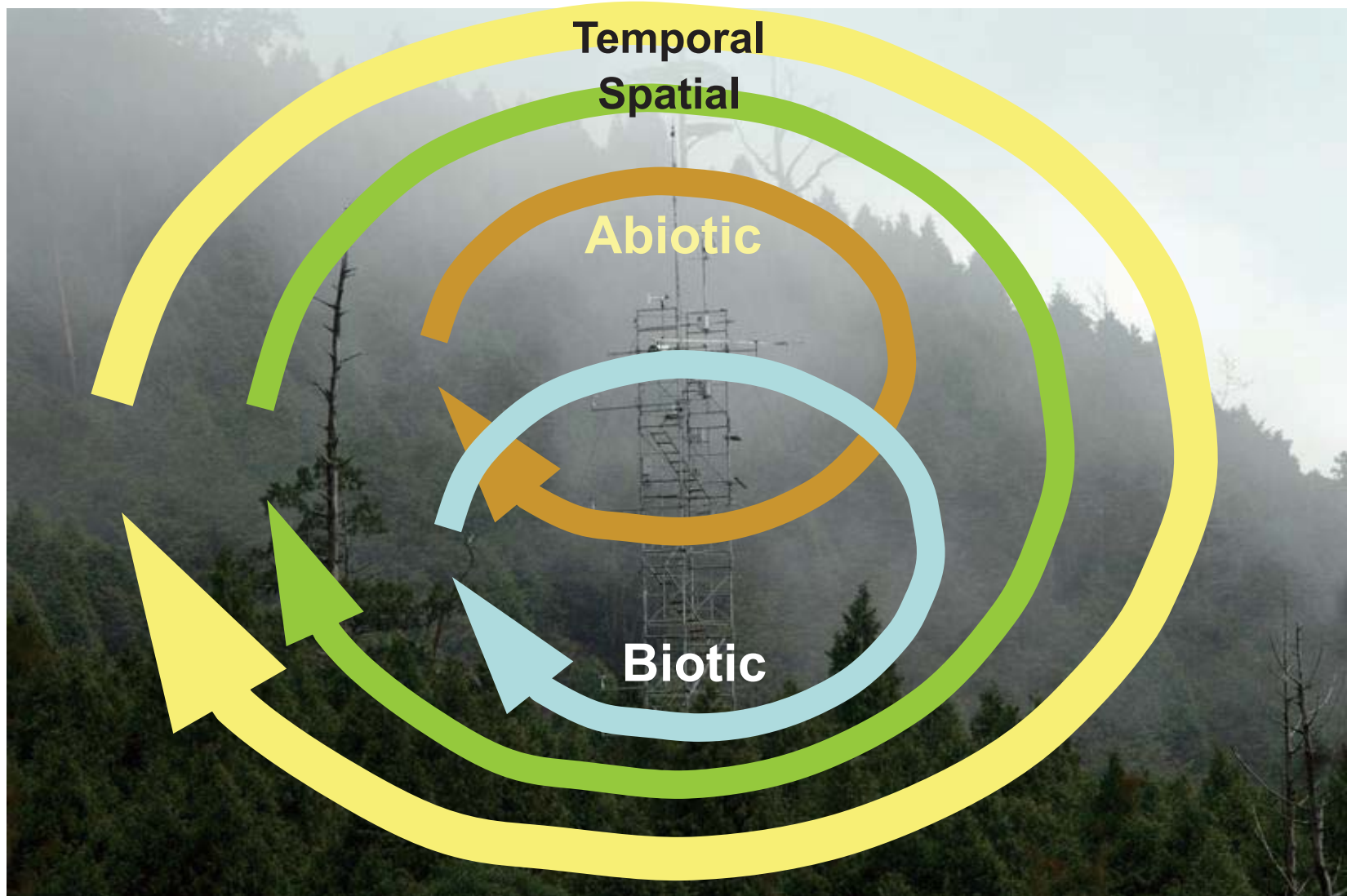


# 研究資料倉儲的重要性



林業試驗所生態資訊研究室  
王豫煌

# 長期生態研究的範疇

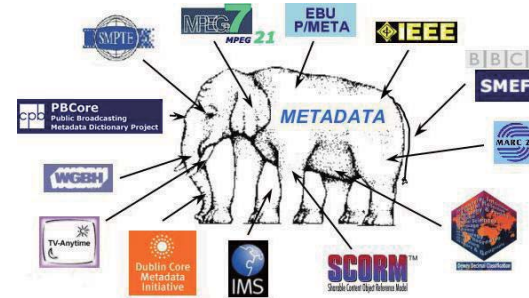


# 研究資料的價值



# 研究資料從那裡來？

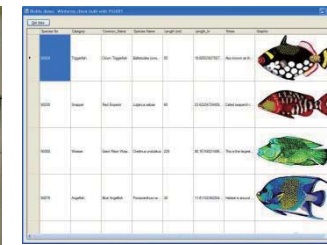
information



Data/Raw data/Dataset

Data for heating crystals

	Trial 1			Trial 2			Trial 3		
Temp. at Alum start	4	4	4	4	4	4	4	4	4
Temp. at Alum stop	4	4	4	4	4	4	4	4	4
Temp. at Salt start	0	0	0	0	0	0	0	0	0
Temp. at Salt stop	0	0	1	0	0	1	0	0	1
Temp. at Sugar start	3.5	3	3.5	3	3.5	3	3.5	3	3
Temp. at Sugar stop	3	1	4	1	4	1	4	1	2



Observations/experiments



the real world



# 什麼是資料倉儲？

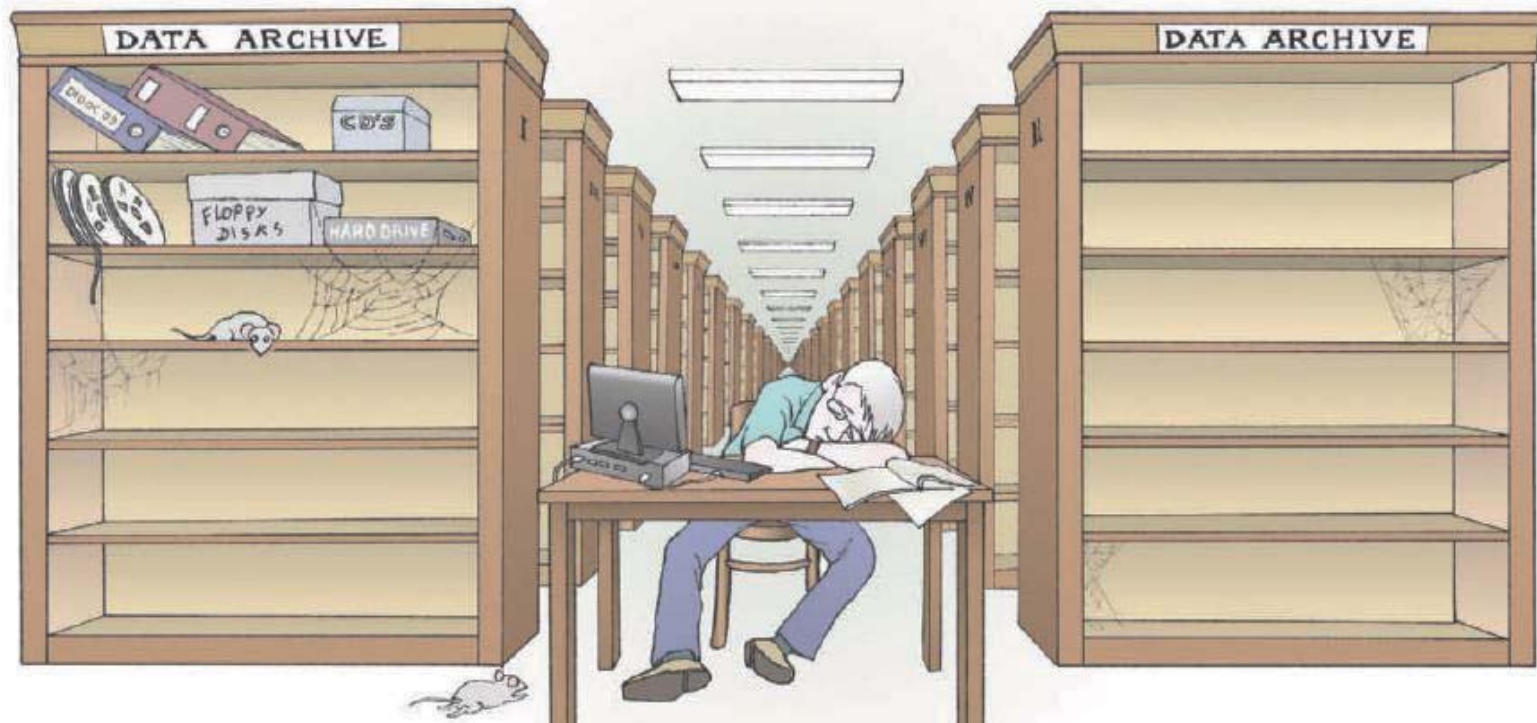
## What is a data archive?

- Established for “preservation with understanding” of ecological data (保存對資料的理解)
- A permanent collection of data sets with accompanying “metadata” such that a variety of users can readily acquire, understand, and use the data
- Preserving data and metadata in a form that will continue to be accessible as technology changes
- Facilitating data sharing and fostering broader ecological discoveries

