Data Management Plan (DMP)

Project ERC COG HornEast

Mid-term review - Second version
March 2022

Project director: Julien Loiseau
Creator of the DMP: Maryasha Barbé
Submission: April 2022
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1 – Preamble

**Director**: Julien Loiseau  
**Contact**: julien.loiseau@univ-amu.fr  
**Host institution**: University of Aix-Marseille, Jardin du Pharo, 58 Boulevard Charles Livon, 13007 Marseille.  
**Methodology**:  
A first DMP was developed on July 5, 2018, thanks to a collective discussion with the members of the project and an interview with Adeline Joffres, TGIR Huma-Num (*Très Grandes Infrastructures de Recherche des Humanités Numériques*) project manager ([https://www.huma-num.fr/](https://www.huma-num.fr/)) (appendix 1). The development of the DMP is a second version that responds to a mid-project development.

2 – General presentation of the project

The ERC HornEast project (Horn and Crescent. Connections, Mobility and Exchange between the Horn of Africa and the Middle East in the Middle Ages) aims to document the relations between the Christian societies of the Horn of Africa (Ethiopia, Nubia) and their Islamic environment at local and regional scales (Egypt, Palestine, Arabian Peninsula), to better understand the modalities of the process of Islamization at work in the region during the medieval millennium (7th – 15th century).

The Horn of Africa has indeed most often been studied as an isolate, linguistically and historically, cut off from its environment since the Arab conquests of the 7th century and the formation of the empire of Islam. Of its ancient relations with the countries of the Red Sea and the Near East, only the nominal subordination of the Churches of Ethiopia and Nubia to the Coptic Church of Alexandria and the regular presence of Ethiopian monks in the Holy Land would have remained. Islam, despite its early introduction in the Horn from the 7th century, is the poor relation of this history where it only seems to play a strictly local role.

The recent decompartmentalization of Ethiopian studies, the development of archeology in Ethiopia and a better integration of the history of Eastern Christianity in the field of Islamic studies now make it possible to revise this history. The same conjuncture indeed affected the entire region from the 13th century: the acceleration of the process of Islamization, which saw the decline of Christian communities in Egypt as in Syria-Palestine, the gradual disappearance of the Christian kingdoms of Nubia and, in Ethiopia, the concurrent rise of the Christian kingdom and its Islamic neighbors.

The ERC HornEast project is based on two assumptions:  
1. the connections between the Horn of Africa and its regional environment which passed under the domination of Islam never ceased and intensified from the 13th century;  
2. the mobility of men and women, free or slave, commercial exchanges and the circulation of books and stories have contributed not only to the Islamization of the region but also to the resilience of Ethiopian Christianity.

The ERC HornEast project aims to document these connections in the Horn of Africa, through the study of local written sources (in Ge’ez, Old Nubian and Arabic) and through the archaeological exploration of the Negash region, place of memory of the first Muslim
emigration to Ethiopia; but also, outside - in Egypt, Palestine and the Arabian Peninsula - through the study of Arab sources and the traces left by the passage of men and women from the Horn of Africa.

By documenting these connections at the local and regional scales, the ERC HornEast project thus intends to reintegrate the Horn of Africa into the global history of the region and aims to better understand the modalities of the Islamization of the world in the Middle Ages.

**Project director:** LOISEAU Julien.

**Contract researchers:** AMBU Martina, AYENACHEW Deresse, BOUDBERALA Sobhi, DORSO Simon, LABADIE Damien, LAGARON-KHALIFA Anna, REFAAT Shahista, VALIVA Nafisa.

**Associated researchers:** BRAMOULLÉ David, CECERE Giuseppe, CHEKROUN Amélie, FAUVELLE François-Xavier, HIRSCH Bertrand.

**Engineers, technicians and administrative staff (ITA):** BARBE Maryasha, MELLAL Lamia.

**Project acronym:** HornEast

**Project funder(s):** H2020-EU.1.1.

**Project number:** 726206

**Project dates and duration:** 1/11/2017-30/04/2023

**Partners:** Protisvalor, research promotion subsidiary of Aix-Marseille University (AMU), Institute for Research and Studies on the Arab and Muslim Worlds (IREMAM), French Center for Ethiopian Studies (CFEE), French Institute of Oriental Archeology of Cairo, French Research Center in Jerusalem, French Center for Archeology and Social Sciences (CEFAS).

### 3 – The Data and Metadata

**HornEast data cycle (fig.1)**

*Figure 1: HornEast project data life cycle. Updated on 16.04.2022.*
I. Description of data and collection or reuse of existing data

Generating and collecting the data:

The ERC HornEast data is obtained through field observations, survey results, interview recordings, images. A part was collected thanks to prospecting and archaeological work in the field (fig.2) which led to the discovery of several sites containing inscriptions (stelae), dwelling places (pottery), which benefited the both intellectual scientific analysis and laboratory dating (C14 dating).

A second part is based on research in various sources (chronicles, biographical data, funerary inscriptions, collections of artifacts, etc.). It is therefore both raw, derived and analyzed data.

Classification of the data into three categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Original data medium</th>
<th>Content type</th>
<th>Format</th>
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</thead>
<tbody>
<tr>
<td>Digital native documents</td>
<td>- text file</td>
<td>- preparation of publications</td>
<td>- docx</td>
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<td>- slideshow</td>
<td>(articles, communications, reports),</td>
<td>- odt</td>
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<td></td>
<td>- spreadsheet</td>
<td>notes, posters and programs of</td>
<td>- ods</td>
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<tr>
<td></td>
<td>- photography</td>
<td>seminars, maps, boards.</td>
<td>- pptx</td>
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<td></td>
<td>- map</td>
<td>- photographs of survey sites and</td>
<td>- pdf</td>
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<td>- video</td>
<td>excavation sites.</td>
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<td>- Geographic Information System (GIS)</td>
<td>- video of surveys.</td>
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<td>- video and recordings of conferences.</td>
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Figure 2: Map representing the general locations of data collection of the ERC HornEast project. Simon Dorso, 2022.
### Standard documents
- notebook
- paper
- poster
- board

- field notes, transcripts of interviews, lexicons, correspondence, diagrams, articles, communication preparations, seminar programs, photographic exhibition.

