library.ucla.edu/c.php?g=180244&p=1190679>.
- Longo, Dan L., and Jeffrey M. Drazen. 2016. "Data Sharing." *New England Journal of Medicine* 374 (3): 276-277. <https://doi.org/10.1056/NEJMe1516564>.  
<https://www.nejm.org/doi/full/10.1056/NEJMe1516564>.
- Mannheimer, Sara, Leila Sterman, and Susan Borda. 2016. "Discovery and Reuse of Open Datasets: An Exploratory Study." *Journal of eScience Librarianship* 5 (1).  
<https://doi.org/10.7191/jeslib.2016.1091>.
- Michener, William K., Suzie Allard, Amber Budden, Robert B. Cook, Kimberly Douglass, Mike Frame, Steve Kelling, Rebecca Koskela, Carol Tenopir, and David A. Vieglais. 2012. "Participatory design of DataONE—Enabling cyberinfrastructure for the biological and environmental sciences." *Ecological Informatics* 11: 5-15. <https://doi.org/10.1016/j.ecoinf.2011.08.007>.
- Murray-Rust, Peter. 2008. "Open Data in Science." *Nature Precedings*. <https://doi.org/10.1038/npre.2008.1526.1>. <https://doi.org/10.1038/npre.2008.1526.1>.
- Myers, Bethany. "Research Guides: Data Management for the Sciences: Data Citation." <https://guides.library.ucla.edu/c.php?g=180539&p=1185506>.
- ---. "Research Guides: Data Management for the Sciences: Managing Data." <https://guides.library.ucla.edu/c.php?g=180539&p=1189515>.
- ---. "Research Guides: Health Data and Statistics: Home." <https://guides.library.ucla.edu/c.php?g=180355&p=1187154>.
- Nih. "Finding and Using Health Statistics." [https://www.nlm.nih.gov/nichsr/stats\\_tutorial/cover.html](https://www.nlm.nih.gov/nichsr/stats_tutorial/cover.html).
- Open Knowledge, Foundation, Foundation Shuttleworth, and Bank The World. "The Open Data Handbook." <https://opendatahandbook.org/guide/en/introduction/>.
- Pasquetto, Irene V., Bernadette M. Randles, and Christine L. Borgman. 2017. "On the Reuse of Scientific Data." *Data Science Journal* 16. <https://doi.org/10.5334/dsj-2017-008>.  
<https://dx.doi.org/10.5334/dsj-2017-008>.
- PhD, Ioana Spanache. 2020. "Data Science for Social Good: Best Sources for Free Open Data." *Medium*. <https://towardsdatascience.com/data-science-for-social-good-best-sources-for-free-open-data-5120070caf02>.
- Re3data.org. "Re3data About." <https://www.re3data.org/about>.
- Ruijter, Erna, Stephan Grimmelikhuijsen, Jochem van den Berg, and Albert Meijer. 2020. "Open data work: understanding open data usage from a practice lens." *International Review of Administrative Sciences* 86 (1): 3-19. <https://doi.org/10.1177/0020852317753068>. <https://journals.sagepub.com/doi/abs/10.1177/0020852317753068>.
- Salkind, Neil J. 2010. "Encyclopedia of Research Design." no. 0. <https://doi.org/10.4135/9781412961288>. <https://methods.sagepub.com/reference/encyc-of-research-design>.