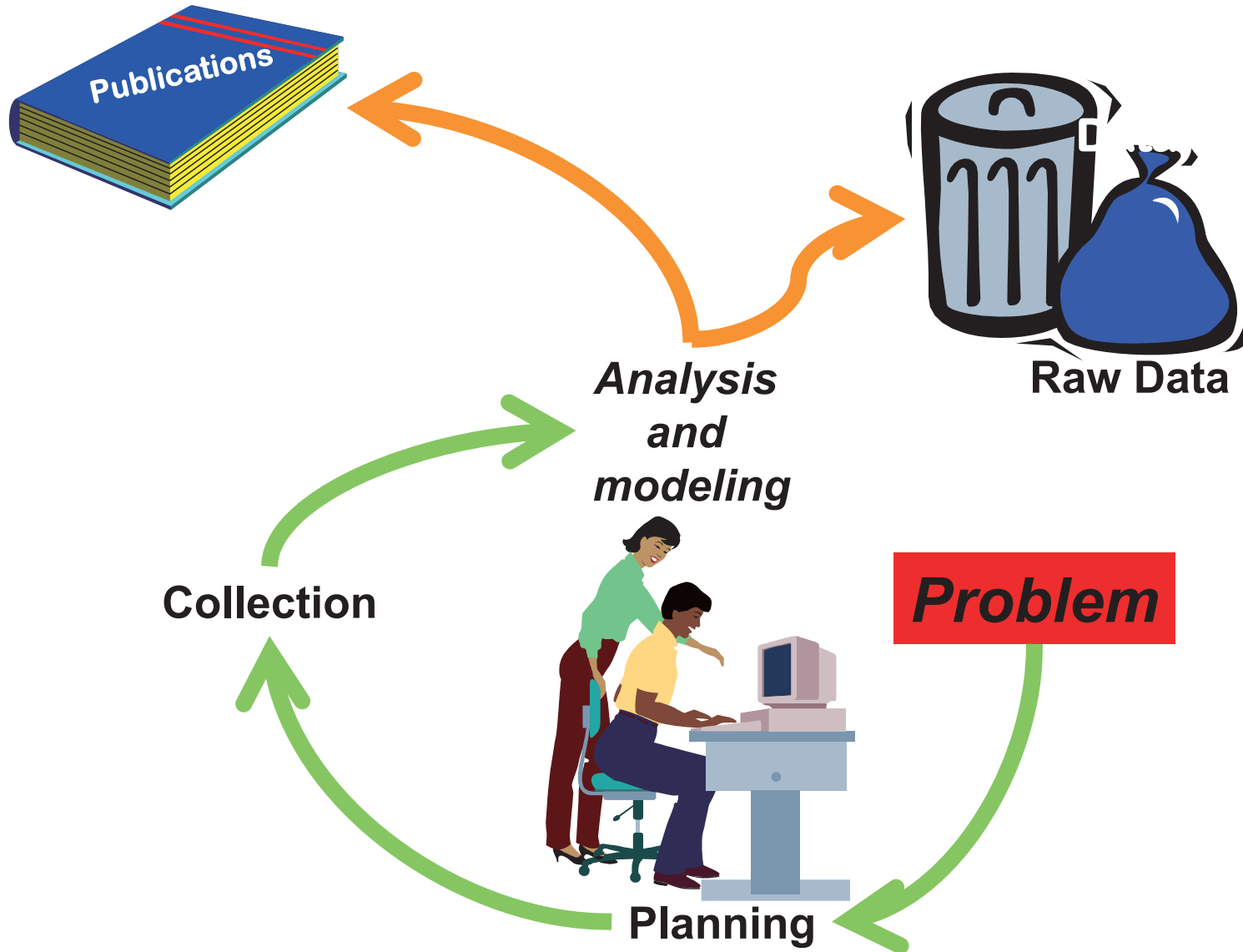
# 當前的問題與困境

## Empty archives

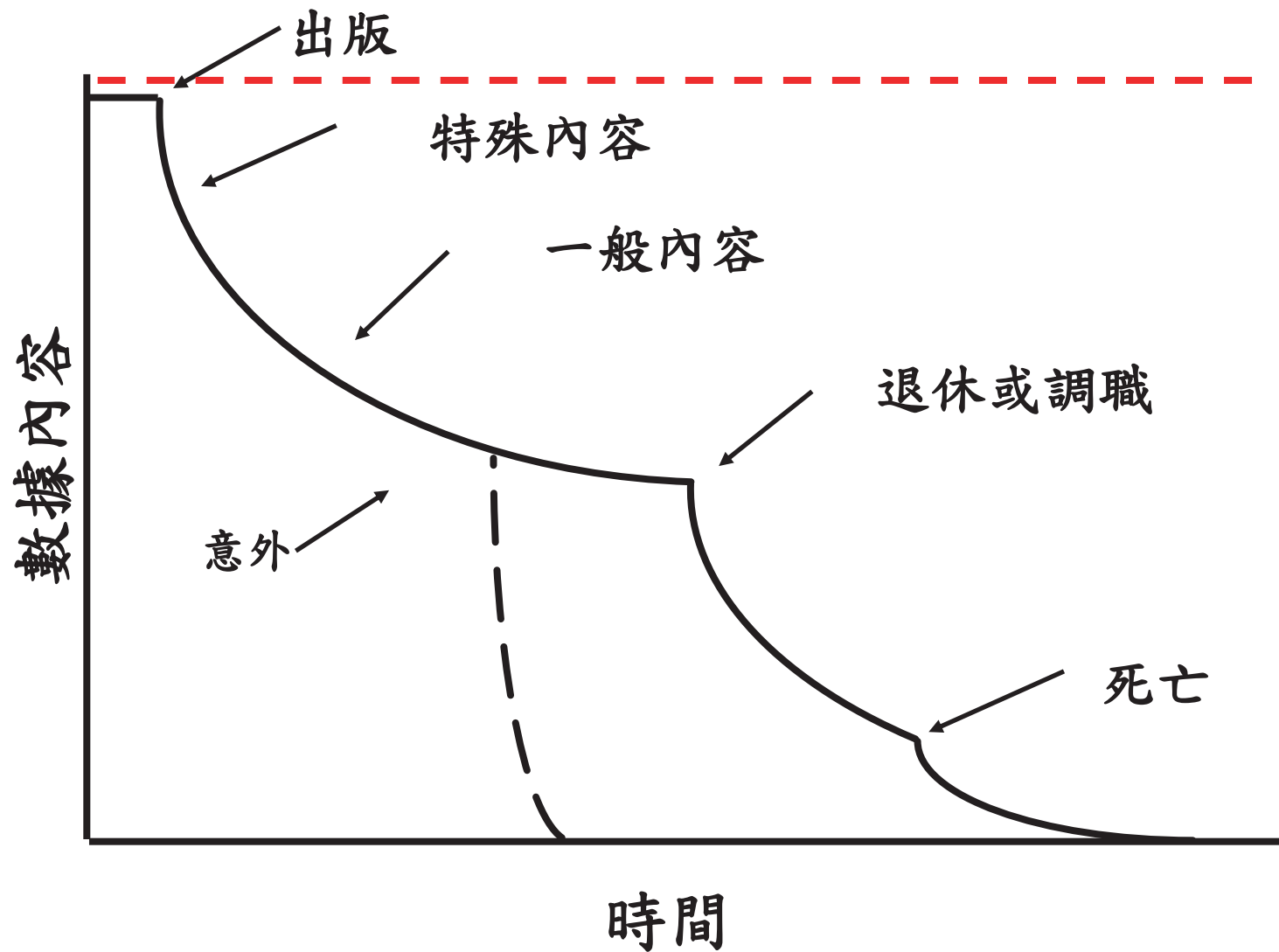
Most researchers agree that open access to data is the scientific ideal, so what is stopping it happening? **Bryn Nelson** investigates why many researchers choose not to share.