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<th>Papers, Cardboard panels</th>
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### Digitized documents
- paper
- notebook

- US sheets, field surveys, plans, drawings, filed notebooks

| - pdf |
| - jpeg |
| - tiff |

### Sorting:
A sorting was carried out to eliminate duplicates thanks to the OpenRefine software\(^1\) (mainly photographs).

### File re-naming:
Before re-naming the files, the data was reorganized into sub-folders, then sorted by date of creation. The file naming system is keen to make the document typology visible:

Project acronym_Typology_Place_Date_Researcher/Theme_Object_Serial number/Title.

Some examples:

- \texttt{ERCHornEast\_Photo\_Bilet\_2018\_12\_S1\_DSC0040.jpg} for an image taken during field missions in 2018;

- \texttt{ERCHornEast\_Rapport\_2018\_Loiseau\_Dorso\_et\_al\_Preliminary\_Report\_Excavations\_and\_Surveys\_Bilet.pdf} for a mission report;

- \texttt{ERCHornEast\_Workshop\_2022\_03\_08\_Medieval\_Red\_Sea\_Poster\_Programm.pdf} for a seminar program;

- \texttt{ERCHornEast\_Book\_Fair\_2020\_02\_20\_Kinshasa\_Julien\_Loiseau\_Comm\_LAfrique\_au\_temps\_du\_monde.pdf} for a book fair communication;

- \texttt{ERCHornEast\_Workshop\_2022\_03\_09\_Medieval\_Archaeology\_PTT\_Simon\_Dorso\_Muslim\_Cemeteries.pdf} for a seminar slide.

\(^1\) [https://openrefine.org](https://openrefine.org)
Classification scheme (filing plan):

The complete classification scheme can be found in appendix (3). It is subject to change depending on the progress of the project.

The data has been categorized into 10 parts (fig.3):

- **Member Folders (dossier members)**
- **Publications (publications)**
- **Scientific Events (manifestations scientifiques)**
- **Archaeological Documentation (documentation archéologique)**
- **Maps and Plans (cartes et plans)**
- **Photographs (photographies)**
- **Field notebook (carnets de terrain)**
- **Sources**
- **Data management (gestion des données)**

* The "Member Folders" corresponds to the data created and collected by researchers. This folder is the first step in the data management. The data is then grouped, renamed and sorted into the respective subfolders (article in publications, presentation in scientific events, etc.). Similarly, the "Sources" folder which corresponds to digitized secondary sources and archives that the project team studies.

The "Member Folders" and "Sources" folders are intended to remain on the Sharedocs data processing platform and on the project's external drive. They provide backup and monitoring of data processing work.

**Description of the data***:

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* Figure 3: Classification scheme of the photographic data created during the various missions in the field.
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<td></td>
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<td>- Hard drive</td>
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</table>
II. Documentation and data quality

The data will be converted prior to archiving on Huma-num box, at the National Computer Center for Higher Education (Centre Informatique National de l'Enseignement Supérieur - CINES), and deposit on HAL, MédiHAL and Nakala, in a non-proprietary open format to allow long-term storage and access: mp4, jpg, tiff, pdf.

Description of the metadata:

Both descriptions apply to databases chosen under section 7 (see below):

• Nature of embedded metadata: type, size, location, creation date, modification date.
• Nature of associated metadata for the description of corpora and files, structured in Dublin Core format: title, date(s), place, description, author(s), language(s), source(s), credit(s), contributor(s), licence(s), commentary, bibliography(ies), associated publication(s).
5 – Backup and storage of data during the project

Backing up, storing and archiving data during the project is done in three parts:

• By researchers, on researchers' own external hard drives;

• The data is regularly collected in a common external hard drive of the HornEast project; The Sharedocs shared space (fig. 4) of the TGIR Huma-Num is also used for temporary storage related to data processing. It is regularly updated in parallel with the project's external hard drive.

• Part of the data is entered and uploaded to the HornEast database (fig. 5), hosted by the TGIR Huma-Num.

6 – Ethical and legal aspects

Legal and ethical requirements, codes of conduct

The researchers, collaborators and other local resources gave a verbal agreement for the dissemination of the data (images, video) in open access.

When a researcher, collaborator or a local resource has made known their disagreements for the diffusion of one or more data, these are not deposits in open access, only on kept on Sharedocs and are intended to be placed in the Human-num box.

When a researcher has given authorization for the open access diffusion of the data, but does not wish to be quoted (for example, first and last name in the description of an image on MédiHAL), the information is not informed.

Similarly, in alignment with the Code du patrimoine, the General Data Protection Regulation (GDPR), image rights, data involving privacy, or bearing an appreciation or value judgment,
or still revealing the behavior of a person in conditions likely to harm him (*Code du patrimoine, art. L213-2, 3°*), the photographs taken during the excavations and prospecting campaigns of 2018 and 2019, mainly those where appearing minors or moments of conviviality, have not been deposited on Nakala and MédiHAL. They are only kept on the Sharedocs sharing platform and the project harddrive.

**Intellectual property right**

All scientific productions within the framework of the project (articles, presentations, maps, sketches, blog posts, etc.) refer to the respective authors.

In agreement with the members of the project, the photographs taken on their missions stand out. They are all referenced under "ERC HornEast" as the only author and credited according to the year of production, for example "Mission HornEast, 2018".

**Licenses**

The data may be reused for research purposes and in the context of teaching, within the legal limit linked to the rights of the persons concerned in the interviews and after presentation of the project.

In this context, a free Creatives Commons CC0 license (CC BY NC ND paternity – no commercial use – no modification) has been chosen for the distribution of the data on the platforms mentioned below.

Stands out the maps and plans, placed under copyright, as well as the scientific publications that align themselves according to the licenses of the respective publishers.

7 – Access and sharing of data during and after the project

---

**I. The Data**

**A. The platforms providing the access to the data**

The databases chosen for the project are free to access and provide the allocation of persistent identifiers, permanent access to data and the dissemination of metadata via OAI PMH, respect the FAIR values (findable, accessible, interoperable and reusable).

**HornEast database (TGIR Huma-Num)**

The HornEast database is structured and hosted by the TGIR Huma-Num.

The database (fig. 5) aims to highlight historical evidence of the links between the Horn of Africa and its Islamic environment, sought from various sources (chronicles, biographical data, funerary inscriptions, collections of artifacts, etc.). These data collected by the various members of the project feed the object-relational database allowing queries (type, location, description, date, names, etc.) in the original language of the primary source. Selected database system: PostgreSQL (free and open source: [https://www.postgresql.org/](https://www.postgresql.org/)).

