Getting Your Data Out There:
Data Publishing & Data Standards with iDigBio

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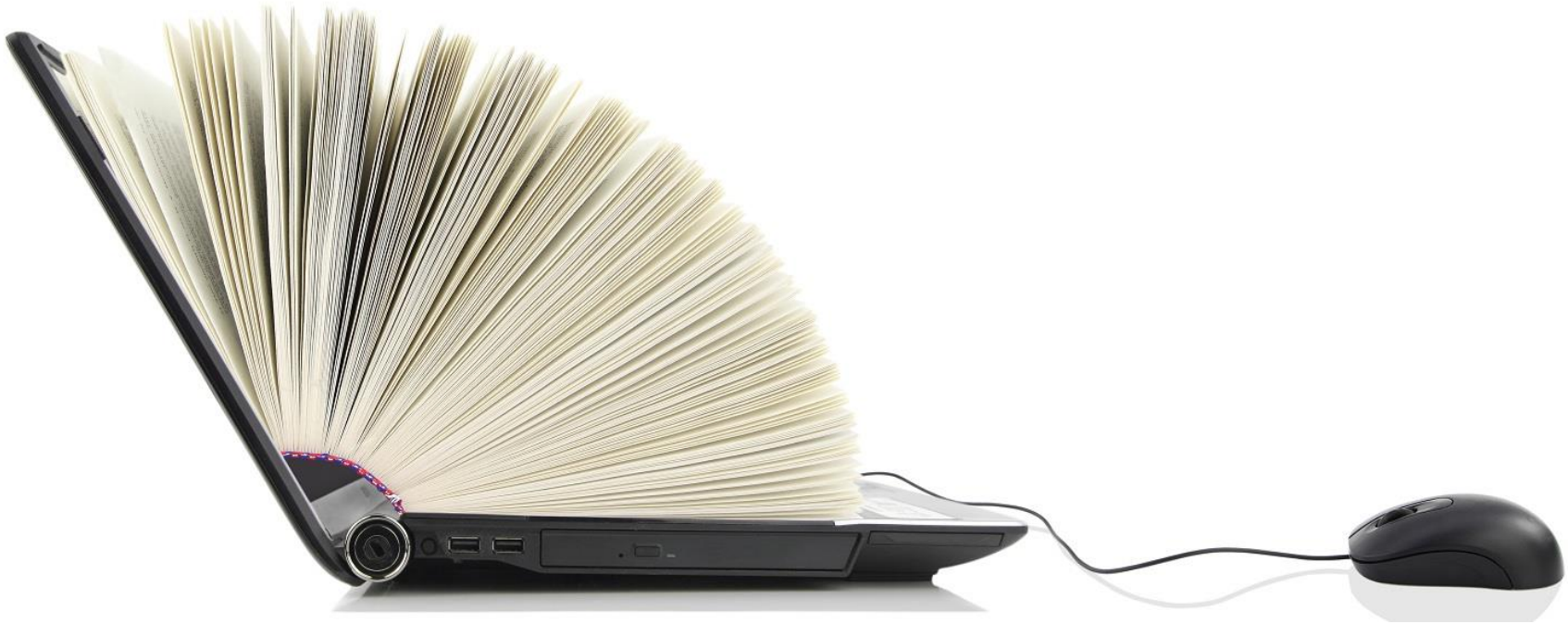
What do we mean by data publishing?