# 原始數據貧乏的科學研究文化

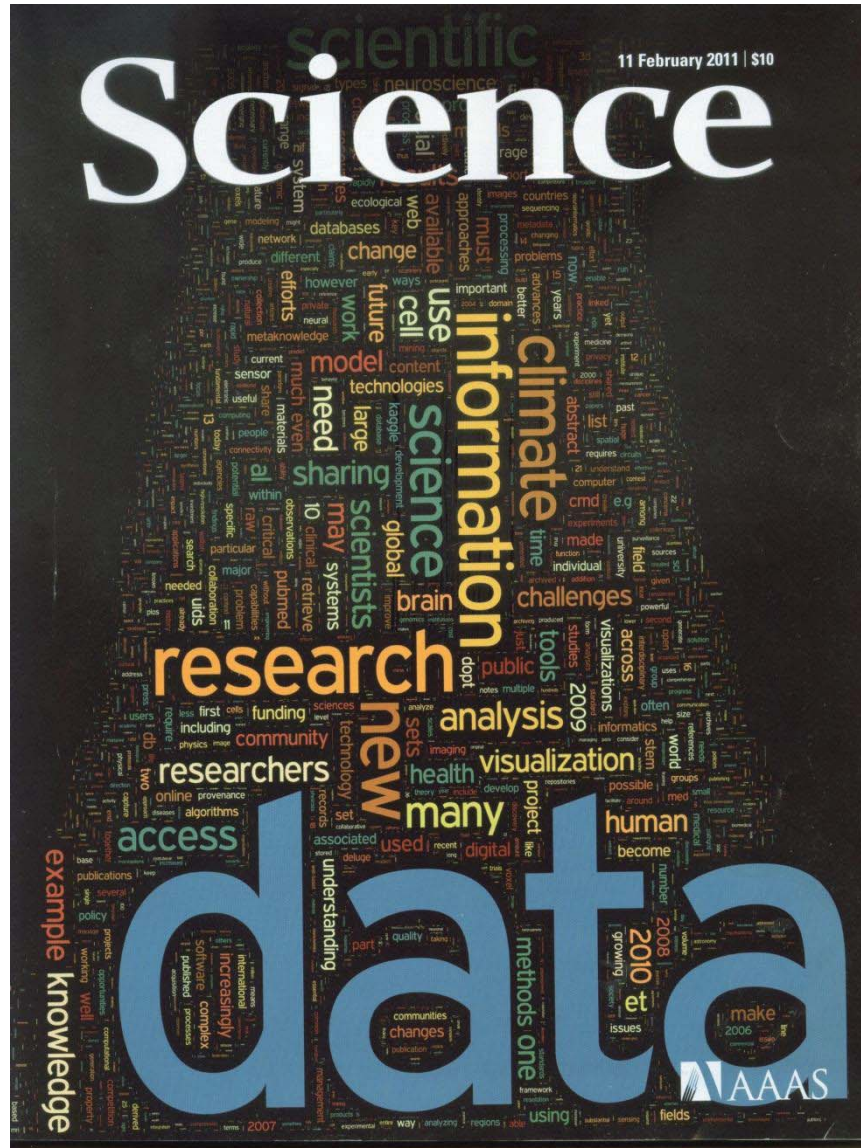


# 數據熵(Data Entropy)的危機





# Challenges and Opportunities

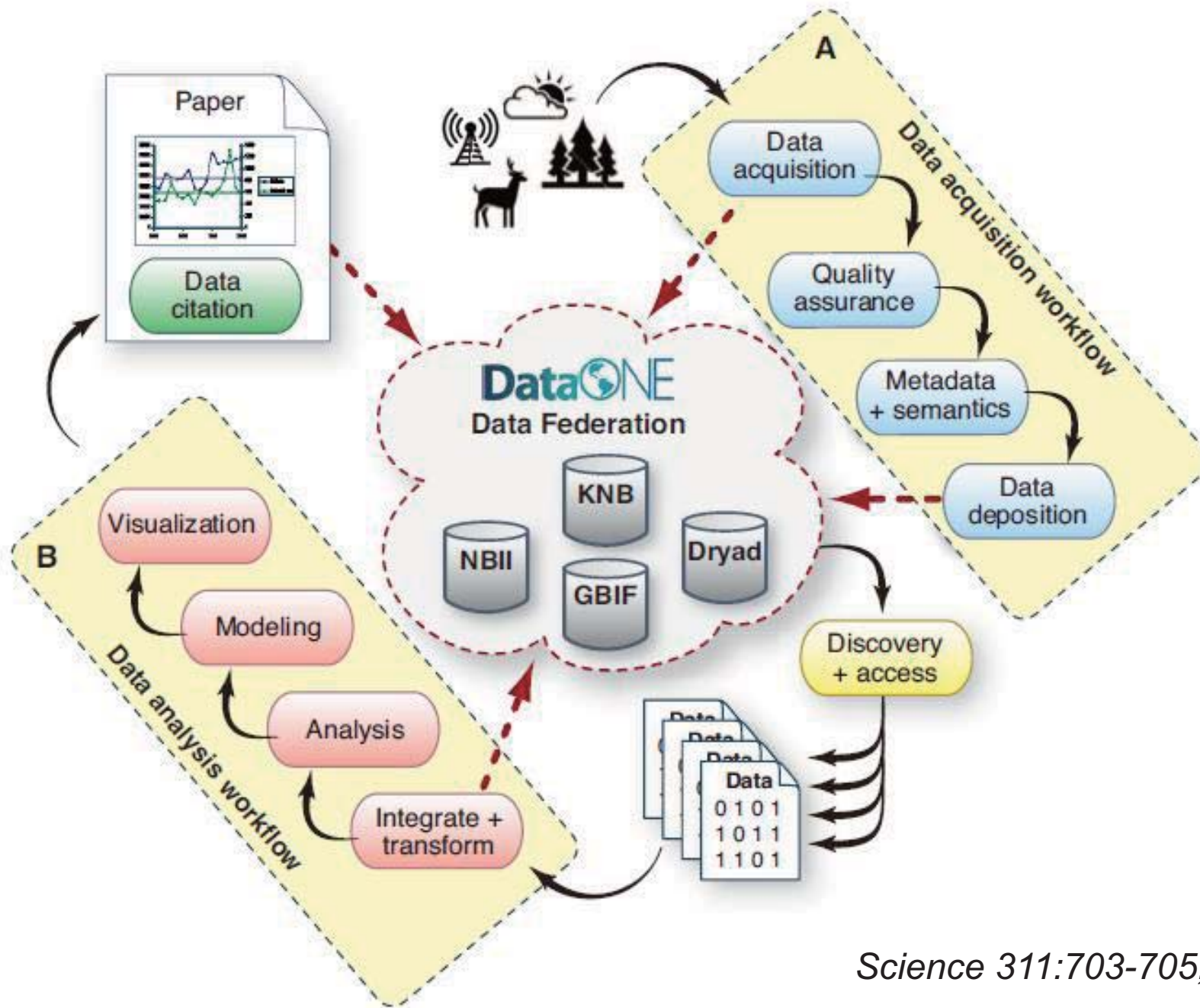


Scientific innovation has been called on to spur economic recovery and to inform sustainability.

Data collection, curation, and access are central to all of these issues

*Science 311:692-694, 2011*

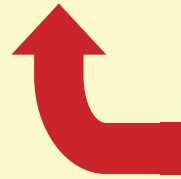




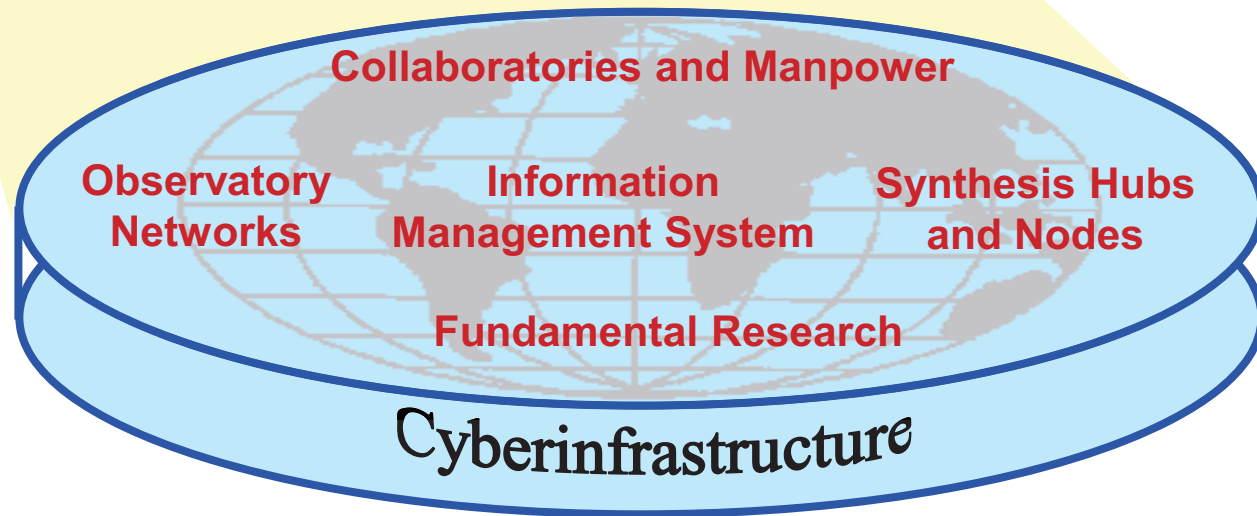
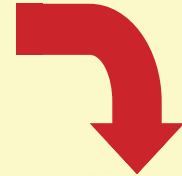
*Science 311:703-705, 2011*