The database is intended to be available for free access at the end of the project. Huma-Num will provide long-term, secure storage for the database.
The multidisciplinary open archive HAL is intended for the deposit and dissemination of research-level scientific articles, whether published or not, and theses, from French or foreign educational and research establishments, public or private laboratories.

In this context, the ERC HornEast project submits: articles, book chapters, reports and other publications (blog posts) (fig. 6).

• Each data refers to the respective authors and their HAL ID.

• Each data refers to the project in the “European project” section: “HornEast – Horn and Crescent. Connections, Mobility and Exchange between the Horn of Africa and the Middle East in the Middle Ages. CORDIS number: 726206”.

Figure 5: Screenshot illustrating the project database.

Figure 6: Publication of the report "Preliminary Report Excavations and Surveys: Bilet (Tigray, Ethiopia), 1-20 December 2018", https://hal.archives-ouvertes.fr/hal-02909979
MédiHAL

MédiHAL is an open archive that allows the deposit of visual and sound data (still images, videos and sounds), produced as part of scientific research. These data are transmitted to a secure repository, with backup copies of the files and their capacities.

In this context, the ERC HornEast project submits: photographs, excavation plans, maps and video (fig. 7). A selection of the most relevant images, maps and videos is made before they are deposited on MédiHAL. To this end:

- The "ERC HornEast" project is mentioned as the contributor and author of the data (HAL ID 12623505).
- The project team and the people who participated in the creation of the data are mentioned in the "comment" section.
- The metadata are described both in French and in English.
- Each data refers to the project in the “European project” section: “HornEast – Horn and Crescent. Connections, Mobility and Exchange between the Horn of Africa and the Middle East in the Middle Ages. CORDIS number: 726206”.

![Figure 7: Submission of images and video of the project on MédiHAL](https://medihal.archives-ouvertes.fr/search/index/?q%5BauthFullName_t%5D%5B5%5D=horneast)

NAKALA

Nakala is a tool developed by the Huma-Num research infrastructure (CNRS, Aix-Marseille University, Campus Condorcet) allowing researchers, teacher-researchers and research
teams to share, publish and enhance all types of documented digital data (text files, sounds, images, videos, 3D objects, etc.)

In this context, the ERC HornEast project submits data sets according to the classification plan (filing plan) (fig.8).

• The data is gradually deposited on the platform Nakala.

• Certain data, mainly images and surveys of stelae, and archeological documentation as well as versions in the process of being written for publications, will be placed under embargo (1-3 years after the end of the project) until several publications are finalized.

• The metadata are described both in French and in English.

B. Data Sharing

With the aim of making data more FAIR, in alignment with the Second National Plan for Open Science², in order to make it shareable, and in compliance with ethical and legal principles, data produced by the ERC project has been shared online as follows (and so far)*:

• Out of a total of 25 publications deposited on HAL, 23 are accessible in pre-print and original version, which corresponds to 92% of the open access publication. One will be accessible in January 2024, the other will be published during the summer 2022 (appendix 2).

• Out of a total of 283 (of 6073) photographs and maps deposited on MédiHAL, 264 are accessible without embargo, which corresponds to 93% of the images and maps open in free access.

• A total of 22 datasets have been deposited in Nakala (representing approximately 40 GB of data), classify in 7 collections.

A two-year embargo has been placed on certain data on MédiHAL and Nakala (mostly images and power-point presentations representing stelae with Arabic inscriptions) awaiting their publication in articles, books and reports. Users wishing to consult the images can make a request to the project by using the email account: erchorneast@gmail.com

2  https://www.ouvrirlascience.fr/deuxieme-plan-national-pour-la-science-ouverte/
All project metadata is accessible. They are placed in the anticipated public domain of the Creative Commons CC0 – C BY NC ND attribution – no commercial use – no modification. All metadata produced by the project team can be aggregated and published by any platform under the same terms and used.

C. Attribution of a unique and permanent identifier

The data deposited in HAL, MédiHAL (ID HAL 12623505) and Nakala (10.34847) have a unique and permanent identifier, unique to the HornEast project, of the DOI (Digital object identifier) type. All data and datasets also benefited from a permanent identifier at each deposit.

* Updated on 16.4.2022.

II. Archaeological archives of the project:

Media library of the Mediterranean house of human sciences (UAR 3125)

A meeting took place on March 28 2022 with the research archives sector of the Mediterranean house of human sciences (Maison méditerranéenne des sciences de l’homme – MMSH) Media library in order to establish the terms and conditions for the deposit of the project's archaeological archives representing approximately 2 linear meters* of archives paper (appendix 4). Some archives have been digitized and are grouped in the sub-folder "archaeological documentation". The archives are intended to join the research archives sector of the Media library at the end of the project.

* Updated on 14.04.2022.

8 – Storage and archiving of data at the end of the project

Long-term data preservation is carried out in a data warehouse dedicated to the scientific world, for the preservation of current and intermediate archives:

- Huma-Num Box of the TGIR Huma-Num whose servers are hosted by several servers distributed between the partner structures and Huma-Num (the partner structures are the MSH of Rennes, Nantes, Val de Loire, Toulouse and Lyon, as well as the EHESS (Paris) and La Contemporaine (Nanterre)). The data will be kept for a period of 10 years and will be accessible for the members of the ERC HornEast project. This will allow the project to ensure the preservation of data while completing the publications and associated works before depositing them in an archive center suitable for digital archiving.

- A request has been made for the permanent preservation of the data to the director of the CINES for the digital archiving of scientific data at the end of the project.

- The archeological paper archives will be deposit at the research archives sector of the MMSH at the end of the project.

9 – Data management responsibilities and resources

Researchers responsible for uploading data to the HornEast database:
LOISEAU Julien, AMBU Martina, AYENACHEW Deresse, BOUDEBBALAL Sobhi, CHEKROUN Amélie, DORSO Simon, LABADIE Damien, LAGARON-KHALIFA Anna, REFAAT Shahista.

Researchers and engineers responsible for depositing publications in **HAL**:

LOISEAU Julien, AMBU Martina, AYENACHEW Deresse, BARBE Maryasha, BOUDEBBALAL Sobhi, CHEKROUN Amélie, DORSO Simon, LABADIE Damien, LAGARON-KHALIFA Anna, REFAAT Shahista, VALIVA Nafisa.