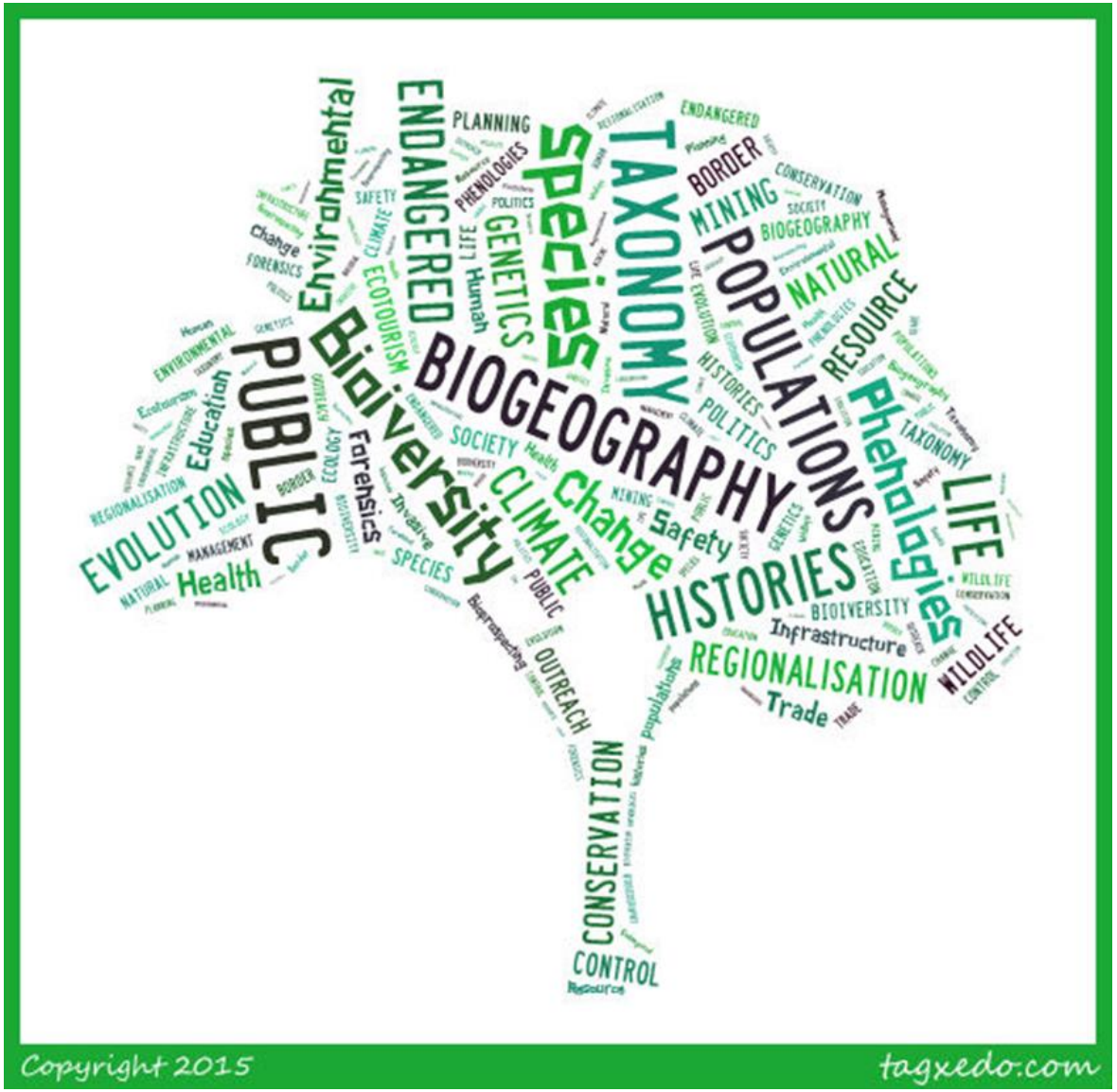
Why publish data?

Data Use

Data Quality

Attribution

Why Publish?


Species
TAXONOMY
BIOGEOGRAPHY
POPULATIONS
PUBLIC
Biodiversity
Environmental
ENDANGERED
Phenologies
LIFE
HISTORIES
EVOLUTION
CLIMATE
Change
REGIONALISATION
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POLITICS
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Data Standards

Biodiversity data standards

- **Darwin Core**
  biodiversity informatics (specimen and observation data)

- **Audubon Core**
  multimedia related to specimens

Darwin Core

What: Darwin Core is a glossary of terms intended to facilitate the sharing of information about biological diversity.

How: The Darwin Core is based on taxa, their occurrence in nature as documented by observations, specimens, samples, and related information.

Where: http://rs.tdwg.org/dwc/terms/ provides reference definitions, examples, and commentaries.