**Biological  
Ecological  
Sciences**

**RESEARCH**

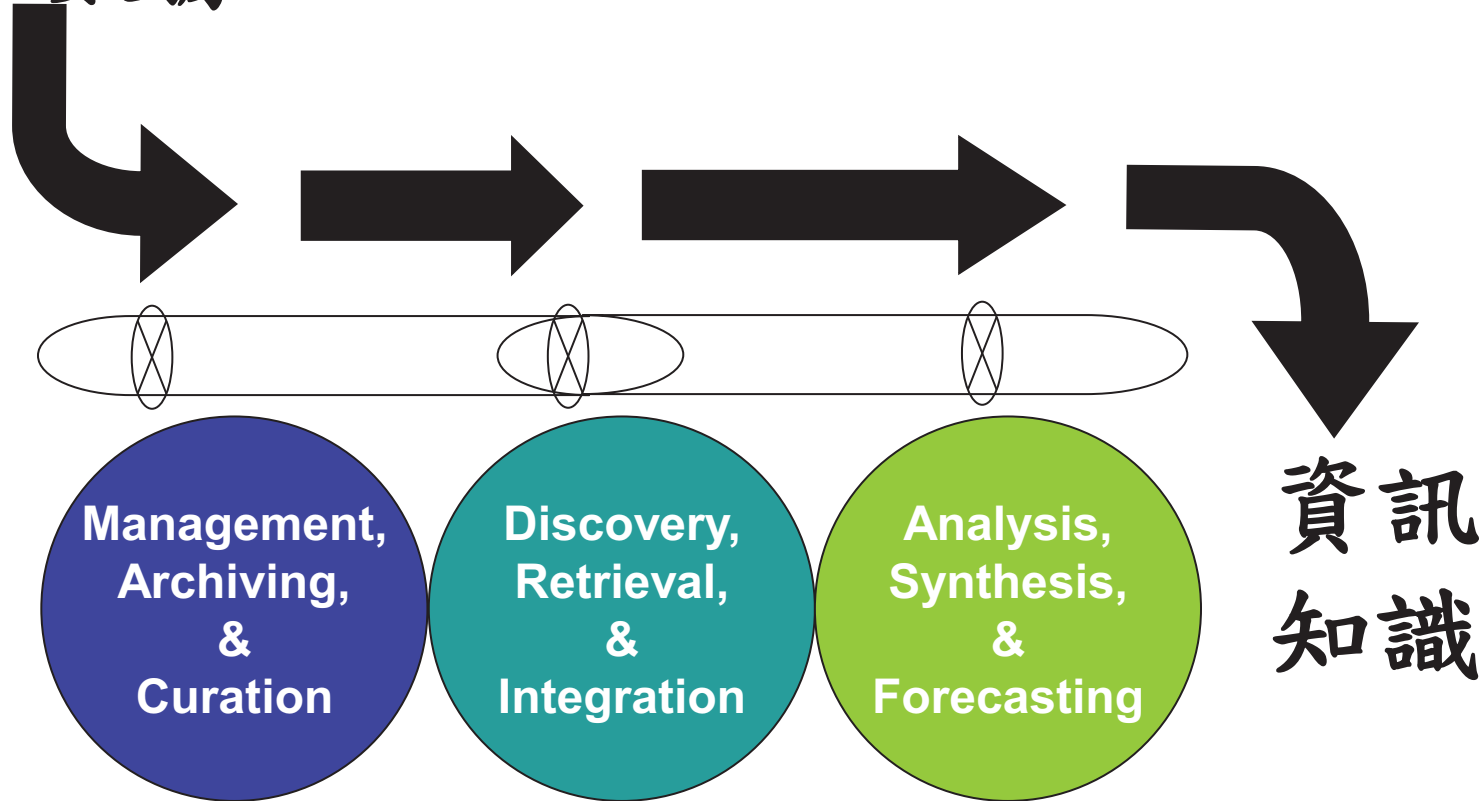


**EDUCATION**



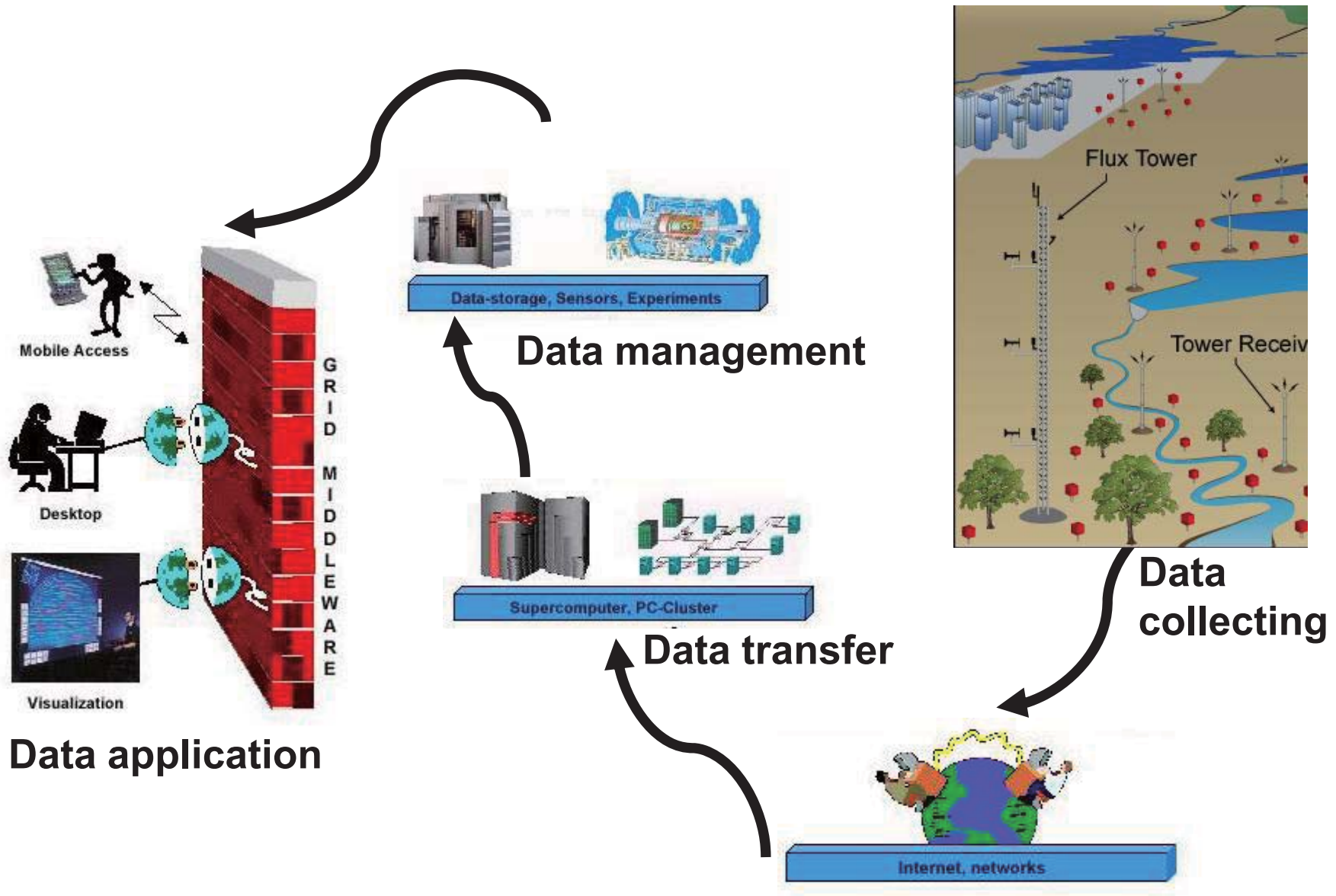
# 需有一個資訊管理系統

原始數據



**Informatics**

# 一個Eco-cyberinfrastructure的情境



# 與國際接軌的共構系統

Get Directions My Maps

- [TERN](#)  
Taiwan Ecological Research Network (TERN)
- [TFRI](#)  
Taiwan Forestry Research Institute (TFRI)
- [JaLTER](#)  
Japanese Long Term Ecological Research Network
- [GBIF](#)  
Global Biodiversity Information Facility (GBIF)
- [Cape Town, South Africa](#)  
Cape Town SAEON/SanParks node
- [SAEON Office](#)  
South African Environmental Observatory Network (SAEON)
- [Placemark 19](#)  
Phalaborwa SANParks office
- [TEAM\\_CI](#)  
Tropical Ecosystem Assessment and Monitoring

[Report a problem](#)

RSS Print Send Link

More... Map Satellite Earth

Asia  
Europe  
Africa  
South America  
Australia  
Pacific Ocean  
Atlantic Ocean  
Indian Ocean

2010 Google - [Terms of Use](#)



# 生態資訊學的技术應用

## 軟體技術

**Integrate and Synthesize Information**  
*Automation (Scientific workflow)*

**Information Sharing**

- *Machine handle (Web Service Grid Computing)*
- *Data exchange (XML) /Networking*

**Information Management**

- *Storage Resource and technology (Broker)*
- *Safe Backups (Complete metadata)*

**Data Collection**

- *Statistics (QA/QC)/DBMS*
- *Documentation of data (Metadata)*

## 數據標準

Biodiversity

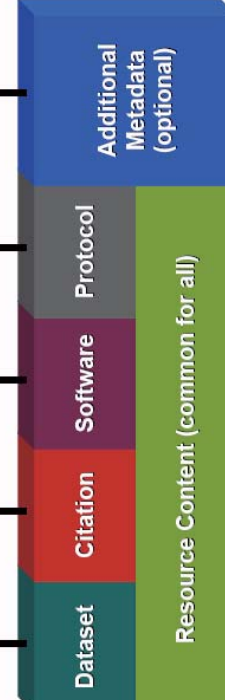
Darwin Code

Ecology

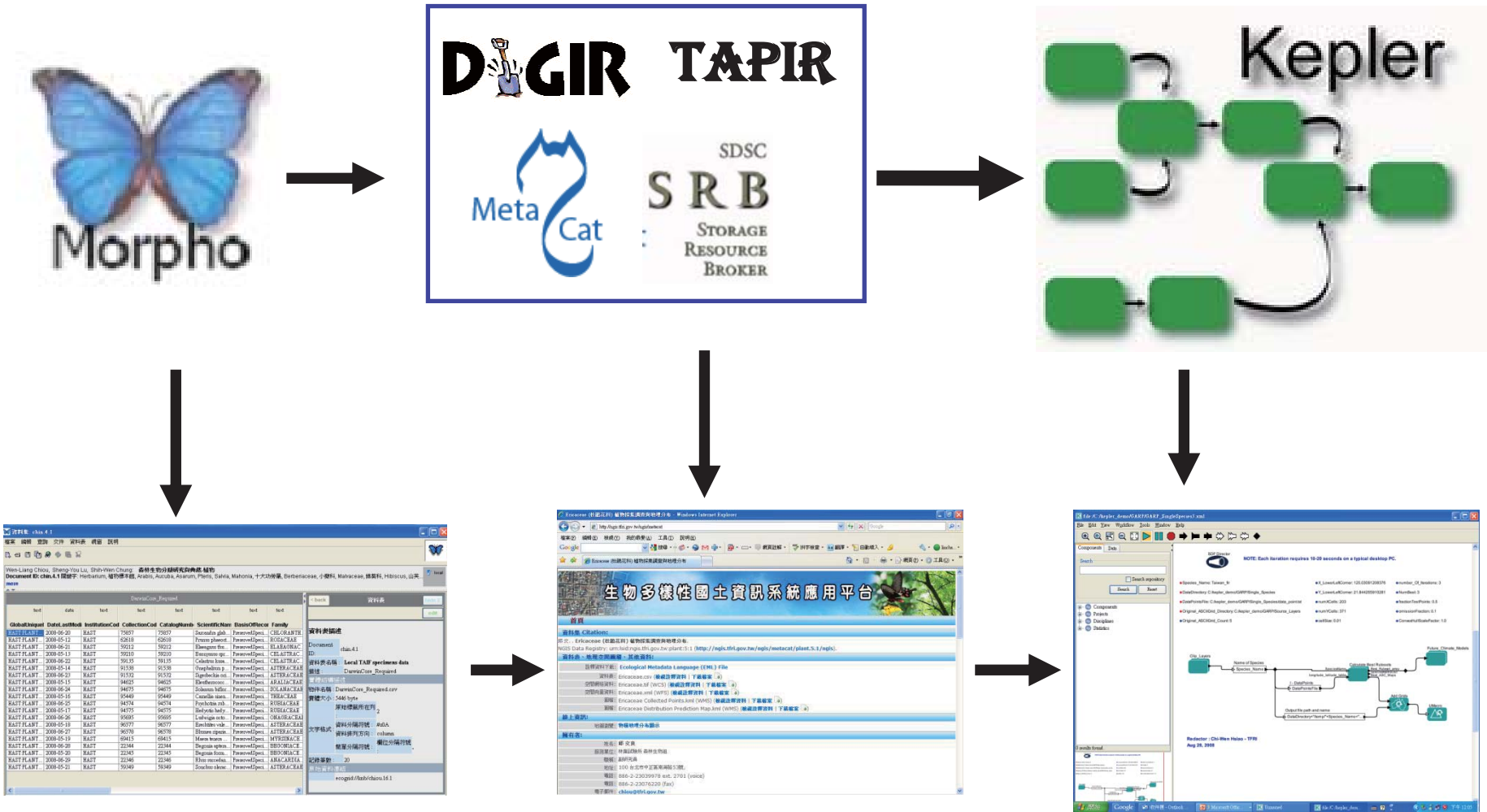
Ecological Metadata Language

Biology

Life Science Identification (LSID)

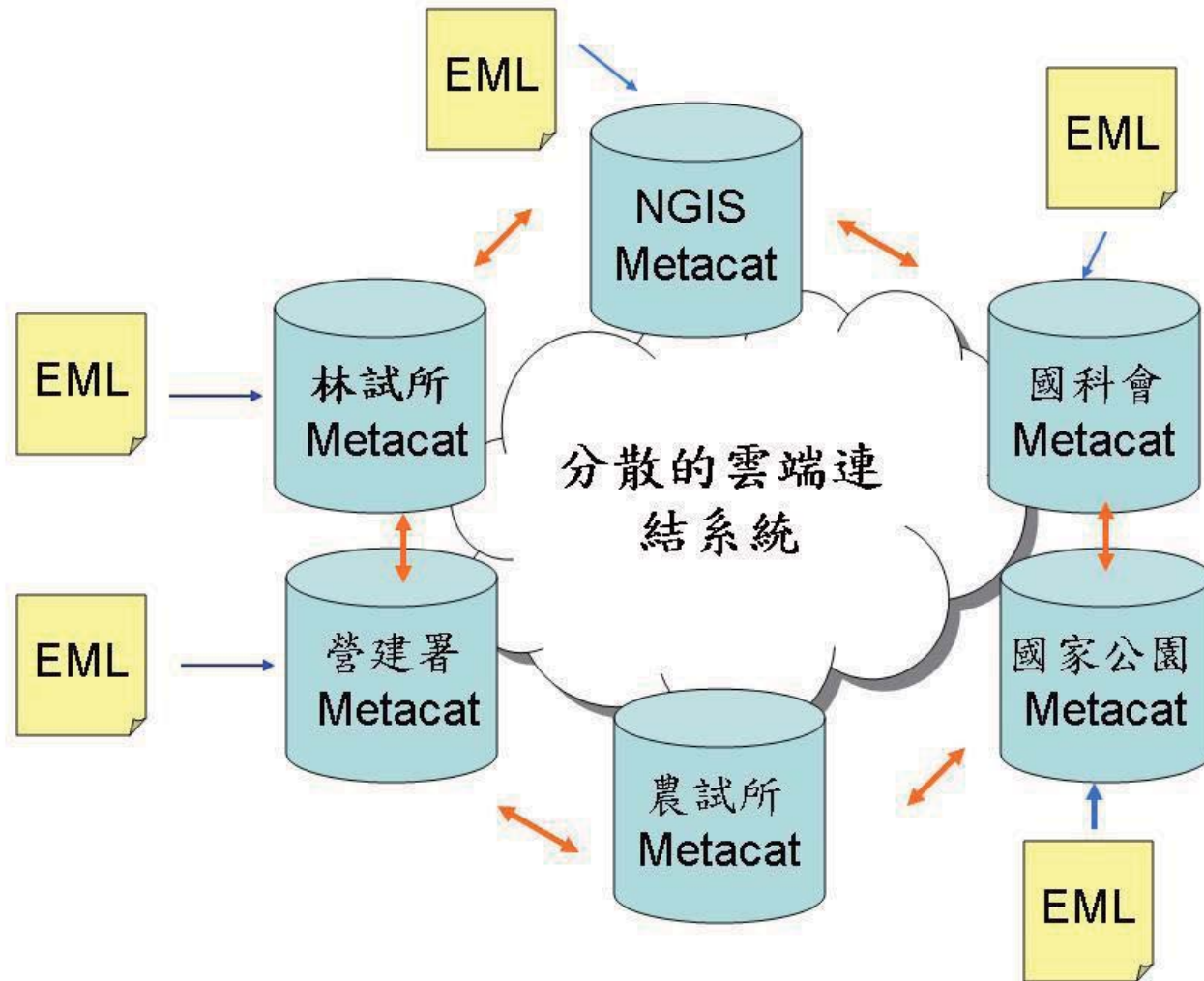


# 工具的發展與提供





# 目前已採用的國內單位



# 國科會生物多樣性研究資料目錄 National Science Council Biodiversity Data Catalog

Home Analysis Tools EML Parser

login

search for data

內政部營建署國家重要濕地研究調查資料搜尋系統

返回首頁

ount, but will have access c  
he data catalog, or simply

## 太魯閣國家公園管理處研究資料目錄

首頁

資料目錄查詢



中文關鍵字  
人文 遊憩 地科 動物

找到 80 份資料

標題

» 『太魯閣國

## 生物多樣性國土資訊系統應用平台

首頁

網站功能

- 系統介紹
- 詮釋資料應用服務
  - 資料目錄查詢
  - 詮釋資料驗證
  - 原始資料檢核與統計
- 物種資料庫查詢
- 檔案下載
- 相關連結

登入

未登入

組織:

帳號:

密碼:

Dataset Points

Dataset Bounds

## 農業試驗所生態資料庫 Data Catalog Search

Home Analysis Tools EML Parser

search for data

You are **NOT** logged in (Login). You may search the data catalog without being logged into your account, but will have access only to "public" data (see "login & registration")  
Enter a search phrase (e.g. biodiversity) to search for data sets in the data catalog, or simply browse by category using the links below.