Researchers and engineers responsible for depositing the data in **Sharedocs** and **Huma-num Box**:

LOISEAU Julien, BARBE Maryasha, CHEKROUN Amélie, DORSO Simon.

Researchers and engineers responsible for data processing and their deposits in the Open access and archiving platforms **MédiHAL** and **Nakala**:

LOISEAU Julien, BARBE Maryasha, CHEKROUN Amélie, DORSO Simon.
Appendix 1: First version of the Data Management Plan (DMP)

ERC OPEN RESEARCH DATA MANAGEMENT PLAN (DMP)

<table>
<thead>
<tr>
<th>Project Acronym</th>
<th>Project Number</th>
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<tbody>
<tr>
<td>HORNEAST</td>
<td>726208</td>
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**SUMMARY** *(dataset’s reference and name; origin and expected size of the data generated/colllected; data types and formats)*

HornEast (started 01.11.2017) is a research project in history and archaeology of the Horn of Africa. It aims at documenting connections, mobility and exchange (of people, artefacts, narratives) between Christian societies in Nubia and Ethiopia, on the one hand, and their Islamic environment on the other hand, for a better understanding of the islamisation process in the area during the Middle Ages. HornEast is based on inquiries conducted in primary sources in various scripts and languages (Arabic, Ge’ez, Coptic, Hebrew, Greek, Old Nubian, Latin) and on archaeological surveys. The first survey conducted in March 2018 in Tigray (Ethiopia) revealed important evidence of an early Islamic settlement (10th-12th centuries), which deserves excavations during the timelapse of the project.

The present Data Management Plan has been prepared through collective discussion with the project’s members and an interview in Paris on 5 July 2018 with Adeline Joffres, task officer of Huma-Num (https://www.huma-num.fr), the French main public infrastructure of research devoted to the storage, exchange and dissemination of metadata and data for social sciences and humanities.

Two distinct datasets will be generated by the project: they will be addressed in two different manners.

First: historical evidence of connections between the Horn of Africa and its Islamic environment will be sought for in various sources (chronicles, biographic data, funerary inscriptions, collections of artefacts, etc…). These data collected by the various members of the project will feed a object-relational database allowing queries (type, location, description, date, names, etc…) in the original language of the primary source. Database system selected: PostgreSQL (free and open source: https://www.postgresql.org/).

Second: archaeological evidence collected through the study (survey and excavations) of the site of Bilet (Tigray, Ethiopia). These data will feed a Geographic Information System (GIS) devoted to the archaeological site of Bilet. GIS selected: QGIS (free and open source: https://www.qgis.org/fr/site/). Spatial database management system selected: PostGIS (free and open source: https://postgis.net/).

Origin of the data: data collected by the members of the project in Aix-Marseille University, Paris-1 University, CNRS and IFAO.

---

1 Several datasets may be included into a single DMP.
1. MAKING DATA FINDABLE (dataset description: metadata, persistent and unique identifiers e.g., DOI)

The two datasets will result in one object-relational database on the one hand (for historical evidence in various languages) and in one spatial database (for the archaeological study of the site of Bilet).

These two databases will be hosted by Huma-Num (https://www.huma-num.fr/), the French main public infrastructure of research devoted to the storage, exchange and dissemination of metadata and data for social sciences and humanities. All tools and resources of Huma-Num are fully compatible with the Linked Open Data (LOD).

The data management systems chosen for the two datasets are proposed by Huma-Num. Databases will be compatible with NAKALA (https://www.nakala.fr/) and ISIDORE (https://www.recherchesisidore.fr/), the services of Huma-Num devoted to the sharing and dissemination of metadata and data, according to the principles of Web of data and providing open access to metadata.

The definition of metadata will be made according to the Protocol of Metadata Harvesting of the Open Archives Initiative (OAI PMH).

2. MAKING DATA OPENLY ACCESSIBLE (which data will be made openly available and if some datasets remain closed, the reasons for not giving access; where the data and associated metadata, documentation and code are deposited (repository?); how the data can be accessed (are relevant software tools/methods provided?))

An open access will be growingly provided to part of the data from the third year of the project onwards.

The most significant data collected in the first database (historical evidence of connections between the Horn of Africa and its Islamic environment) will be selected by the PI every six months from the third year of the project onwards, in order to be openly available in NAKALA. NAKALA is the repository service of Huma-Num, which provides assignment of persistent identifiers, permanent data access and metadata dissemination through OAI PMH. These selected data will be openly accessible in NAKALA with no time restriction upon written request to Huma-Num. Students and researchers interested in will be informed of their accessibility through the dissemination of the metadata by ISIDORE.

Data collected through the archaeological study of Bilet will be openly available through an on-line GIS hosted by Huma-Num. The objective is to make this on-line GIS available from the fifth and last year of the project onwards. The Ethiopian Authority for Research and Conservation of Cultural Heritage (ARCCCH) will be provided with a permanent open access to this GIS, in addition to the mission reports sent to it on a yearly base. It will be also accessible to students and researchers upon written request to Huma-Num.

Huma-Num will provide softwares for long-term access to data.
3. MAKING DATA INTEROPERABLE (which standard or field-specific data and metadata vocabularies and methods will be used)

The definition of metadata according to OAI PMH (https://www.openarchives.org/pmh/) will ensure the interoperability of the data in open access at the end of the project.

4. INCREASE DATA RE-USE (what data will remain re-usable and for how long, is embargo foreseen; how the data is licensed; data quality assurance procedures)

The selected data available will be re-usable by students and researchers, and in the case of Bilef’s GIS, by the Ethiopian Authority for Research and Conservation of Cultural Heritage (ARCCH). No embargo is foreseen for data selected among the first dataset (historical evidence of connections). An embargo might be defined for archaeological data collected from the study of the site of Bilef, in regard with the publishing schedule of its results.

In addition to the scientific publications by the members of the project (papers in international journals, monographies) based on the data collected, the data re-use will be increased thanks to the dissemination of the project’s main results through its research blog (https://homeast.hypothes.is/), accessible since February 2018 and regularly feed.
ERC OPEN RESEARCH DATA MANAGEMENT PLAN (DMP)

5. ALLOCATION OF RESOURCES and DATA SECURITY (estimated costs for making the project data open access and potential value of long-term data preservation; procedures for data backup and recovery; transfer of sensitive data and secure storage in repositories for long term preservation and curation)

The services provided by Huma-Num are free. But the implementation of the two databases requires the hiring for three to six months of a research assistant. Costs are already planned in the project budget. Huma-Num will provide long-term and secure storage for the two databases.