Biodiversity Information Standards TDWG

Data standards & Darwin Core

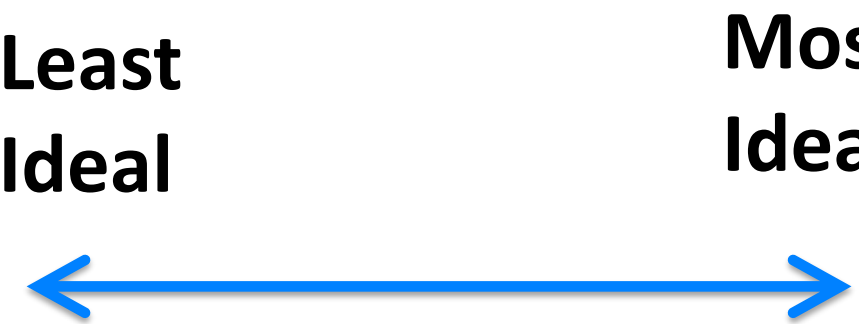
- With data standards like Darwin Core, we have established rules for how we enter certain fields.
- examples:
  - Date
  - Lat/Lon
  - Genus
  - Species

Data Sharing

Data publishing: where to begin with iDigBio?

- Email data@idigbio.org

- There are four basic ways to share:



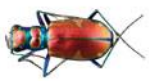
Technical skill vs. time, updatability, data buy-back etc.

1 – BEST:
Send data to GBIF Great, we'll take that!

- Darwin Core Archive (DwC-A)
- on an RSS feed produced by IPT
- https://code.google.com/p/gbif-providertoolkit/

#2- Also great: Use Symbiota

- when you mark your data to publish, all the necessary parts of the package are generated.
  - Custom Darwin Core Archive (DwC-A) on an RSS feed produced by Symbiota
  - automatic media
  - http://symbiota.org



Symbiota Promoting Bio-Collaboration

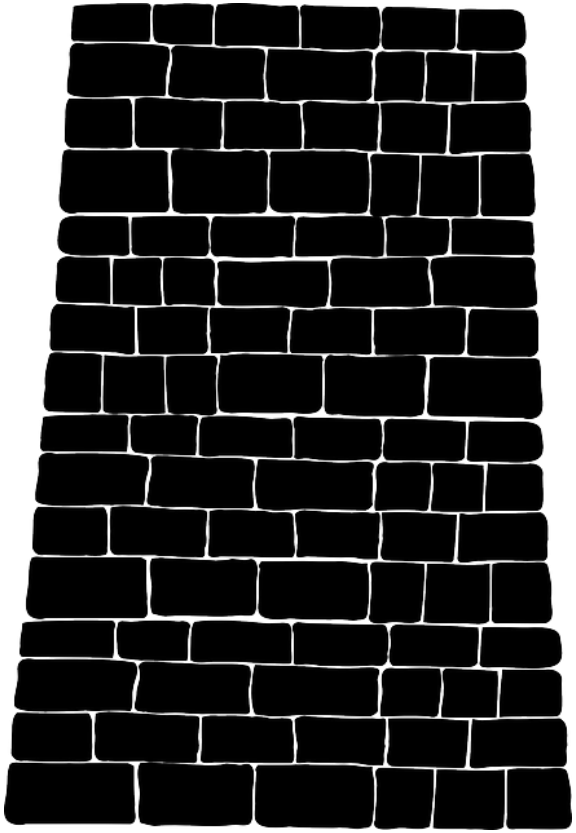
3- Adequate:
Export your data as CSV/TXT file with DwC fieldnames & let us host it on our IPT

- Create a custom CSV or TXT file,
  - with XML style field names from Darwin Core,
    - e.g., domain:fieldName
    - dwc:catalogNumber
    - ac:provider


VertNet

4- Will work in a pinch: Throw your data over the wall

- This method has its challenges:
  - data manipulations
    - UUID, higher taxa, dates, zeros…
  - Updates
  - Buy-backs
  - Backlog



Media

3 ways to get media to iDigBio:

1. **use Audubon Core extension to IPT**
   - ➢ Linked to the specimen
2. **via Symbiota**
   - ➢ Linked to the specimen
3. **Media ingestion appliance**
   - ➢ Can be linked to the specimen

Metadata

Metadata

A set of data that describes and gives information about other data.

- For us, its data that describe a biodiversity dataset.

- Metadata facilitates:
  - Data discovery
  - Search & retrieval
  - Reuse (licensing)
  - Attribution
  - Expressions of fitness-for-use
  - Communication

What metadata does iDigBio need?