Search Data Catalog

login & registration

Logging into your account enables you to search any additional, non-public data for which you may have access privileges:

You are **NOT** logged in

username:

organization: TARI

password:

Login

# Taiwan Forestry Research Institute Data Catalog

## 林業試驗所研究資料目錄

Home Analysis Tools EML Parser

### Data Set Citation

Chiou W, Lu S, and Chung S. . 森林生物分類研究與典藏-植物.  
TFRI Data Registry: urn:lsid:metacat.tfri.gov.tw:chiou:6:34 (<http://metacat.tfri.gov.tw/>)

### Data Tables, Images, and Other Entities:

Metadata download:	<a href="#">Ecological Metadata Language (EML) File</a>
Data Table:	TAIFSpecimens_2007.txt ( <a href="#">View Metadata</a>   <a href="#">Download File</a> )
Data Table:	chiou.6_table_2.csv ( <a href="#">View Metadata</a>   <a href="#">Download File</a> )
Data Table:	chiou.6_table_3.csv ( <a href="#">View Metadata</a>   <a href="#">Download File</a> )
Data Table:	chiou.6_table_4.csv ( <a href="#">View Metadata</a>   <a href="#">Download File</a> )
Data Table:	chiou.6_table_5.csv ( <a href="#">View Metadata</a>   <a href="#">Download File</a> )

### Data Set Owner(s):

Individual:	Wen-Liang Chiou
Organization:	Division of Forestry Biology, Taiwan Forestry Research Institute
Position:	Associate Scientist
Address:	53, Nanhai Road, Chungcheng District, Taipei, Taipei 10066 Taiwan
Phone:	886-2-23039978 ext. 2701 (voice)
Phone:	886-2-23076220 (fax)
Email Address:	chiou@tfri.gov.tw
Individual:	Sheng-You Lu

>> 96病蟲害對林木碳吸存影響評估(2/3)

ID: mlw.24.4

chiou.11.1-11.1 - WordPad

檔案(F) 編輯(E) 檢視(V) 插入(I) 格式(O) 說明(H)

224307:Robia sp.9092-Pi-Fong Lu (呂碧鳳)2005-01-21Mt. Tahan (大漢山), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), 海拔1700-1800 M.微棲地, 林下丹

224308:Crepidomanes bimanicum (Bedd.) K. Iwats. 華東瓶蕨.9015-Pi-Fong Lu (呂碧鳳)2005-01-13;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), Ta

224309:Eurya leptophylla Hayata 薄葉柃木.9014-Pi-Fong Lu (呂碧鳳)2005-01-13;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(台灣), 海拔1

224310:Impatiens uniflora Hayata 紫花鳳仙花.9013-Pi-Fong Lu (呂碧鳳)2005-01-12;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(台灣), 海

224311:Viola formosana Hayata var. stenopetala (Hayata) Wang, Huang & Hashimoto 川上氏堇菜.9012-Pi-Fong Lu (呂碧鳳)2005-01-11;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung Co

224312:Elaphoglossum callifolium (Blume) Moore 鏡頭舌蕨.9008-Pi-Fong Lu (呂碧鳳)2005-01-07Mt. Laofu (老佛山), Hengchun Township(恆春鎮), Pingtung County(屏東縣), Taiwan(台灣), Ta

224313:Aeschynanthus acuminatus Wall. 長果蕨.9006-Pi-Fong Lu (呂碧鳳)2005-01-07Mt. Laofu (老佛山), Hengchun Township(恆春鎮), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(台灣)

224314:Peris bella Tagawa 長柄鳳尾蕨.9034-Pi-Fong Lu (呂碧鳳)2005-01-13;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(台灣), 海拔1600

224315:Asplenium cuneatum Lam. 大黑柄鐵角蕨.9003-Pi-Fong Lu (呂碧鳳)2005-01-07Mt. Laofu (老佛山), Hengchun Township(恆春鎮), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(台灣)

224316:Frontopodium gymnopeidifrons (Hayata) Holtt. 大羽新月蕨.9005-Pi-Fong Lu (呂碧鳳)2005-01-07Mt. Laofu (老佛山), Hengchun Township(恆春鎮), Pingtung County(屏東縣), Taiwan(台灣)

224317:Dryopteris labordei (Christ) C. Chr. 疏葉鱗毛蕨.9022-Pi-Fong Lu (呂碧鳳)2005-01-13;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(

224318:Ctenopteris tenuisecta (Blume) J. Sm. 細葉蕨.9018-Pi-Fong Lu (呂碧鳳)2005-01-13;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(

224319:Trichomanes pallidum Blume 毛葉蕨.9031-Pi-Fong Lu (呂碧鳳)2005-01-13;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(台灣), 海拔

224320:Lepisorus obtusus-venulosus (Hayata) Ching 奧瓦蕨.9026-Pi-Fong Lu (呂碧鳳)2005-01-13;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), Taiw

224321:Lepisorus moniliformis (Hayata) Tagawa 擬披瓦蕨.9025-Pi-Fong Lu (呂碧鳳)2005-01-13;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), Taiwan

224322:Trichomanes pallidum Blume 毛葉蕨.9040-Pi-Fong Lu (呂碧鳳)2005-01-13;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(台灣), 海拔

224323:Hymenophyllum fimbriatum J. Sm. 葉蕨.9033-Pi-Fong Lu (呂碧鳳)2005-01-13;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(台

224324:Lindsaea odorata Roxb. 陵齒蕨.9030-Pi-Fong Lu (呂碧鳳)2005-01-13;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(台灣), 海拔1600

224325:Peris ryukyuensis Tagawa 琉球鳳尾蕨.9048-Pi-Fong Lu (呂碧鳳)2005-01-15;Yunhsien Garden (雲山樂園), Wulai Township(烏來鄉), Taipei County(臺北縣), Taiwan(台灣), Taiwan

224326:Monogramma paradoxo (Fee) Beddome 蓮池一條線蕨.9017-Pi-Fong Lu (呂碧鳳)2005-01-13;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣), Ta

224327:Bredia gibba Ohwi 小金石櫛.9004-Pi-Fong Lu (呂碧鳳)2005-01-07Mt. Laofu (老佛山), Hengchun Township(恆春鎮), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(台灣), 海拔100-5

224328:Lepisorus kavakamii (Hayata) Tagawa 鱗毛蕨.9889-Pi-Fong Lu (呂碧鳳)2004-12-18;South Cross Highway (南橫公路), Taoyuan Township(桃源鄉), Kaohsiung County(高雄縣), Taiwan(台灣)

224329:Gymnocarpium oyamense (Bak.) Ching 羽節蕨.8888-Pi-Fong Lu (呂碧鳳)2004-12-18;South Cross Highway (南橫公路), Taoyuan Township(桃源鄉), Kaohsiung County(高雄縣), Taiwan(台

224330:Selaginella involvens (Sw.) Spring 密葉卷柏.9052-Pi-Fong Lu (呂碧鳳)2005-01-15;Yunhsien Garden (雲山樂園), Wulai Township(烏來鄉), Taipei County(臺北縣), Taiwan(台灣), Taiwan

224331:Cheilanthes meticensis Fee 粉背蕨.9132-Pi-Fong Lu (呂碧鳳)2005-01-23Mt. Tshueh logging trail 32K (大雪山林道32K), Heping Township(和平鄉), Taichung County(臺中縣), Taiwan(台

224332:Asplenium ensiforme Wall. ex Hook. & Grev. 劍葉鐵角蕨.9134-Pi-Fong Lu (呂碧鳳)2005-01-23Mt. Tshueh logging trail 32K (大雪山林道32K), Heping Township(和平鄉), Taichung Count

224333:Ctenopteris curtisii (Bak.) Tagawa 蕨.9137-Pi-Fong Lu (呂碧鳳)2005-01-23Mt. Tshueh logging trail 32K (大雪山林道32K), Heping Township(和平鄉), Taichung County(臺中縣), Taiwan

224334:Berya ammonilla Roxb. 六翅木.9100-Pi-Fong Lu (呂碧鳳)2005-01-21;Tahanshan Logging trail (大漢山林道), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(台灣), 海拔200 M.微棲地

224335:Selum actinocarpum Yamamoto 星果佛甲草.9042-Pi-Fong Lu (呂碧鳳)2005-01-15;Yunhsien Garden (雲山樂園), Wulai Township(烏來鄉), Taipei County(臺北縣), Taiwan(台灣), Taiwan

224336:Taeneta gracilipes (Hayata) Ohwi 薄葉玉心花.8996-Pi-Fong Lu (呂碧鳳)2005-01-07Mt. Laofu (老佛山), Hengchun Township(恆春鎮), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(

224337:Colysis wrightii Ching 萊氏綠蕨.8999-Pi-Fong Lu (呂碧鳳)2005-01-07Mt. Laofu (老佛山), Hengchun Township(恆春鎮), Pingtung County(屏東縣), Taiwan(台灣), Taiwan(台灣), 海拔10

224338:Calymmodon gracillimus (Copel.) Nakai et H. Ito 姬荷包蕨.9032-Pi-Fong Lu (呂碧鳳)2005-01-13;Chinshuiyng (浸水管), Chungh Hsiang(春日鄉), Pingtung County(屏東縣), Taiwan(台灣)

