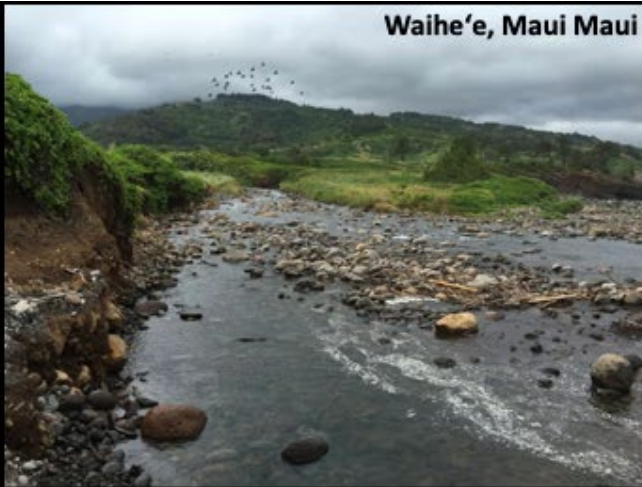


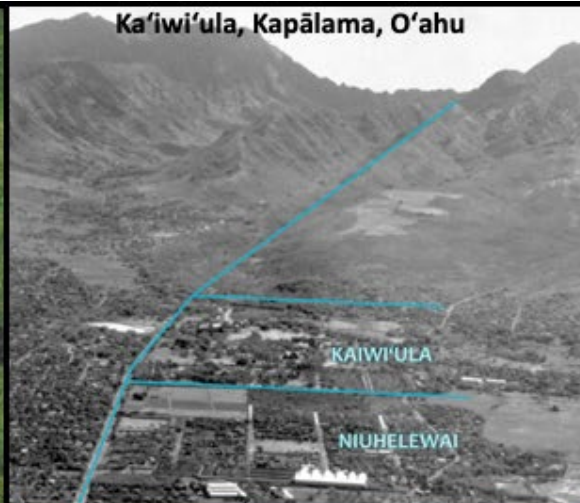
Waihe'e, Maui Maui



Kaluanui, O'ahu



Ka'iwi'ula, Kapālama, O'ahu



San Narcisco, Zambales, Philippines



Laupāhoehoe, Hawai'i



Waiale'e, O'ahu



'Āhuimanu, Kahalu'u, O'ahu

Pu'u Māeli'eli, O'ahu





Indigenous Data Governance in Ocean Sciences

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WHAT IS DATA?

<https://www.menti.com>

Code: RESET ON 9/4

What is data? (main stream definition)

Measurements or statistics used as a basis for reasoning, discussion or calculation, modeling

Input
Layer

Multiple hidden layers

**Who should have access to data you
generate?**

<https://www.menti.com>

Code: RESET on 9/4

WHAT ARE **INDIGENOUS DATA**?

Data, information and knowledges, in any format, that impacts Indigenous Peoples, nations, and communities at the collective and individual levels:

DATA ABOUT OUR NON-HUMAN RELATIONS

Land, water,
geology, titles, air,
soil, sacred
ecosystems,
territories, plants,
animals, etc.

DATA ABOUT US AS INDIVIDUALS

Administrative, legal,
health, social,
commercial,
corporate, services,
etc.

DATA ABOUT US AS COLLECTIVES

Traditional and
cultural information,
languages
knowledge systems,
ancestral and clan
knowledges, etc.

USINDIGENOUSDATA.ORG
@USIDSN

Informed by British Columbia First Nations Data Governance Institute - BCFNDGI.COM

GIDA-GLOBAL.ORG
@GidaGlobal



OUR PEOPLES HAVE ALWAYS BEEN DATA EXPERTS



What are **Indigenous data**?

Information, in any format that impact Indigenous lives at the collective and individual levels that impacts Indigenous lives

SETTLER COLONIAL SCIENCE

- Quantitative
- Observations made by a small group of professionals
- Synchronic data
- Objective
- Knowledge is held by individuals and institutions

INDIGENOUS SCIENCE PRACTICES/TRADITIONAL ECOLOGICAL KNOWLEDGES

- Qualitative and quantitative
- Observers are resource users
- Diachronic data
- Subjective
- Knowledge is held by the collective

What is sovereignty?

In the US....

Tribal sovereignty: the rights of recognized tribes to govern themselves

Native nations are responsible for what happens on their land

SOVEREIGNTY IS SELF-DETERMINATION

The extent that a nation is able to make and enforce its own rules, resolve disputes, problem-solve when rules don't work as well as people might like, and establish its own governing institutions.

MAINSTREAM DATA SOVEREIGNTY & DATA GOVERNANCE

+ DATA SOVEREIGNTY:

the concept that information which has been converted and stored in binary digital form is subject to the laws of the country in which it is located.

+ DATA GOVERNANCE:

refers to the ownership, collection, control, analysis, and use of data.