- Information about the provider
  - responsible parties (name, address, email, role)
  - institution name, institution code
  - URL to the data at your institution
  - descriptive paragraph of the collection

Equivalent to the eml.xml file produced by IPT

Check for existing collections:

In GRBio.org

- Repositories:
- http://grbio.org/find-biorepositories
- Institutional collections: http://grbio.org/find-institutional-collections

Copyrights: please include rights info

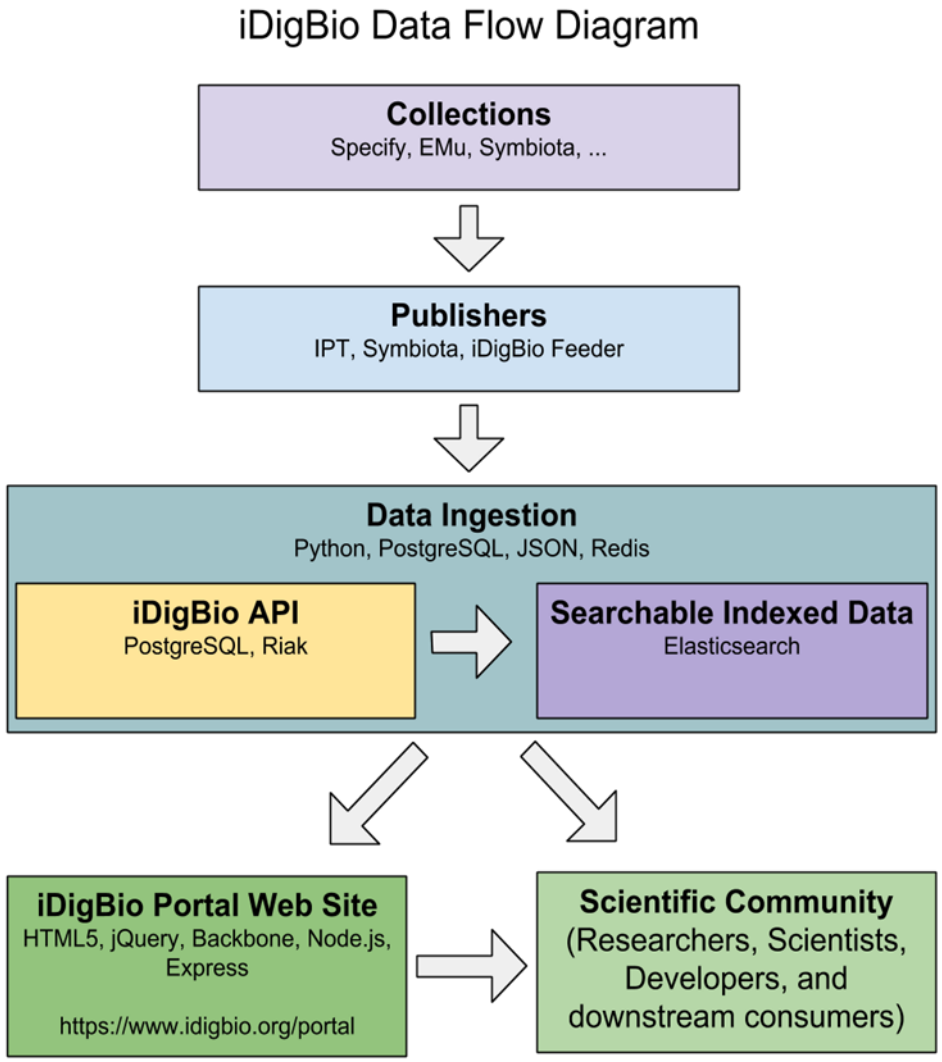
Use: creative commons

- CC0 for data (not copyrightable)

- CC BY for media

Data Ingestion

What happens when you send us your data?