# 參考文獻

- Services, Data. "Guides: Data and Statistics: International." <https://guides.library.jhu.edu/data-stats/international>.
- ---. "Guides: Data Management: Data Sharing: What, Why and How?". <https://guides.library.jhu.edu/c.php?g=813898&p=6281112>.
- Soranno, P. A., E. G. Bissell, K. S. Cheruvellil, S. T. Christel, S. M. Collins, C. E. Fergus, C. T. Filstrup, J. F. Lapierre, N. R. Lottig, S. K. Oliver, C. E. Scott, N. J. Smith, S. Stopyak, S. Yuan, M. T. Bremigan, J. A. Downing, C. Gries, E. N. Henry, N. K. Skaff, E. H. Stanley, C. A. Stow, P. N. Tan, T. Wagner, and K. E. Webster. 2015. "Building a multi-scaled geospatial temporal ecology database from disparate data sources: fostering open science and data reuse." *Gigascience* 4: 28. <https://doi.org/10.1186/s13742-015-0067-4>. <https://www.ncbi.nlm.nih.gov/pubmed/26140212>.
- Suhr, B., J. Dungl, and A. Stocker. 2020. "Search, reuse and sharing of research data in materials science and engineering-A qualitative interview study." *PLoS One* 15 (9): e0239216. <https://doi.org/10.1371/journal.pone.0239216>. <https://www.ncbi.nlm.nih.gov/pubmed/32931508>.
- Tenopir, C., E. D. Dalton, S. Allard, M. Frame, I. Pjesivac, B. Birch, D. Pollock, and K. Dorsett. 2015. "Changes in Data Sharing and Data Reuse Practices and Perceptions among Scientists Worldwide." *PLoS One* 10 (8): e0134826. <https://doi.org/10.1371/journal.pone.0134826>. <https://www.ncbi.nlm.nih.gov/pubmed/26308551>.
- The Scholarly, Publishing, and Coalition Academic Resources. "Open Data." SPARC. <https://sparcopen.org/open-data/>.
- ---. 2017. Open data factsheet.
- Unicef. 2019. "Deploying open data tools and standards to support UNICEF global public indicators." *UNICEF DATA*. <https://data.unicef.org/open-data/>.
- Vazakas, Sue. "Guides: Citing Sources: Citing Data." <https://guides.library.jhu.edu/citing/data>.
- Walker, Dawn, Curtis McCord, Nicole Stradiotto, Mari Zhou, and Dal Singh. 2016. "Citizen's Guide to Open Data." <https://citizens-guide-open-data.github.io/guide/1-open-data>.
- Weckström, Christoffer, Rainer Kujala, Miloš N. Mladenović, and Jari Saramäki. 2019. "Assessment of large-scale transitions in public transport networks using open timetable data: case of Helsinki metro extension." *Journal of Transport Geography* 79: 102470. <https://doi.org/10.1016/j.jtrangeo.2019.102470>. <https://dx.doi.org/10.1016/j.jtrangeo.2019.102470>.
- Wilkinson, T., S. Sinha, N. Peek, and N. Geifman. 2019. "Clinical trial data reuse - overcoming complexities in trial design and data sharing." *Trials* 20 (1): 513. <https://doi.org/10.1186/s13063-019-3627-6>. <https://www.ncbi.nlm.nih.gov/pubmed/31426840>.
- Williams, Brian. "Research Guides: Social Science Data: Data." <https://guides.lib.uci.edu/c.php?g=333031&p=4995126>.



# 參考文獻

- Yu, K. H., C. Zhang, G. J. Berry, R. B. Altman, C. Ré, D. L. Rubin, and M. Snyder. 2016. "Predicting non-small cell lung cancer prognosis by fully automated microscopic pathology image features." *Nat Commun* 7: 12474. <https://doi.org/10.1038/ncomms12474>.
- 林奇秀, 賴璟毅. 2017. "臺灣社會科學學者資料再用行為 之研究." *圖書資訊學研究* 11 (2): 95-138.
- ---. 2018. "台灣社會科學量化資料再用之研究：2001-2015年." *教育資料與圖書館學* 55 (1): 39-69. <https://doi.org/doi:10.6120/JoEMLS.2018.551/0039.RS.AM>  
doi:51842634.
- 柳婉郁, 林國慶, 林信維. 2017. "台灣非農家計糧食消費與家計糧食安全之分析." *農業經濟叢刊* 23 (1): 1-43. <https://doi.org/10.6196/TAER.2017.23.1.1>.  
<http://dx.doi.org/10.6196/TAER.2017.23.1.1>.
- 楊東謀, 吳怡融. 2019. "台灣政府開放資料推行之近況調查與探討." *教育資料與圖書館學* 56 (1): 7-44. [https://doi.org/doi:10.6120/JoEMLS.201903\\_56\(1\).0041.RS.BM](https://doi.org/doi:10.6120/JoEMLS.201903_56(1).0041.RS.BM)
- 鄭瑋. 2020. "圖書館與開放科學：研究資料服務實戰研習班課程講義"



# THANK YOU

