

DATA MANAGEMENT PLAN TEMPLATE

Typically, 2-pages for standard NSF – may vary based on the solicitation

I. Types of data

Samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project.

1. What data will be generated in the research? (Give a short description, including amount – if known and the content of the data).
2. What data types will you be creating or capturing? (e.g. experimental measures, observational or qualitative, model simulation, processed etc.)
3. How will you capture or create the data?
4. If you will be using existing data, state that fact and include where you got it. What is the relationship between the data you are collecting and the existing data?

II. Data and Metadata Standards

Standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies).

1. Which file formats will you use for your data, and why?
2. What contextual details (metadata) are needed to make the data you capture or collect meaningful?
3. How will you create or capture these details?
4. What form will the metadata take?
5. Which metadata standards will you use?
6. Why have you chosen particular standards and approaches for metadata and contextual documentation? (e.g. recourse to staff expertise, Open Source, accepted domain-local standards, widespread usage)

III. Policies for access and sharing and provisions for appropriate protection/privacy

1. How will you make the data available? (Resources needed: equipment, systems, expertise, etc.)
2. When will you make the data available? (Give details of any embargo periods for political/commercial/patent reasons.)
3. What is the process for gaining access to the data?
4. Will access be chargeable?
5. Does the original data collector/ creator/ principal investigator retain the right to use the data before opening it up to wider use?

IV. Provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements

1. Are there ethical and privacy issues?
2. If so, how will these be resolved? (e.g. anonymization of data, institutional ethical committees, formal consent agreements.)
3. What have you done to comply with your obligations in your IRB Protocol?
4. Is the dataset covered by copyright? If so, who owns the copyright and other intellectual property?
5. How will the dataset be licensed if rights exist? (e.g. any restrictions or delays on data sharing needed to protect intellectual property, copyright or patentable data.)

V. Policies and provisions for re-use, re-distribution

1. Will any permission restrictions need to be placed on the data?
2. Which bodies/groups are likely to be interested in the data?
3. What and who are the intended or foreseeable uses / users of the data?
4. Are there any reasons not to share or re-use data? (Suggestions: ethical, non-disclosure, etc.)

VI. Plans for archiving and Preservation of access

Plans for archiving data, samples, and other research products, and Preservation of access to them.

1. What is the long-term strategy for maintaining, curating and archiving the data?
2. Which archive/repository/central database/ data center have you identified as a place to deposit data?
3. What transformations will be necessary to prepare data for preservation / data sharing? (e.g. data cleaning/anonymization where appropriate.)
4. What metadata/ documentation will be submitted alongside the data or created on deposit/ transformation in order to make the data reusable?
5. What related information will be deposited (e.g. references, reports, research papers, fonts, the original bid proposal, etc.)
6. How long will/should data be kept beyond the life of the project?
7. What procedures does your intended long-term data storage facility have in place for preservation and backup?

POST-DOCTORAL MENTORING PLAN

This has to be 1-page max – tailor to your needs

The Postdoctoral Researcher hired for this project will be mentored primarily by <PI/Co-PI NAME> with >PI/co-PI(s) NAME> playing a secondary mentorship role at the Colorado School of Mines (CSM); <this PI/these PIs> have previously mentored <indicate number> post-docs. The Postdoctoral Researcher will be associated with <Center or Department NAME>, a collaborative research <center or department> that brings together <indicate number> tenure/tenure-track faculty, research faculty, <several> post-docs and <dozens> of graduate students. The post-doctoral researcher will receive specific mentoring in the areas of personnel and research project management in a collaborative and interdisciplinary setting.

- **Orientation** will include in-depth conversations between CSM and the Postdoctoral Researcher <NAME or to be named> to ensure he/she receives the training necessary to conduct responsible and ethical research. Mutual expectations will be discussed and agreed upon in advance. Orientation topics include (a) the amount of independence the Postdoctoral Researcher requires, (b) interaction with coworkers, (c) productivity including the importance of scientific publications, (d) work habits and laboratory safety, and (e) documentation of research methodologies and experimental details so that the work can be continued by other researchers in the future.
- **Career Counseling** will be directed at providing the Postdoctoral Researcher with the skills, knowledge, and experience needed to excel in his/her chosen career path. In addition to guidance provided by the PI, the Postdoctoral Researcher will be encouraged to discuss career options with researchers and managers at CSM and with former students and colleagues of <PI NAME>.
- **Experience with Preparation of Grant Proposals** will be gained by direct involvement of the Postdoctoral Researcher in proposals prepared by CSM. The Postdoctoral Researcher will have an opportunity to learn best practices in proposal preparation including identification of key research questions, definition of objectives, description of approach and rationale, and construction of a work plan, timeline, and budget.
- **Publications and Presentations** are expected to result from the work supported by the grant. These will be prepared under the direction of <PI NAME> and in collaboration with researchers at CSM as appropriate. The Postdoctoral Researcher will receive guidance and training in the preparation of manuscripts for scientific journals and presentations at conferences.
- **Teaching and Mentoring Skills** will be developed in the context of regular meetings within <Center or Department name> research group during which graduate students and postdoctoral researchers describe their work to colleagues within the group and assist each other with solutions to challenging research problems, often resulting in cross fertilization of ideas. In addition, the Postdoctoral Researcher is encouraged to participate in CSMs highly successful and well-received campus-wide seminars which bring in faculty members, administrators, and external professionals for topical presentations.
- **Instruction in Professional Practices** will be provided regularly in the context of the research work and will include fundamentals of the scientific method, laboratory safety, and other standards of professional practice; the Postdoctoral Researcher will be encouraged to affiliate with professional societies in his/her field.
- **Technology Transfer** activities will include regular contact with researchers at CSM. The Postdoctoral Researcher will be presented with an opportunity to become familiar with the university-industry relationship including applicable confidentiality requirements and preparation of invention disclosure applications.
- **Success of the Mentoring Plan** will be assessed by monitoring the personal progress of the Postdoctoral Researcher through a tracking of the Postdoctoral Researcher's progress toward his/her career goals after finishing the postdoctoral program.