Further Resources…

- https://www.idigbio.org/wiki/index.php/Data_Ingestion_Guidance more information about the iDigBio data ingestion process.
- https://www.idigbio.org/portal/publishers look who is already providing data to iDigBio.
- http://rs.tdwg.org/dwc/terms/ for the Darwin Core glossary.
- https://www.idigbio.org/wiki/index.php/Example_of_trivial_transformations_on_INHS_fish_dataset example dataset transformations for data ingestion into iDigBio.
- https://www.idigbio.org/wiki/images/0/01/ImageIngestionCheatSheet_Sheet1.pdf tips on using iDigBio's image ingestion appliance.
- https://www.idigbio.org/wiki/images/0/03/GUIDgeneration.pdf how to create UUID GUID in an excel spreadsheet.
- https://www.idigbio.org/wiki/images/e/e2/ToPrepareAnAudubonCore.pdf how to prepare an Audubon Core file using IPT.
- https://www.idigbio.org/wiki/index.php/CYWG_iDigBio_DwC-A_Pull_Ingestion how to set up an RSS Feed.
- https://code.google.com/p/gbif-providertoolkit/ more information about the GBIF IPT.
- http://grbio.org/find-institutional-collections GRBio.
- http://symbiota.org Symbiota.
- http://vertnet.org/ VertNet.

iDigBio
Integrated Digitized Biocollections

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webcal://www.idigbio.org/events-calendar/export.ics

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Reserved fields & Darwin Core

- **Dates:** – dwc:eventDate is a date and nothing else
  - Also for dwc:day, dwc:month, dwc:year:
  - this is not a month: Spring
  - this is not a day: 10-18
  - this is not a year: 1989? Or [1989]
- **Taxonomy are reserved fields too:**
  - this is not a species: shrimp

Use the verbatim & remarks fields for things that do not fit the definitions.

More data tips…

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1)Put dates in ISO 8601 format, i.e., YYYY-MM-DD, e.g., 2014-06-22

2)fill in dwc:scientificName with genus and species

3) parse out the dwc:scientificName elements to fill in dwc:genus and dwc:specificEpithet

4)Provide as much higher taxonomy as you feel comfortable with, fill in tribe, sub+super family, kingdom, division, class, order) **get out of 'family' land.**

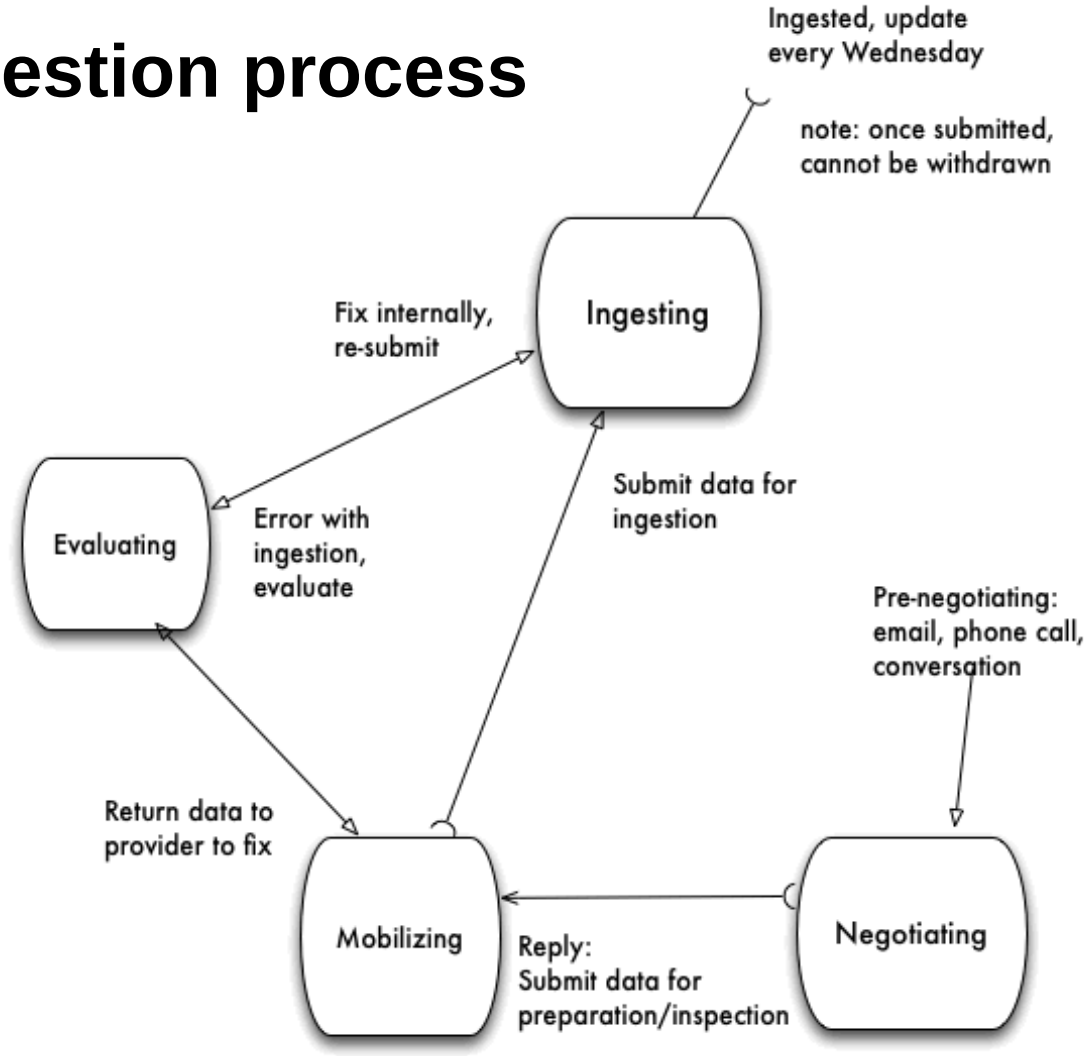
5)Make sure lat and lon coordinates are in decimal, and not degs, mins, secs,

