

Proposed Metrics and Metrics Definitions

Below is the list of metrics followed by their definition/example.

We can start collecting the following metrics as soon as we receive the green light.

We will first contact all ESIP's individually to get their feedback and collect the 1st month of data.

An online data entry form and a data viewer is in under development (with UCSB). The form will allow each number to be accompanied by comments.

Those metrics would be collected monthly, and reflect the month activity (not accumulative).

The * mark the 4 metrics originally mandated by Martha.

USERS

METRIC: Number_of_data_and_service_users

Definition/Example

- Opposed to mere information consumers, “Data and service users” **acquire data** (download, order, etc.) **or use a service** provided by the ESIP (data processing, legal service, experiment data management).
- Data and service users should be **identified** at least by their email address. Users placing orders need to provide an address anyway so they are always identified, and ESIPs are strongly encourage to require registration for all users downloading data or using services (minimum requirement is an email address)
- Comments should mention if registration is used or not, and if possible separate **self-service users** (people who download via ftp) from **users ordering via staff** (who use ESIP customer services)
- Example for the month of January:
 - # of data and service users: 38
 - Comments: Registration is in now place. About 90% used the download, others ordered by email

METRIC: Categorization of data_and_service_users by domain

Number of users in each category:

US Gov, US Other, US Education, US Comm, US non profit, Foreign, Unknown
([would allow comparison with DAACs categorization](#))

METRIC: Categorization of data_and_service_users by market share

For each category: answer:

- Does your ESIP offer something of use to this market?
- Do you have good evidence of use by this market?
 - If yes: number of users
- Can't tell

City/County/state Gov., US Gov., Agriculture, Forestry, Fisheries, Extraction, Eng./Const.Dev., Real Estate, Transportation, Insurance, Legal, Environmental Monitoring, Utilities, Tourism/Recreation, Intelligence, Education, Media, NGO/non profits, Commodities.

(This is better than the domain categorization, but we expect that for a while ESIPs won't be able to answer, nevertheless asking the question will encourage them to instrument the data collection)

METRIC: Number_of_information_consumers

Definition/Example

- Consumers are all users who come to find information or learn from ESIP information but do not necessarily download data or use services (e.g. readers of ESIP pages, museum patrons using an exhibit, school children using an ESIP produced tutorial on earth science)
- For public access websites without registration, count unique IP addresses hitting your web home page each month.
- Consumers are usually not identified individually
- The comments can give an estimate of the type of users and their distribution.
- Example for the month of January:
 - # of consumers: 3700
 - Comments: About 1500 patron users, 1000 elementary school children, 1200 users of our website.

METRIC: Categorization of information_consumers by domain

Number of consumers in each category:

US Gov, US Other, US Education, US Comm, US non profit, Foreign, Unknown

METRIC: Categorization of data_and_service_users by market share

For each category: answer:

- Does your ESIP offer something of use to this market?
- Do you have good evidence of use by this market?
 - If yes: number of users
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METRIC: Total Number_of_distinct_customers*

Will be calculated automatically as the sum of the 2 previous metrics (consumers + data/service users)

METRIC: # of repeat users

Different ESIPs may need different definitions of a repeat user: someone that had an identified use of the system more than X times over a period of more than X weeks, but they can define it in their comments
(note: needs a "can't tell" answer)

DATA AND SERVICES

METRIC: Data_volume*

The volume in gigabytes of data available to users via ftp or via staff special orders.

Comments could also include a break down of volume by datatype or format.

METRIC: Estimate of the volume of raw data used to generate the above data
(might help justify the large raw datasets that may not be directly used, and also help show high level of processing)

METRIC: Number of Datasets

(NOTE: can be provided by GCMD directly)

METRIC: Number_of_Data_Products_delivered*

This includes products emailed, ftp-ed, or media ordered and delivered. Do NOT include promotional materials distributed at conferences or donated to potential users with no assurance that the product will be used. Do NOT include the number of Web pages read by users (effective dissemination of information on websites will be measured by the number of users hitting the website)

Comments can clarify what those products were.

METRICS: Number of services available to users

Comments could include a list of those services

METRICS: Number of services that were not available before the federation

Comments could include a list of those services

(for easier comparison to baseline)

METRIC: Number_of_services_rendered

Comments can clarify the type of service provided. Example: number of subsetting done, number of reprojection done, number of ingestion service performed, etc.

(**** this is the less satisfactory metric because there is no taxonomy of services)

METRICS: delivery_time_of_data_or_service*

For the total number of products delivered and/or services rendered, estimate of the percentage in each category

e.g.

- 90% immediate (web/ftp)
less than 3 working days
- 10% less than 5 working days,
less than 10 working days
less than a month
more than a month
- 1% special cases (justified long delivery time)

The average time for an ESIP would hide variations between services. Knowing the number of products and services delivered, we can calculate the total federation number of product and services in each time category.

METRIC: Number of non-web information/promotional products delivered

includes promotional CD, brochures, posters etc.

This is a data related metric that will be useful to measure outreach.

METRICS: Total number of web pages hits

This is useful for ESIPs that do not have traditional delivery of products or services per se (e.g. a museum exhibit).

IMPACT AND OTHER NUGGETS

A nugget entry form is being created with:

- Esip name
- Month (with today as default)
- Free text entry
- Nugget type
- email of person entering nugget

A reminder to enter nuggets could be mailed to all ESIPs monthly.
We can generate a number of entries for each type of nuggets.
Those nuggets might be formalized in metrics later on.

Nugget topics:

New science:

- New type of data use
- Significant new science discovery linked to the existence of the ESIP
- New data products generated from ESIP data or services and now available to the community
- Data quality achievement

Federation activities

- Creation of workgroup or committee
- Notable results from working group or committee
- Example of federation collaboration
- Collaboration with other institutions

Federation reactivity

- Rapid response to adverse event
- Rapid dissemination of data or service

Dissemination:

- Publications written by ESIP users referring to ESIP data (also report at publication time)
- PR events (e.g. Presentation by Esip staff at conferences or community events)
- Mention of ESIP in press

Education

- New K-12 education activities generated from ESIP
- New higher education or professional education activities generated from ESIP
- Student graduated whose work was directly linked to ESIP

Miscellaneous

- Steps toward sustainability
- Impact on citizens, business
- Quotes from users or federation members

OTHER CONSIDERATIONS

User satisfaction (from survey)

On hold – waiting for Vanessa who volunteered to get this started

Overall satisfaction with the ESIP (mandated metrics)

and for appropriate subsets of ESIPs: (volunteer metrics)

Satisfaction with data processing services

Satisfaction with data

Satisfaction with data description (metadata)

Satisfaction with cost

Satisfaction with speed of delivery

Satisfaction with quality

Satisfaction with customer services

(all using a scale of 1 to 9/best)

Question: that's a lot of questions!