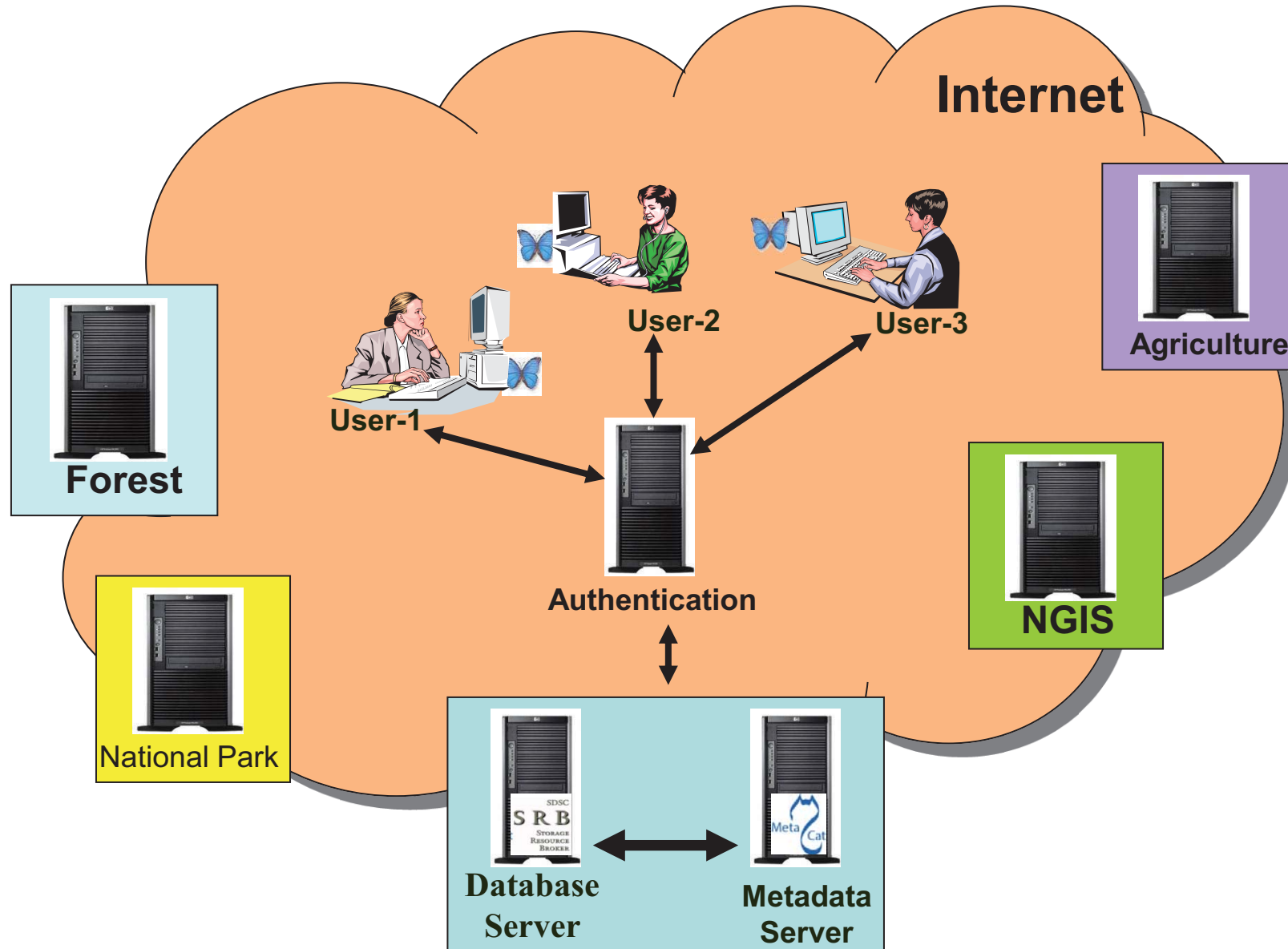
224339:Lepisorus thunbergianus (Kaulf.) Ching 瓦蕨.8719-Pi-Fong Lu (呂碧鳳)2004-10-02;Kungliao (貫寮), Gongliao Township(貫寮鄉), Taipei County(臺北縣), Taiwan(台灣), Taiwan(台灣), 海

224340:Eurya hayatai Yamamoto 南仁山柃木.9130-Pi-Fong Lu (呂碧鳳)2005-01-23Mt. Tshueh logging trail 32K (大雪山林道32K), Heping Township(和平鄉), Taichung County(臺中縣), Taiwan(

224341:Andidesma pentandrum Merr. var. barbatum (Presl) Merr. 杜里珍.9001-Pi-Fong Lu (呂碧鳳)2005-01-07Mt. Laofu (老佛山), Hengchun Township(恆春鎮), Pingtung County(屏東縣), Taiwan(

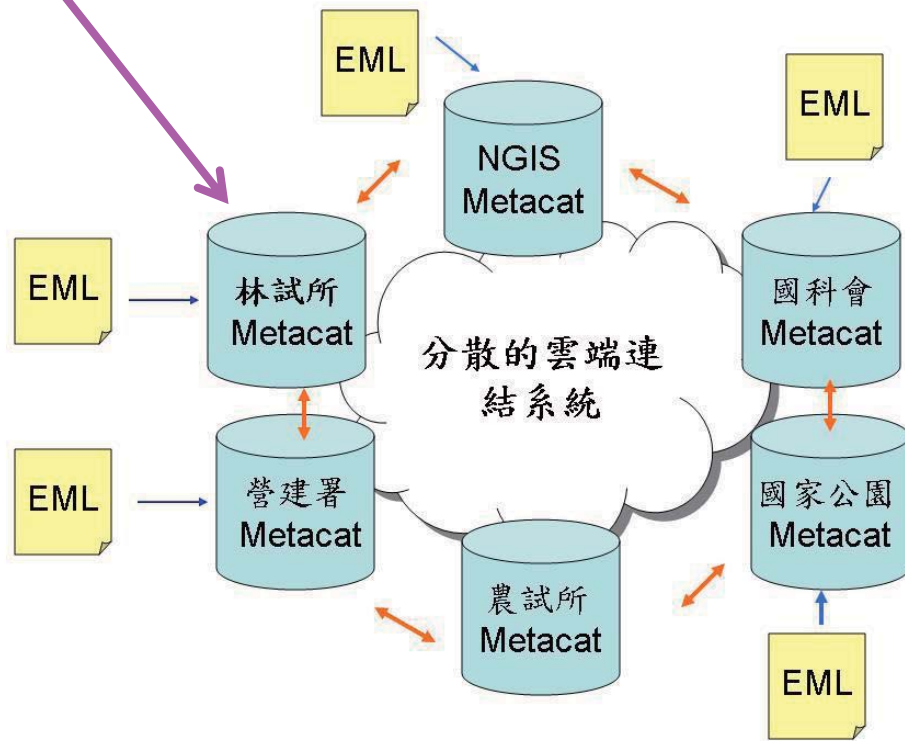
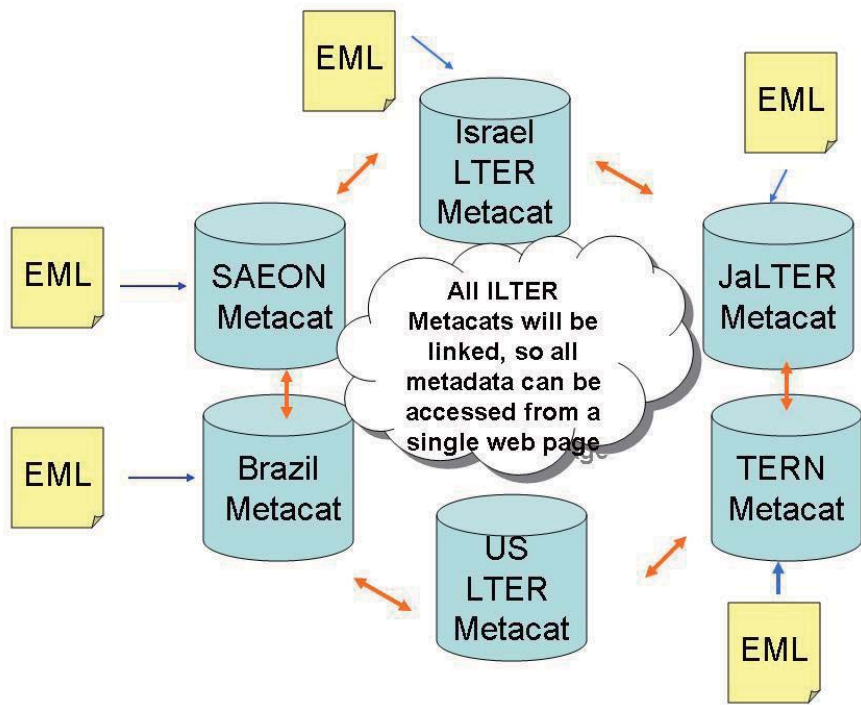
224342:Crepidomanes bimanicum (Bedd.) K. Iwats. 華東瓶蕨.8887-Pi-Fong Lu (呂碧鳳)2004-12-18;South Cross Highway (南橫公路), Taoyuan Township(桃源鄉), Kaohsiung County(高雄縣), Taiw

# 系統運作構想-雲端的聯結



# Web 3.0的世界

## 連結、公開、共享



# Metacat 聯合查詢系統

<http://ecowlim.tfri.gov.tw/ui.php>

## Metacat Server Federation Query Platform

Extend your query concept:  on  off

Query string:

N leaching

輸入查詢關鍵詞

Timeout limit:

60

提交

Check in the box referring to metacat server:

<http://knb.ecoinformatics.org/knb/metacat>

<http://metacat.tfri.gov.tw/tfri/metacat>

<http://metacat.taroko.gov.tw/taroko/metacat>

<http://metacat.tcd.gov.tw/tcd/metacat>

<http://172.16.1.133/tfri/metacat>

預設 Metacat 聯合查詢網址

Customized hosts: besides the checked hosts, we'll query additional hosts for you.

#One host per line.

#Example: <http://foo.bar/context/metacat>

#Lines start with '#' means 'comments', we won't process them.