6)Do not export '0' in fields to represent no value

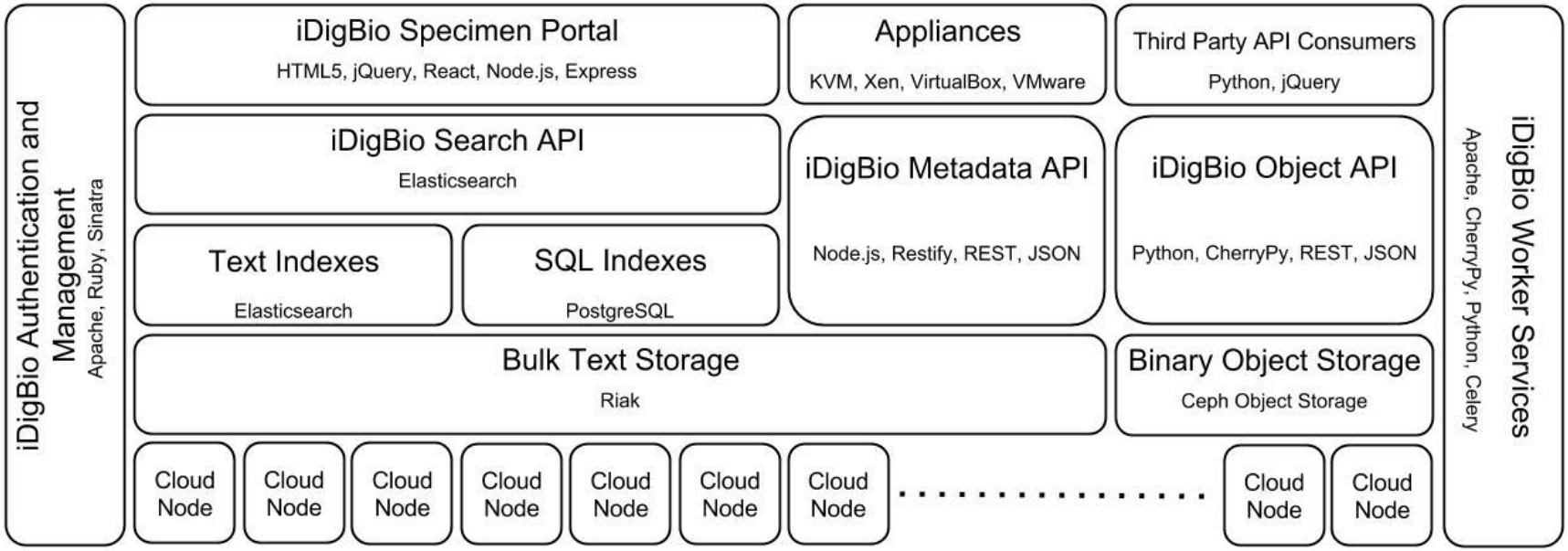
7)Get rid of your tics: * [] {} ?...

8)put elevation in METERS units in the elevation field without the units
Watch out for diacritics, save in UTF-8 (encoding)

Data ingestion process



Architecture components



Data collection & standards

- Data quality starts with what you collect & ends with what you publish