(Rouse M, 2013; <http://whatistechtarget.com/definition/data-sovereignty/>)

(The Data Governance Institute, 2015; http://www.datagovernance.com/adg_data_governance_definition/)

INDIGENOUS DATA SOVEREIGNTY

STEMS FROM TRIBAL SOVEREIGNTY POSITIONED WITHIN

- Federal and state recognition
- Court cases
- Treaties

US policies have disempowered Indigenous peoples

Manifest Destiny

1830 Indian Removal Act

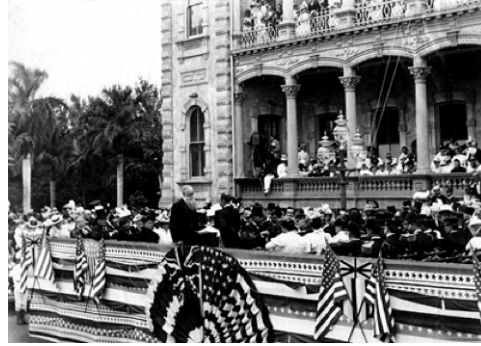
1862 Homestead Act

1872 General Mining Law

1887 Dawes Allotment Act

1964 Wilderness Act

1974 Navajo-Hopi Relocation Act



1893 Overthrow of Hawaiian Kingdom

1898 Annexation of Hawai'i to US

1901 Organic Act

1959 Hawai'i Statehood

*military controls ~5% of Hawai'i lands

What is Indigenous data sovereignty?

The *right* of Indigenous people and nations to govern the collection, ownership and application of their own data

1

Derives from inheritance rights to govern their peoples, lands and resources

2

Genesis in traditions, roles and responsibilities for the use of community held information

3

Positioned within human rights framework and court cases, treaties or recognition

4

Knowledge belongs to the collective and is fundamental to who we are as peoples

RIGHTSHOLDERS

AND OTHER DATA ACTORS

INDIGENOUS DATA SOVEREIGNTY >> RELATIONSHIPS FOR INDIGENOUS DATA GOVERNANCE



CARE Principles for Indigenous Data Governance

Collective Benefit.

Data ecosystems shall be designed and function in ways that enable Indigenous Peoples to derive benefit from the data.

- C1. For inclusive development and innovation
- C2. For improved governance and citizen engagement
- C3. For equitable outcomes

Responsibility.

Those working with Indigenous data have a responsibility to share how those data are used to support Indigenous Peoples' self determination and collective benefit.

- R1. For positive relationships
- R2. For expanding capability and capacity
- R3. For Indigenous languages and worldviews

Authority to Control.

Indigenous Peoples' rights and interests in Indigenous data must be recognized and their authority to control such data respected.

- A1. Recognizing rights and interests
- A2. Data for governance
- A3. Governance of data

Ethics.

Indigenous Peoples' rights and wellbeing should be the primary concern at all stages of the data life cycle and across the data ecosystem.

- E1. For minimizing harm and maximizing benefit
- E2. For justice
- E3. For future use



NOAA Data sharing directive (2013)



Data and Publication Sharing Directive for NOAA Grants, Cooperative Agreements, and Contracts

Table of Contents




I. Background and Purpose	2
II. Scope	2
III. Authority	3
IV. Directive	4
V. Responsibilities	5
VI. Management and Ownership	6
VII. Intended Audience.....	6
VIII. Implementation Date	6
IX. Grandfather Exemption and Waiver Option	6
X. Performance Objectives and Measurements.....	6
XI. Definitions and Abbreviations.....	7
XII. Approval	7
XIII. Frequently Asked Questions (FAQs).....	7

Quick control+F
search for
“Indigenous”
reveals 0 returns

Private sector: FAIR & CARE pretty “impossible”

Considerations on Commercial Systems

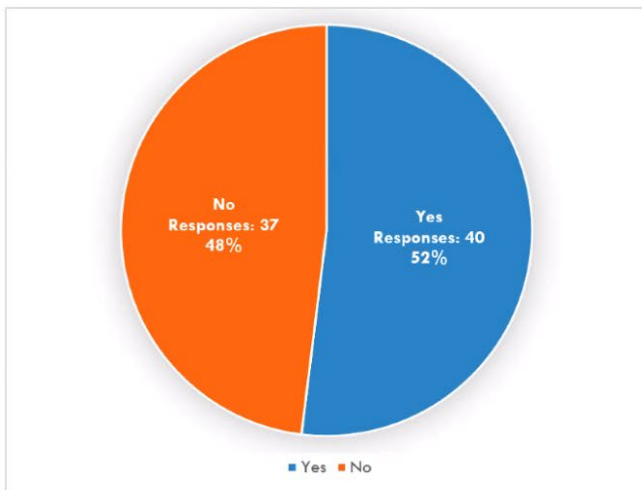
Attributes of Commercial Observing Systems