DISCLAIMER. Please note that the ERC Data Management Plan is not a part of the Ethics Review. It is the responsibility of the Principal Investigator to inform the ERCEA Ethics Team of any ethics issues/concerns regarding the collection, processing, sharing and storage of data in relation to the project. The Principal investigator can also be asked to submit an Ethics Data Management Plan (Ethics DMP).
# Appendix 2: HornEast Publications deposit in Open Access on HAL

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<th>Author</th>
<th>Publication</th>
<th>Date</th>
<th>Category</th>
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<tr>
<td>Julien Loiseau</td>
<td><em>L’Afrique, nouvelle terre d’Islam</em>, Belin</td>
<td>2018</td>
<td>Book chapter</td>
<td>Open</td>
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<tr>
<td>Julien Loiseau</td>
<td><em>Two Arabic inscriptions from Bilet (Eastern Tigray, Ethiopia)</em></td>
<td>2018</td>
<td>Blog post</td>
<td>Open</td>
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<td>Amélie Chekroun Bertrand Hirsch</td>
<td><em>Preliminary Report Excavations and Surveys: Bilet (Tigray, Ethiopia), 1-20 December 2018</em></td>
<td>2018</td>
<td>report</td>
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<td>Abbès Zouache</td>
<td><em>Remarks on the Blacks in the Fatimid Army, 10th-12th CE</em>, Northeast African Studies</td>
<td>2019</td>
<td>Journal article</td>
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<td>Julien Loiseau</td>
<td><em>Abyssinia at al-Azhar: Muslim Students from the Horn of Africa in Late Medieval Cairo</em>, Northeast African Studies</td>
<td>2019</td>
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<td>Julien Loiseau</td>
<td>The Ḥaṭī and the Sultan. Letters and embassies from Abyssinia to the Mamluk court, Brill</td>
<td>2019</td>
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<td>Julien Loiseau</td>
<td>Ethiopia and Nubia in Islamic Egypt: Connected Histories of Northeastern Africa, Northeast African Studies</td>
<td>2019</td>
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<td>Héloïse Mercier</td>
<td>Manuscrits islamiques de la Corne de l'Afrique conservés à Berlin</td>
<td>2020</td>
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<td>Amélie Chekroun</td>
<td>Les stèles perdues d'Ethiopie, Carnets de Science, la revue du CNRS</td>
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<td>Amélie Chekroun</td>
<td>The Sultanates of Medieval Ethiopia, Brill</td>
<td>2020</td>
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<td>Bertrand Hirsch</td>
<td>The Muslim-Christian Wars and the Oromo Expansion: Transformations at the End of the Middle Ages (c. 1500 – c. 1560), Brill</td>
<td>2020</td>
<td>Book chapter</td>
<td>Open</td>
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<td>Damien Labadie</td>
<td>Traduction du texte vieux-nubien de la Croix</td>
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<td>Damien Labadie</td>
<td>Le Dikr at-tawārīḥ (dite Chronique du Šawā) : nouvelle édition et traduction du Vatican arabe 1792, f. 12v-13r</td>
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<td>Damien Labadie</td>
<td>Édition, commentaire et traduction d'une liste bilingue arabe-persan des noms des sept planètes d’après le manuscrit Vatican arabe 1792, f. 46r</td>
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<td>Damien Labadie</td>
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<td>2020</td>
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<td>Simon Dorso</td>
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<td>Availability</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Damien Labadie</td>
<td>To whom do the dead belong? Preliminary observations on the cemetery of Tsomar, Eastern Tigray, Actes de la Red Sea Conference 9, In press</td>
<td>2022</td>
<td>Book chapter</td>
<td>Will be deposit in the summer of 2022.</td>
</tr>
<tr>
<td>Julien Loiseau Deresse Ayenachew Hiluf Berhe Amélie Chekroun Simon Dorso Bertrand Hirsch</td>
<td>La version arabe du In quattuor animalia du pseudo-Chrysostome (CPG 5150.11)</td>
<td>2022</td>
<td>Blog post</td>
<td>Open</td>
</tr>
</tbody>
</table>
Appendix 3: HornEast Project Data classification scheme

**Introduction**

**Title**

ERC HornEast data classification scheme

**Dates**

2017-2022

**Producer**

ERC HornEast project

(LOISEAU Julien, AMBU Martina, AYEANACHEW Deresse, BARBE Maryasha, BOUDERBALA Sobhi, CHEKROUN Amélie, DORSO Simon, HIRSCH Bertrand, LABADIE Damien, LAGARON-KHALIFA Anna, MELLAL Lamia, OLLIVIER David, REFAAT Shahista, VALIVA Nafisa).

**Material significance**

128,7 Gb digital archives.

**Physical location**

Mediterranean House of Human Sciences (*Maison méditerranéenne des sciences de l'homme - MMSH*).

**Access conditions**

The data is partially accessible on the open archive platforms HAL, MédiHAL and Nakala. All the data is deposited in the Huma-num servers, under the responsibility of the project director Julien LOISEAU. The paper archives (standard documents) is accessible at the MMSH.

**Terms of use**

The data deposited in open access is placed in the anticipated public domain of the Creative Commons CC0 - C BY NC ND paternity - no commercial use - no modification, with the exception of the maps and plans, placed under copyright.

**Evaluation, sorting and eliminations**

Duplicates have been eliminated, data involving privacy, underage or bearing an appreciation or value judgment, or showing the behavior of a person in conditions likely to harm him (*Code du patrimoine, art. L213-2, 3°*) are kept on Huma-num's servers, but not freely accessible.

**Producer history**

The ERC HornEast project (Horn & Crescent. Connections, Mobility and Exchange between the Horn of Africa and the Middle East in the Middle Ages) is a Horizon 2020 research and innovation program of the European Union (as part of the grant agreement no. 726206). Started in 2017 and ending in 2023, the project aims to document the relationships between Christian societies in the Horn of Africa (Ethiopia, Nubia) and their Islamic environment at local and regional scales (Egypt, Palestine, Arabian Peninsula), in order to better understand the modalities of the Islamization process at work in the region during the medieval
millennium (7th – 15th century). It is composed of researchers in the humanities and social sciences and hosted by Aix-Marseille University.

