

## Building the Data Management Plan of Observatoire de Paris

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During the last decade, the production of science data increased in parallel with the decreasing cost of digital storage and the increase of data processing and computation capabilities. Science institute have to find a way to manage and preserve this data inflow. Most of the calls of funding agencies now require to provide a description of how the data produced in the projet will be managed (archiving, curation, distribution...) and published. This usually takes the form of a Data Management Plan. Funding agency also required more and more to select open source licences for any production of the project, for instance by enforcing FAIR (Findable, Accessible, Interoperable, Reusable) principles.

Founded in 1667, the Observatoire de Paris is the largest French national research center for astronomy. Nearly a third of all French astronomers are working in its five laboratories and institute. Located in Paris, Meudon and Nan ay, they are all associated with CNRS (National Center for Scientific Research) and with the major scientific universities in the Paris and Orl ans area. The research conducted at the Paris observatory covers all the fields of contemporary astronomy and astrophysics: the study of the Sun and Sun-Earth relations, planets and planetary systems, star formation, the interstellar medium, the formation and evolution of galaxies, astroparticles and cosmology, time and space metrology as well as the history and philosophy of science. The Library of the Observatoire is a service entirely devoted to research. Its two missions are to provide scientists with the most complete and pertinent documentation, and to enrich a 350 year old heritage, while at the same time thinking about what today's heritage will be, and what the future will bring. Although mainly destined for the scientists of the Observatoire, it is nevertheless also open to others: scientists from different disciplines and all countries, students, school children, the general public, who are welcome and for whom it organizes scientific and technical outreach activities.

Observatoire de Paris has listed a few services that needed to set up a way to formally manage their data more formally: the Informatics Department of the Observatory (DIO), which is hosting scientific computing servers and data storage facilities for the sciences teams of the observatory; the Paris Astronomical Data Centre (PADC), which provides interoperable access on data collections produced within the observatory; the Library of the observatory. Several teams (linked with projects funded by EU or space agencies) showed interest as well.

Several actions have now been started by the working group: Identification of the various sources of data and data collection in each department of the Observatory; Identification of the needs in term of citation (data collections, artifacts, documents, software...) and licences; study of possible authoritative delegations (e.g., on DOI attribution, long term preservation...) and to whom; proposing a Data Management Plan template to support science teams when applying for fundings. Those actions are all aiming at building a generic Data Management Plan for the Observatory, that would propose rules and practices for preserving, distribution and sharing science products.

The PADC team is deeply involved in data-related international data alliances, such as the International Virtual Observatory Alliance (IVOA), the International Planetary Data Alliance (IPDA), and the Research

Data Alliance (RDA). This is ensuring that: (a) this study is conducted with up-to-date technologies and concepts, and that (b) the results of the study will be discussed and advertised in those international contexts.

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