- For profit
- Commercial entities must pay back investors
- Sometimes showcases a product, generally looking to enter and compete in the market
- Often early installations supported by investors or private equity firms
- Equipment, installation, processing and servicing are commercially priced
-  • Data becomes owned and served by commercial firm. FAIR or FAIR-O are difficult, but some progress is being made (e.g. recent NOAA and EUMETSAT satellite data buy).
-  • Data and service are be resold by firm thus making FAIR-O impossible. If FAIR-O is required, prices are considerably higher
-  • Limited technical supervision possible due to IP protection. Transparent peer review is unrealistic
- If utilized in private/government partnership, contracting is required to maintain continuity of service
=> no user driven or science driven flexibility, resulting in a less fungible, primarily profit-driven, system
- Risk adverse. Issues of accepting liability (see Accuweather as test case). Can be a problem when life/property loss are at stake.

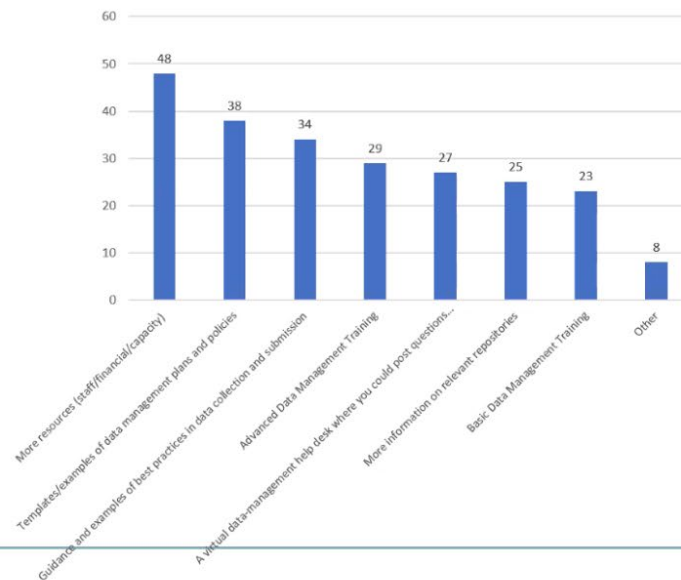
International area: UN Ocean Decade Actions

EXPERIENCE OF DATA GENERATION AND SHARING

Do Actions have a data management plan and/or a data policy?



Most helpful to support Actions' data-sharing ambitions/requirements



Kūlana Noi'i

Version 2.0



For more information, please contact:

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Hawai'i Sea Grant
(808) 956-3349 | hintzen@hawaii.edu

Future Directions

- Indigenous data sovereignty is an ideal test case for creating ocean science guidelines more broadly
-
- Do you have any ideas?



Collaboratory for Indigenous Data Governance

Research, Policy, and Practice for Indigenous Data Sovereignty

INDIGENOUSDATA.LAB.ORG | @Indigidatalab

USINDIGENOUSDATA.ORG | @USIDSN

GIDA-GLOBAL.ORG | @GidaGlobal

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Mary's River or Ampinefu Band of Kalapuya

Who "Owns" Hawaiian Knowledge?



The Ancient Healing Art of Ho'oponopono

2 comments

equilibrium

I'm sorry
Please forgive me
Thank you
I love you

Ho'oponopono

100% Hawaiian Noni

Febreze SMALL SPACES Hawaiian Aloha

Febreze AIR Hawaiian Aloha

3.49 MSRP (80)

3.49 MSRP (339)

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Posted on: Tuesday, June 20, 2006

UH expected to abandon controversial taro patents

By Jan TenBruggencate
Advertiser Science Writer

The University of Hawai'i is expected to announce today that it is dropping its patents on three varieties of taro after Hawaiians and taro farmers protested the very concept of someone owning strains of the plants.

RELATED NEWS FROM THE WEB

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ideas

Hawaii

expertise to help local aquaculture (like the prediction of changing fish be essential in ensuring a climate-aquaculture products can even directly change.

A seaweed diet could help cows fart less, which could majorly impact climate change.

we cultivate a native strain of limu kahu (Asparagopsis taxiformis) which, when fed to livestock, drastically reduces the amount of methane they produce by up to 90%.

Partnerships such as Hatch and the National Energy Laboratory of Hawaii Authority, which provide lab, outdoor, and office space to my aquaculture company and others, are a great start. Through our NOAA-funded marine macroalgae apprenticeship program at NELHA this fall, we will take a stab at combining traditional Hawaiian marine resource management techniques with limu aquaculture techniques.

Aloha POKÉ CO

Hawaiipublicradio.org

Photograph entitled "Mukamuni" by Kim Taylor Reece, showing a traditional hula pose.

Stained-glass portrait in dispute in Reece v. Island Treasures Art Gallery. Created by Marylee Teialoha Colucci.