<http://metacat.tari.gov.tw/tari/metacat>

農業長期生態研究資料 Metacat 網址

# Metacat 聯合查詢結果

Metacat倉儲資源聯合查詢結果，共得5筆資料

延伸查詢：開啟

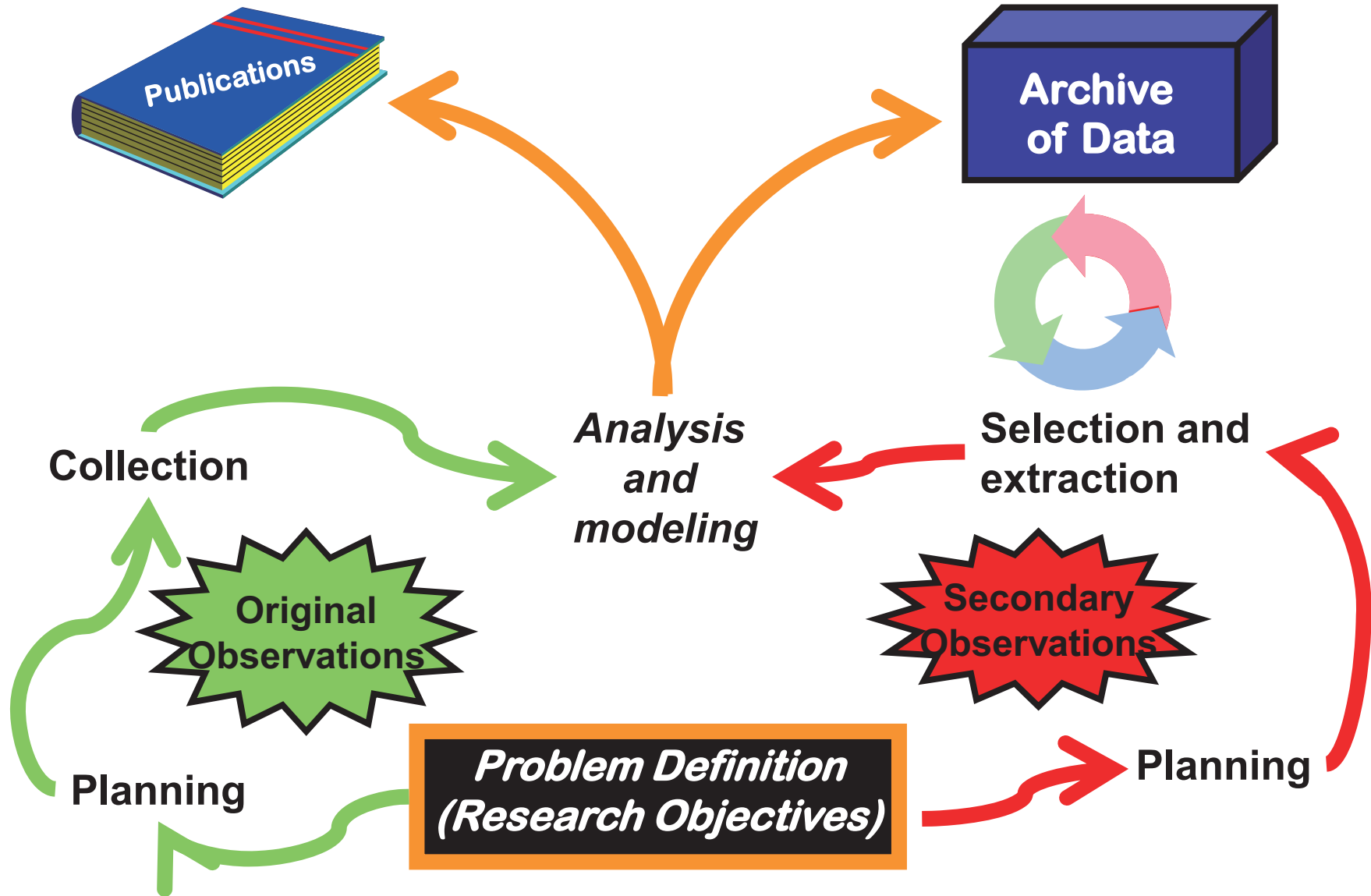
原始查詢關鍵詞：N leaching

延伸查詢關鍵詞：找不到對應詞 (no extension found)

實際/原查詢花費時間：0.186 / 0.513 (單位：秒，速率增加：63.7%)

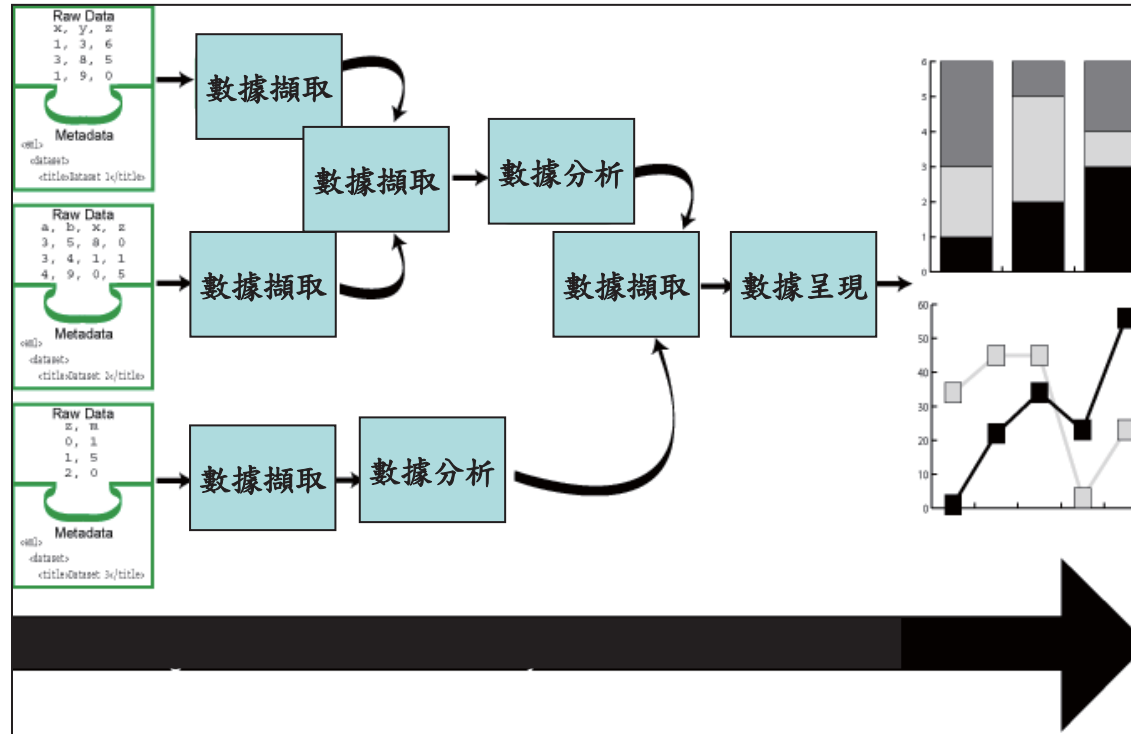
資料來源：http://metacat.tfri.gov.tw/tfri/metacat 筆數：0 (花費0.027秒)			
DocID	Title	Contacts	Keywords
資料來源：http://metacat.taroko.gov.tw/taroko/metacat 筆數：0 (花費0.091秒)			
DocID	Title	Contacts	Keywords
資料來源：http://metacat.tcd.gov.tw/tcd/metacat 筆數：0 (花費0.14秒)			
DocID	Title	Contacts	Keywords
資料來源：http://172.16.1.133/tfri/metacat 筆數：0 (花費0.09秒)			
DocID	Title	Contacts	Keywords
資料來源：http://metacat.tari.gov.tw/tari/metacat 筆數：5 (花費0.165秒)			
DocID	Title	Contacts	Keywords
<a href="#">chiling_159.4</a>	LTER N leaching data_Chi-Ko	Chen	leaching data Chi-Ko LTER Long-term ecological research Agricultural ecosystem
<a href="#">chiling_138.2</a>	LTER N leaching data	Chen Chen	leaching data
<a href="#">chiling_162.3</a>	LTER N leaching data_Yuin-Lin	Chen	leaching data Yuin-Lin LTER Long-term ecological research Agricultural ecosystem
<a href="#">chiling_149.7</a>	LTER N leaching data_Ming-Jian	Chen	LTER Long-term ecological research Agricultural ecosystem leaching data Ming-Jian
<a href="#">chiling_153.3</a>	LTER N leaching data_Chia-Yi	Chen	leaching data Chia-Yi LTER Long-term ecological research Agricultural ecosystem

# 新數據文化有何不同？





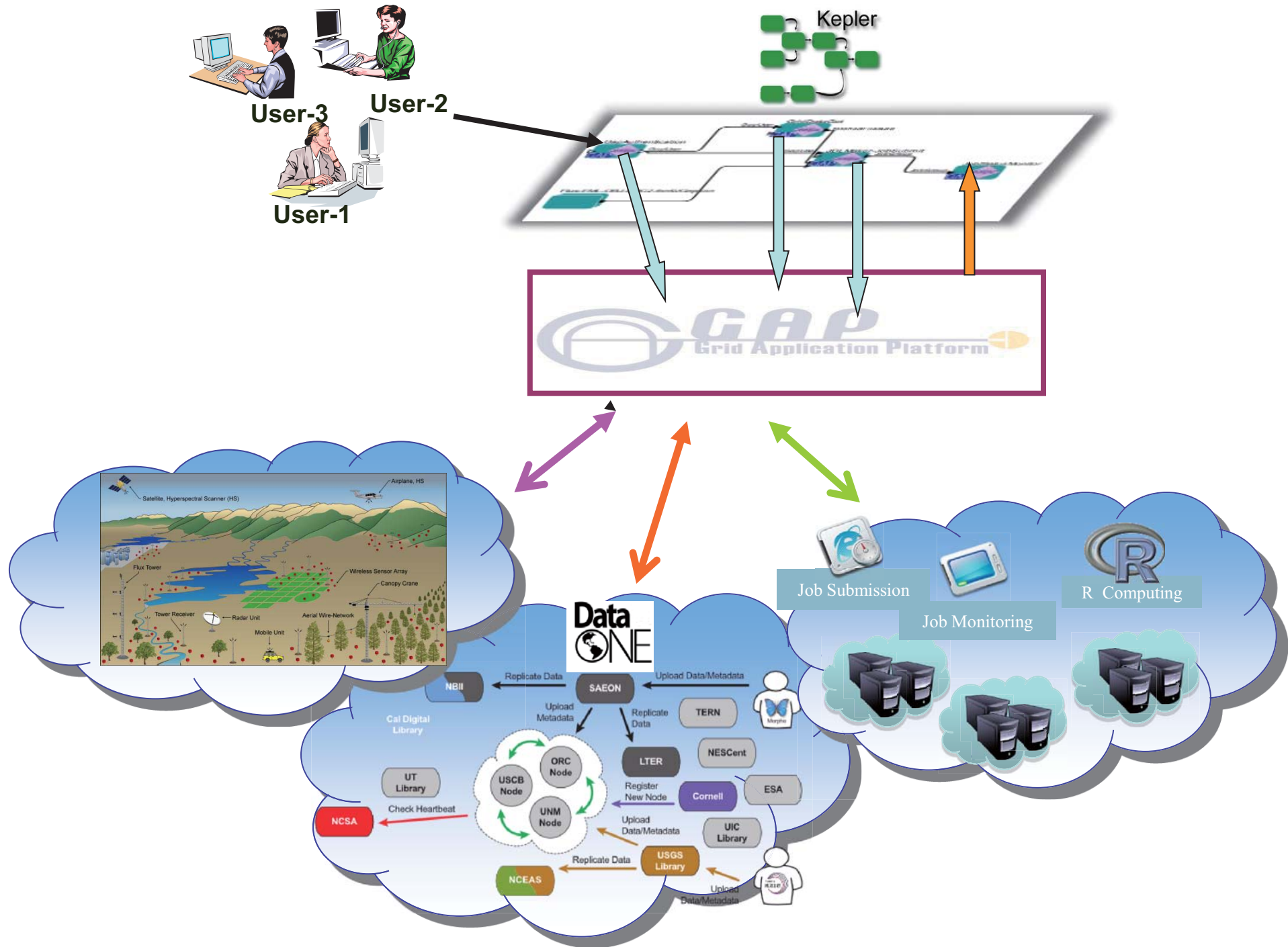
# 整合、分享與新知識產生



metadata  
文件

數據擷取/分析

結果呈現



# 台灣冷杉分布預測

*(Abies Kawakamii)*



# How Taiwan Fir Distribution will be influenced by Global Warming Effect?

file:/C:/Program Files/Kepler-1.0.0/demos/garp.xml

File Edit View Workflow Tools Window Help

Components Data

Search  
DEM  
Search Reset Cancel Sources

32 results returned.