**Content type**

The data is obtained through field observations, survey results, interview recordings and photographs. A part was collected thanks to prospecting and archaeological field work which led to the discovery of several sites containing inscriptions (stelae), dwelling places (pottery), which benefited from both scientific analyzes intellectual and laboratory dating (C14 dating). The data also contains documents produced for scientific events (communications, workshops) as well as publications by project members.

**Increase**

Data classification scheme with growth perspective.

**Classification plan:** the project data is classified into 8 sub-parts*:

- publications;
- scientific events;
- archaeological documentation;
- photographs;
- maps and plans;
- fields notebooks;
- Cnrs Image;
- data management tools.

*The classification scheme can increase and be modified before the end of the project.*

**Other finding aids**

ERC HornEast paper archives classification scheme ([https://nakala.fr/10.34847/nkl.42d1xfpg](https://nakala.fr/10.34847/nkl.42d1xfpg)).
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1. Publications

91,2 Mb ; 47 items. Native digital documents.
Consult the collection in Nakala: https://nakala.fr/collection/10.34847/nkl.fcd16326

1.1. Journal articles

2019-2022
Content: Articles and book reviews written by the project team published in journals as part of the research conducted and funded by the project.
42,2 Mb ; 19 items.
Consult the datasets in Nakala: https://doi.org/10.34847/nkl.fdaf1xxm

Partially under embargo until 31/12/2025.

1.2. Book chapters

2019-2020
Content: Book chapters written by the project team published in collective works as part of the research conducted and funded by the project.
3,6 Mb ; 6 items.
Consult the datasets in Nakala: https://doi.org/10.34847/nkl.7b54yio7

1.3. Reports

2018
Content: reports of field missions (excavations and surveys).
26,5 Mb ; 2 items.
Consult the datasets in Nakala: https://doi.org/10.34847/nkl.ca960g95

1.4. Blog posts

2018-2022
Content: Posts published in the project’s blog (https://horneast.hypotheses.org). Some are available on HAL platform. These are communications, study day and project presentations, source analyzes and mission reports.
29,9 Mb ; 17 items.
Consult the datasets in Nakala: https://doi.org/10.34847/nkl.1e16szq1

2. Scientific Events

2017-2022
3,29 Gb ; 115 items. Native digital documents.
Consult the collection in Nakala: https://nakala.fr/collection/10.34847/nkl.cc76b881

2.1. HornEast Seminars

Content: posters, programs, communications and presentations within the framework of the seminars and study days organized by the project.

1,46 Gb ; 42 items.

Consult the datasets in Nakala: https://doi.org/10.34847/nkl.457c71pa
Under embargo until 31/12/2025.

2.2. Communications

Content: interventions of the ERC HornEast project team at congresses, conferences, seminars, study days, round tables and courses organized by universities or institutions in France and abroad.

2,19 Gb ; 95 items.

Consult the datasets in Nakala: https://doi.org/10.34847/nkl.5fd731mk
Under embargo until 31/12/2025.

2.3. Exhibition

Content: The ERC HornEast project presents its archaeological work in Ethiopia with a photographic exhibition for the general public: “In the footsteps of the past of Tigray (Ethiopia): an archeology of medieval Islam in a Christian country”. Retracing two years of archaeological campaigns in Ethiopia in 2018 and 2019, the exhibition presents the approach of the ERC HornEast project in three parts: Surveying, Excavating, Living with the traces of the past. Inaugurated for the celebration of the National Science Festival at the Maison Méditerranéenne des Sciences de l'Homme (MMSH) on October 4 2021, the exhibition was presented to students of local schools on October 8 and 9 and was visited throughout the month of October 2021.

856,9 Mb ; 71 items.

Consult the datasets in Nakala: https://nakala.fr/10.34847/nkl.a95c732i
Related documents:
1 ml of archives.
ERCHE/007 exhibition panels.

3. Archaeological Documentation

10,78 Gb ; 2025 items. Digitized documents; Native digital documents.
Consult the collection in Nakala: https://nakala.fr/collection/10.34847/nkl.dae98ts7
Related documents:
1 ml of paper archives.

**ERCHE/002** Stelae stamps (QR001, B01, B12, B13, B16, B19, B20, B24), 2018.


**Physical description:**

### 3.1. Excavation and survey (Bilet 2018)

2018

Content: stratigraphic units sheets, plans, drawing (filled in during field excavations) and orthophotographs of Bilet (Kwiḥa) and Arra excavation and survey sites carried out in December 2018.

Consult the datasets in Nakala: [https://doi.org/10.34847/nkl.990201ue](https://doi.org/10.34847/nkl.990201ue)

Some identical images have not been uploaded.

**Partially under embargo until 31/12/2023.**

#### 3.1.1 Stratigraphic units sheets
16,8 Mb ; 11 items.

#### 3.1.2 Drawing (Minutes)
428,9 Mb ; 33 items.

#### 3.1.3 Artifacts (Mobilier)
6,13 Gb ; 953 items.

### 3.2. Excavation and survey (Bilet 2019)

2019

Content: drawing (filled in during field excavations), artefacts and orthophotographs of Bilet (Kwiḥa) and Arra excavation and survey sites carried out in December 2019.

763,4 Mb ; 242 items.

Consult the datasets in Nakala: [https://doi.org/10.34847/nkl.08e504x9](https://doi.org/10.34847/nkl.08e504x9)

**Under embargo until 31/12/2023.**

### 3.3. C14 Dating Analysis

2018-2021

Contents: data related to correspondence with the C-14 Lyon laboratory (Centre de datation par le Radiocarbone, Lyon1 University) and the results of C14 analyzes of samples from archaeological surveys and excavations.

367,5 Mb ; 41 items.
Consult the datasets in Nakala: https://doi.org/10.34847/nkl.8c4a94b1

4. Photographs

2018-2022

47,55 Gb ; 6073 items.
Chronological classification.
Content: photographs taken during field missions in Ethiopia between 2018 and 2019. Two folders also contain videos (4 to 6 videos). As their numbers are small, it was decided to keep them in the same folder to maintain consistency with the work on the field.
Consult the collection in Nakala: https://nakala.fr/collection/10.34847/nkl.b7d3s40q
Some similar images have not been uploaded.
Images representing minors or moments of conviviality have not been uploaded.

