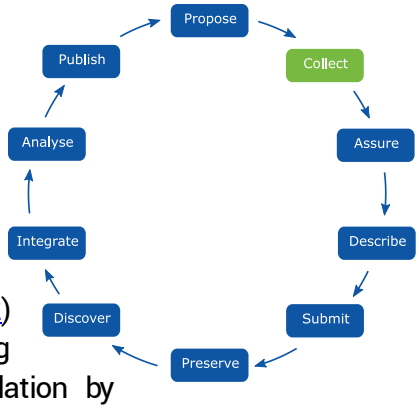
Collect



What is it?

Data can be collected manually or automated in the laboratory/field or you can discover useful data through literature/repository search (see Fact-Sheet 'Discover'). GFBio offers workbenches and tools (Diversity Workbench, BExIS 2) to make data collection easy for you. Data emerge through observation (during an experiment), interviews, counting, measuring with instruments, or simulation by algorithms. Researchers use different technologies like tape- or video-recorders, (portable) computers/instruments, hand-written data sheets, questionnaires, tools, workbenches, satellite or aerial images.

How to do it?

1) Before collecting data, set up a collection protocol/sampling strategy.
2) Define which data will be created/collected. (What?, Where?, When?, Who?, How?)
3) Consider how many populations/individuals/tissue you need to gain significant results.
4) Allow for separate columns/rows per individual variable (eschew compound variables).
5) Define the collection methodologies and standards (see Fact-Sheet 'Describe') to ensure that your data will be compatible with standards. GFBio is currently creating a standardization-tool to convert data to the EML-metadata standard. Use our description-tool (that will soon be implemented within the GFBio-Portal) to ensure consistency and data quality.
6) Choose indicative, unique file names, reflecting the contents, place and time (keep it short: 20141104_Collect_Factsheet.xlsx). Document this consistent naming convention and coding that can be used by the whole research team.
7) Choose appropriate software and formats that are suited for long-term preservation and reuse.
8) Communicate your collection protocol to the involved team members so that everybody is on the same level.
9) Gain comprehensive knowledge about the item to be collected and its habitat/occurrence.
10) Organize the logistics, e.g. gain collection permits (if required).
11) Set up a backup plan and save your data on secure and geographically dispersed servers.

Who does it?

Currently every data producer integrating other data or creating own data within his/her research project or as partner in research programme (like ecologists, geo-scientists, geneticists etc.).

Key elements

- Use the GFBio workbenches and tools to collect data in a consistent, systematic manner throughout the study (reliability).
- Capture and create structured Metadata (EML, ABCD) by the aid of the GFBio-Description-Tool and the Standardization-Tool (both soon available).
- Experiment, observe, measure, simulate.

Useful links

https://www.dataone.org/best-practices (Best-Practices-Primer)
http://www.abctaxa.be/volumes/volume-8-manual-atbi/chapter-7/Chapter_7.pdf (tissue collection)
http://www.dcc.ac.uk/training/train-the-trainer/dc-101-training-materials (for a deeper understanding)
http://www.diversitymobile.net (tool which helps to record data in the field)
https://www.youtube.com/watch?v=nNBiCcBlwRA (nice video about what can go wrong – not only in medical science!)