- A Newly Recorded Species, *Dendrobium okinawense* of Dendrobitu
- A Taxonomic Study of the Glochidion (Euphorbiaceae) of Taiwan
- Analysis of Forest Fire in Taiwan National Forests (1963-2004)
- Analyzing the Consumption and Flow of Wood Materials in Taiwan
- Anti-inflammatory Activity of *Lindera erythrocarpa* Fruits
- Application of bomelidin from *Streptomyces candidus* on biocontrol
- Application of the Fractometer for crushing strength: Juvenile-matur
- Application of the Fractometer for crushing strength: Juvenile-matur
- CONSERVATION OF ENDANGERED FERNS, ARCHANGIOPTE
- Chemical polymorphism and antifungal activity of essential oils fro
- Composition and Chemical Polymorphism of Leaf Essential Oils fro
- Contrasting phylogeographical patterns of two closely related specie
- Development Tendencies of Forest Management Research in Taiwan
- Divergent Evolution of the Chloroplast Small Heat Shock Protein G
- Evaluation of antifungal properties of octyl gallate and its synergy w
- First Report of White Root Rot of Japanese *Serissa* Caused by *Rosel*
- Hard wood natural regeneratin and rehabilitation in a serious *Nemat*
- Hydro1k Taiwan - DEM
- Identification and detection of *Bougainvillea spectabilis* chlorotic ve
- Methods for Incombustibility Evaluation of Fast-Hardening Cement
- Pattern analysis of galling host-plants in Taiwan
- Phylogenetic systematics of the monotypic genus *Hayataella* (Rubiac
- Phylogeographic study reveals the origin and evolutionary history o
- Pilot Treatment of OCC-based Paper Mill Wastewater: Its sine Priled

SDF Director

IPCC Climate Change Data: 1961-1990, Maximum Temperature

IPCC Climate Change Data: 1961-1990, Minimum Temperature

IPCC Climate Change Data: 1961-1990, Precipitation

IPCC Climate Change Data: 1961-1990, Temperature Difference

Hydro1k Taiwan - DEM

Abies kawakamii (台灣冷杉) 植物採集調查與地理分布

GARP Model

Output

Diagram 1: IPCC Climate Change Data: 1961-1990, Maximum Temperature

Diagram 2: Hydro1k Taiwan - DEM

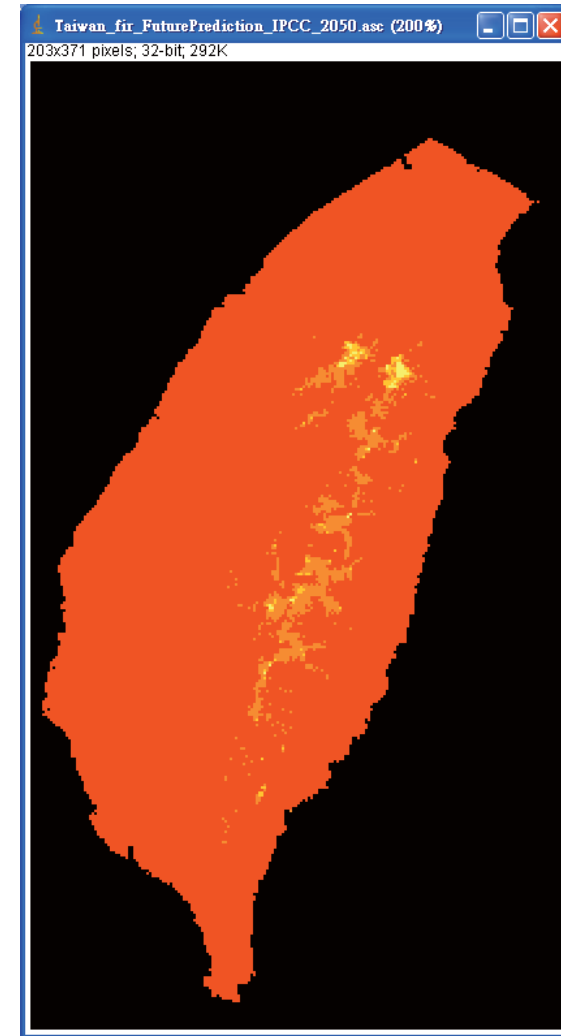
# Taiwan Fir Distribution Predicted



1990



2020



2050

# Any Single Problem Requires Many Data Sets Any Single Data Set Serves Many Applications

THE GLOBAL EARTH OBSERVATION  
SYSTEM OF SYSTEMS



# 感謝參與

From: **ben leinfelder** <[leinfelder@nceas.ucsb.edu](mailto:leinfelder@nceas.ucsb.edu)>

Date: Sat, Jun 25, 2011 at 4:49 AM

Subject: Morpho 1.9.1 released

To: [morpho-dev@ecoinformatics.org](mailto:morpho-dev@ecoinformatics.org)

Cc: Meei-ru Jeng <[beerjeng@gmail.com](mailto:beerjeng@gmail.com)>

In cooperation with the TFRI, we have released a new version of the Morpho EML Metadata editor.

Version 1.9.1 is a minor update that addresses these areas:

- Taxonomic Import from data a table
- Data table descriptions and attributes in UTF-8 character encodings
- A Chinese language user guide and minor translation changes for the zh\_TW locale

Full release notes and installers can be found online: <http://knb.ecoinformatics.org/morphoportal.jsp>

Thank you,

-ben

# 專題研究計畫執行同意書

國科會第 1690 次業務會報修正

立同意書人即本研究計畫主持人  
國家科學委員會（以下簡稱國科會）補助專題研究計畫作業要點，在國家科學技術發展基金項下接受補助下述專題研究計畫：（國科會第 1739 次業務會報通過，通知文號：0990007756(99.01.27)）

計畫名稱：

計畫編號：NSC 99 - 2621 - B - 054 - 001 -

補助經費：新台幣(大寫)

茲願依國科會有關規定執行本計畫，並同意遵守下列規定：

- 一、本計畫執行期間自民國 99 年 01 月 01 日起至 99 年 12 月 31 日止，補助項目以國科會審查通過之專題研究計畫經費核定清單所列為準。
- 二、本計畫之補助經費，依政府有關法令規定核實動支，不得移作他用。執行期滿，依報支程序，檢據核實報銷，如有結餘，應全數繳還。但已實施校務基金制度之學校，得不繳回。  
\* 本計畫(含多年期計畫全程計畫)執行期滿三個月內，依國科會專題研究計畫經費核定清單及有關規定撰寫可供發表之研究成果報告，送國科會辦理結案。如係以調查法(如面訪、電話訪問、郵寄問卷等)進行之計畫，乙方應將研究成果報告、資料讀我檔、空白問卷、過錄號碼簿(CODEBOOK)、電腦資料數據檔、資料欄位定義程式(SAS、SPSS 或其他統計程式)等及調查資料檔案利用授權書各一份送中央研究院人文社會科學研究中心「調查研究專題中心」。
- 四、本計畫有關之執行期間、經費分配、動支核銷、變更及延期等所有實質及程序之相關事宜，應依行政院國家科學委員會補助專題研究計畫作業要點、行政院國家科學委員會補助專題研究計畫經費處理原則及其他相關法令規定辦理。
- 五、本計畫之研發成果及其智慧財產權，除經認定歸屬國科會所有者外，全部歸屬執行機構所有(詳見經費核定清單之研究成果歸屬欄)，其專利申請、技術移轉、著作授權及權益分配等相關事宜，由執行機構依科學技術基本法、政府科學技術研究發展成果歸屬及運用辦法，及其他相關法令規定辦理。
- 六、隨時配合國科會需要，提供說明及參考資料；如屬列管計畫，應依管理考核相關規定，填送管考表等資料。
- 七、計畫執行中如涉及人體試驗或採集人體檢體，主持人應依有關法令規定辦理並檢具受試者或接受檢體採集者承諾同意書，受試(檢)者如為限制行為能力或無行為能力人，則應取得其法定代理人之書面同意書，並經執行機構核准，始得進行人體實驗或採集檢體。實驗過程應顧及人道並尊重受試(檢)者個人權益與安全措施，如發生人體實驗或採集檢體之法律問題，均由主持人自負完全責任；如涉及人類胚胎或人類胚胎幹細胞實驗，應遵守有關法令並依規定經醫學倫理委員會或人體試驗倫理委員會審查同意始得執行；如有動物實驗，亦同意遵守有關法令暨本於愛護動物之態度進行；如有進行基因重組、基因轉殖田間試驗、具危害性微生物或病毒之實驗，應遵守相關法令規定並確實做好安全防護措施。
- 八、計畫主持人對於計畫內容及研究成果涉及專利或其他智慧財產權者，應保證絕無侵害他人權利、違反醫藥衛生規範及影響公共秩序或善良風俗。其因而造成國科會之權利或名譽受損者，國科會得依法主張權利或追究其法律責任，並得要求損害賠償。
- 九、計畫主持人未經國科會同意，擅自對外公開歸屬於國科會所有之研發成果者，國科會得依法主張權利或追究法律責任，並得請求損害賠償。  
歸屬於執行機構之研發成果，其公開有影響民生福祉、國家安全、社會秩序或善良風俗之虞者，不宜公開。計畫主持人未經執行機構同意，擅自公開該研發成果，相關責任由計畫主持人自行負責。  
計畫主持人有違反第一項或第二項情事者，國科會得拒絕計畫主持人於日後三年向國科會申請各項獎補助計畫。
- 十、計畫主持人如未依規定辦理經費結案及繳交研究成果報告時，國科會不再核給專題研究計畫之補助。
- 十一、計畫之主持人及參與人員於研究計畫之構想、執行或成果呈現階段，如有違反學術倫理之情事，國科會將依行政院國家科學委員會學術倫理案件處理及審議要點規定處理。
- 十二、計畫主持人執行研究計畫應依科技資料保密要點及其他相關法令規定與國科會之相關要求處理。
- 十三、本同意書一式三份，分由國科會、執行機構及計畫主持人收執，以資信守。

此致  
行政院國家科學委員會

# 資料共享 管理政策的依據

原始數據 (raw data)

元數據(metadata)

資料檔案(data)

Raw data + metadata = data