4.1. Mission 2018-03

2018

Content: In March 2018, a multidisciplinary team from the ERC HornEast project carried out a survey at the medieval Islamic archaeological site of Bilet (Eastern Tigray, Ethiopia), where 17 Arabic stelae had previously been found.
5,01 Gb ; 736 items.
Alphabetical classification.
Consult the datasets in Nakala: https://doi.org/10.34847/nkl.2a6b5683
Partially under embargo until 01/04/2025.

4.1.1. Addis-Abeba
368,1 Mb ; 103 items.

4.1.2 Bilet
3,99 Gb ; 559 items.

4.1.3. Igre Haibra
256,4 Mb ; 52 items.

4.1.4. Mekelle
747,7 Mb ; 109 items.

4.2. Mission 2018-10

2018-10

Content: In October 2018, a multidisciplinary team from the ERC HornEast project went to give a lecture at Mekelle University, as well as surveys in Kwiha area (Bilet).
115,1 Mb ; 25 items.
Consult the datasets in Nakala: https://doi.org/10.34847/nkl.d4849mwt

4.3. Mission 2018-12
Content: From December 1 to 20, 2018, a multidisciplinary team from the ERC HornEast project carried out an initial excavation campaign at the medieval Islamic archaeological site of Bilet (Eastern Tigray, Ethiopia), as well as surveys in the Arra region.

17.93 Gb; 2248 items.

Consult the datasets in Nakala: https://nakala.fr/10.34847/nkl.215b75u7

Partially under embargo until 01/04/2025.

Alphabetical classification.

4.3.1. Arra
2.17 Gb; 287 items.

4.3.2. Bilet
13.87 Gb; 1741 items.

4.3.2.1. Area 1
8.51 Gb; 1074 items.

4.3.2.2. Area 2
2.42 Gb; 277 items.

4.3.2.3. Area 3
2.13 Gb; 224 items.

4.3.2.4. Stelae
800.3 Mb; 165 items.

4.3.3. Habera
1.59 Gb; 170 items.

4.3.4. Mayda Zeylegat
300.2 Mb; 49 items.

4.4. Mission 2019-10

13.26 Gb; 1488 items.

Content: In October 2019, a multidisciplinary team from the ERC HornEast project carried out a survey in Arra region (South Eastern Tigray, Ethiopia).

Consult the datasets in Nakala: https://doi.org/10.34847/nkl.ac87i409

Partially under embargo until 31/12/2025.

Alphabetical classification.

4.4.1. Abua Gardale
92.8 Mb; 20 items.

4.4.2. Adi Gudom
916.7 Mb; 153 items.

4.4.3. Adi Shela
635,7 Mb ; 67 items.

4.4.4. Arra
825,5 Mb ; 157 items.

4.4.5. Ashangi
55,8 Mb ; 23 items.

4.4.6. Bilet
44,8 Mb ; 11 items.

4.4.7. Cheleko
322,2 Mb ; 66 items.

4.4.8. Godjable
97,3 Mb ; 23 items.

4.4.9. Grat Wezero
197,9 Mb ; 15 items.

4.4.10. Habera
2,12 Gb ; 210 items.

4.4.11. Habera Golat
518,3 Mb ; 57 items.

4.4.12. Keren Golat
775,7 Mb ; 92 items.

4.4.13. Maetsa Wedi Gomo
210,2 Mb ; 35 items.

4.4.14. Mayda Zeylegat
102,8 Mb ; 14 items.

4.4.15. The road between Mayshe and Meho
412,4 Mb ; 60 items.

4.4.16. Meho
162,5 Mb ; 26 items.

4.4.17. Ona Addi and Ksad Merere
587,2 Mb ; 94 items.

4.4.18. Qorqor Maryam
214,4 Mb ; 36 items.

4.4.19. Shahlegni
392,4 Mb ; 89 items.

4.4.20. Tsomar
671,4 Mb ; 117 items.

4.4.21. Washa Maryam
545 Mb ; 76 items.
4.4.22. Ziban Arbaa
486,5 Mb ; 41 items.

4.5. Mission 2019-12

11,23 Gb ; 1 575 items.

Content: In December 2019, a multidisciplinary team from the ERC HornEast project carried out an archaeological excavation in Kwiḥa (South Eastern Tigray, Ethiopia).
Consult the datasets in Nakala: https://doi.org/10.34847/nkl.ac6e2927
Partially under embargo until 31/12/2025.

Alphabetical classification.

4.5.1. Arra
2,52 Gb ; 331 items.

4.5.2. As Segeda
426,2 Mb ; 58 items.

4.5.3. Bilet
8,12 Gb ; 58 items.

4.5.3.1. Area 1
103,5 Mb ; 21 items.

4.5.3.2. Area 2
4,5 Gb ; 691 items.

4.5.3.3. Area 4
2,53 Gb ; 309 items.

4.5.3.4. Area 5
858,8 Mb ; 91 items.

4.5.3.5. Wall building ceremony
98,8 Mb ; 21 items.

4.5.3.6. Team photography
30,7 Mb ; 10 items.

4.5.4. Figet
167 Mb ; 41 items.

5. Maps and plans

Contents: maps and plans produced for various publications, reports and communications within the ERC HornEast project.
305,7 Mb ; 21 items.
Consult the collection in Nakala: https://nakala.fr/collection/10.34847/nkl.a651pydn

5.1. Medieval inscriptions map
3,7 Mb ; 1 item.
Consult the data in Nakala: https://doi.org/10.34847/nkl.cc880eo8

5.2. Bilet and the wider world maps and plans
76,5 Mb ; 9 items.
Consult the datasets in Nakala: https://doi.org/10.34847/nkl.fcaa745w

5.3. 2019 Preliminary report maps and plans
63,4 Mb ; 8 items.
Consult the datasets in Nakala: https://doi.org/10.34847/nkl.08c23e6v
Under embargo until 31/12/2024.

6. Fields notebooks
Contents: researchers' field diaries.
51,4 Mb ; 6 items.
Consult the collection in Nakala: https://nakala.fr/collections/10.34847/nkl.045d0i65
Under embargo until 31/12/2025.

6.1. Julien Loiseau notebook
35,9 Mb ; 1 item.
Consult the data in Nakala: https://doi.org/10.34847/nkl.d7325x9q

6.2. Deresse Ayenachew notebooks
9,7 Mb ; 4 items.
Consult the datasets in Nakala: https://doi.org/10.34847/nkl.43ecwqq1

6.3. Simon Dorso notebook
5,8 Mb ; 1 item.
Consult the data in Nakala: https://doi.org/10.34847/nkl.fa0263t8

7. CNRS Images

Content: rushes, documentary and images. In October 2019, during the survey at Arra region (South Eastern Tigray, Ethiopia), the team was accompanied for several days by Nicolas Baker (CNRS Image), who produced a short documentary on the work deposited: "Ethiopia’s Puzzling Medieval Tombstones | CNRS Report", https://www.youtube.com/watch?v=gD9xeABBoxY&t=14s
https://www.youtube.com/watch?v=ztNe17SJKc
54,4 Gb ; 252 items.
Not uploaded.
8. Data management tools

Content: Data management plan (DMP), management tables and other tools for harmonizing project document production, project data and archive classification schemes.

61,3 Mb; 11 items.

Consult the collection in Nakala: https://nakala.fr/u/collections/10.34847/nkl.20d7mj99

Only the DMP (V1 and V2), the data and archives classification plan and a presentation of the project data during a workshop with the “Scripto” network of the national network of Houses of human sciences (Réseau national des Maisons des sciences de l’homme -RnMSH) had been deposit so far.

8.1. ERC HornEast DMP presentation

13,6 Mb; 1 item.

Consult the data in Nakala: https://doi.org/10.34847/nkl.ddf6a575

8.2. ERC HornEast Data Management Plan

3,7 Mb; 2 items.

Consult the datasets in Nakala: https://nakala.fr/10.34847/nkl.dafd82uj

8.3. ERC HornEast Archives and Data classification scheme

160 Kb; 2 items.

Consult the data in Nakala: https://nakala.fr/10.34847/nkl.42d1xfpg
Appendix 4: HornEast Project Archives classification scheme

Introduction

Reference

ERCHE/001-ERCHE/007

Description level
codes groups

Title

ERC COG HornEast project archives (2018-2022)

Dates

2018-2022

Producer

ERC HornEast

(LOISEAU Julien, CHEKROUN Amélie, DORSO Simon, GLEIZE Yves, MERCIER Elise, OLLIVIER David).

Material significance

2 linear meters.

Physical location


Entry

The archives are kept until the end of the project in the project researchers' office at the Institute for Research and Studies on the Arab and Muslim World (Institut de recherches et d’études sur le monde arabe et musulman – IREMAM, UMR 7310). They will be deposited in the Archives sector of the MMSH media library (UAR 3125) in 2024.

Access conditions

The archives are freely communicable in accordance with the Heritage Code (Code du Patrimoine, art. L.213-1 à L.213-3).

Terms of use

According to the rules of the reading room and the Archives sector of the MMSH media library.

Evaluation, sorting and eliminations

The classification of the archives did not proceed to any elimination. A sorting was carried out to remove the blank sheets (mainly stratigraphic unit sheets).

Producer history

The ERC HornEast project (Horn & Crescent. Connections, Mobility and Exchange between the Horn of Africa and the Middle East in the Middle Ages) is a Horizon 2020 research and innovation program of the European Union (as part of the grant agreement no. 726206). Started in 2017 and ending in 2023, the project aims to document the relationships between Christian societies in the Horn of Africa (Ethiopia, Nubia) and their Islamic environment at
local and regional scales (Egypt, Palestine, Arabian Peninsula), in order to better understand the modalities of the Islamization process at work in the region during the medieval millennium (7th – 15th century). It is composed of researchers in the humanities and social sciences and hosted by Aix-Marseille University.

**Content type**

The project archives are mainly from documents produced during archaeological excavation and field prospecting campaigns in 2018 and 2019. There are also several documents produced for scientific events of the project.

**Increase**

Archives fonds with growth perspective.

**Other finding aids**

**ERCHE/001**

Correspondances.

2018-2019

Exchange between the French Center for Ethiopian Studies (CFEE) and the Ethiopian Geospatial Information Agency (2018).


**ERCHE/002-ERCHE/005**

Field documentation.

2018-2019

Documentation resulting from prospecting and archaeological excavations at the medieval Islamic site of Bilet, in Kwiḥa (South-East Tigray, Ethiopia).

Related documents:

Archaeological Data Collection (10.78 GB; 2025 items):
https://nakala.fr/collection/10.34847/nkl.dae98ts7

Collection of photographs taken during the excavation campaigns (47.55 GB; 6073 items):
https://nakala.fr/collection/10.34847/nkl.b7d3s40q

Publications of survey and excavation reports: https://doi.org/10.34847/nkl.ca960g95

**ERCHE/002**

Stampings of stelae.

2018

Stelae QR001, B01, B12, B13, B16, B19, B20, B24.

Physical description: 300 g canson paper sheets in A4, A2, A1 formats.

**ERCHE/003-ERCHE/005**

Archaeological excavations and survey.

2018-2019

**ERCHE/003**

Stratigraphic unit sheets, fact sheets, sketches, listing.

2018-2019

Area 4 (2019).
Area 5 (2019).
Physical Description: A4 size paper sheets.

**ERCHE/004**
Drawings (Minutes).

2018-2019

Drawings of pottery and archaeological artefacts, topographical sketches.
Bilet, Area 1 (2018).
Bilet, Area 2 (2019).
Physical Description: A3 size paper and tracing sheets.

**ERCHE/005**
Aerial photographs.

2018-2019

Excavations and prospecting at Kwiña(2018).
Surveys in the Arra region (Adi Akeyti Maryam, Habera, Mayda Zaylegat, Chellekot, Rehadem Giyorgis, May Haydi Maryam, Manchelfo Mikael, Kokele (2019).
Physical Description: A3 size paper and tracing sheets.

**ERCHE/006-ERCHE/007**
Scientific events.

2018-2021

**ERCHE/006**
Posters.

2018-2022

Posters of conferences and study days of the project.

**ERCHE/007**
Exhibition panels.

2021

Panels of the exhibition "In the footsteps of the past of Tigray (Ethiopia): an archeology of medieval Islam in a Christian country", retracing two years of archaeological campaigns in Ethiopia in 2018 and 2019, presented as part of the Festival of Science on October 8 and 9 and was visited throughout October 2021.
Related documents:
Exhibition data collection (856.9 MB; 71 items):
https://nakala.fr/10.34847/nkl.a95c732i