



THREE-YEAR ACTIVITY PLAN 2019-2020

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I. REMINDER OF SCIENTIFIC AND TERRITORIAL ISSUES

I.1 - The ambitions of the UNESCO « Chauvet Pont d'Arc » approach

By agreements dated June 14, 2005 and July 15, 2008, the French State, the Rhône-Alpes Region and the Ardèche Department have defined a common ambition within the Chauvet Cave Great Project.

They have thus made of the UNESCO inscription of the Chauvet Cave a world heritage site, the creation of its replica and various contractual procedures for supporting projects, the levers of a dynamic development and planning likely to raise the skills of local resources, to enhance their expertise and strengthen the attractiveness and influence of the territory.

The current State Region Plan Contract on the one hand, the UNESCO management plan on the other hand, both provide for the deepening of the dynamics initiated around the cave and its replica, seeking to tighten ties between the territory, higher education and research, in particular by the creation of a resource center on underground environments, nonexistent on French territory and likely to constitute the ferment of a more global approach of these environments.

I.2 - The current barriers to knowledge of the underground environment

The underground environment is, in fact, unlike other environments such as the mountains or the coast, still rarely approached in France as an area on its own in terms of environmental, economic or territorial issues or problems. The fields of research are numerous but often apprehend it in a disciplinary and segmented way, being interested in its characteristics (morphological, landscape, societal, ...), its resources (waters, landscape, geo-heritage, tourism, ..), its natural archives

(paleogeographic, climatic, environmental, ...), its (pre) historic heritage (archaeological, paleontological, sacred, ...), operating with a relative seal of acquisition and data processing.

However, the construction of knowledge by aggregation (multidisciplinary) is not - or no longer - operational in order to account for past, current and future dynamics. The current challenges lie in understanding the dynamics and evolutions of underground environments, whether by a spatial focal point (massif/ cave/ wall/ micro-organization) and/ or temporal (response time, reaction time, action time, feedback time) and this in order to overcome the current barriers of knowledge :

- The underground environment is a complex one whose functioning and evolution depend on the nature of its interactions with the external environment and whose internal hygro-bio-climatic conditions themselves result from the past history of the karst system.
- It requires thinking and acquiring knowledge in terms of dynamics, reactions to environmental characteristics (external and internal), trajectories and evolutions in the observation / retro-observation / modeling triptych.

- The slight decline that we have in underground geo-ecosystems (as evidenced for example by the conservation difficulties encountered by the Lascaux cave) nevertheless makes it possible to note that the answers are most often based on new knowledge from integrated approaches to underground environment.
- How to understand the effects of climate change and global change in the availability and quality of groundwater resources? in maintaining the integrity of "natural, cultural, touristic" goods, ...?

I.3 - Territorial resources to assert

France, in view of the wealth and diversity of its underground environments and its scientific activity, has developed internationally recognized expertise in the study, conservation and enhancement of its karst environments and the natural or cultural heritages that they harbor. However, for the moment, it does not have a structure to bring together existing expertise in order to build a more integrated, interdisciplinary approach.

The Auvergne Rhône Alpes Region, and more specifically the Ardèche, have potential that could respond to such a challenge by relying on resources, expertise and know-how recognized in fields and according to various typologies :

- natural in first place with the wealth and diversity of the karst environments present in the Ardèche but also in the surrounding territories in Drôme, Gard, Lozère, Hérault, Isère ..., with very many cavities, the presence of remarkable landscapes (gorges of Ardèche, Bois de Païolive, ...), archaeological sites with rich potential and numerous enhancement areas supporting scientific mediation, training and research,
- caving with the establishment of federal sports authorities (FFS) in Lyon, the dynamism of the Ardèche committee, the presence of CREPS Auvergne Rhône Alpes in Vallon Pont d'Arc, the only organization authorized at national level to issue State diplomas and Specialized State Diplomas, which also welcome the national resource center for outdoor sports,
- tourism and heritage with the Ardèche settlements of the National Association of Operators of Cavities Furnished for Tourism (ANECAT), regional of the National Syndicate of Professionals of Speleology and Canyoning (SNPSC), the presence of many natural or artificial touristic caves among the most frequented (Chauvet 2, Aven d'Orgnac, Caves of Choranche, ...), for some instrumented and therefore able to serve as laboratory caves, the archaeological activities of the City of Prehistory of Orgnac l'Aven,
- environmental with the work carried out in particular by the Conservatory of Natural Areas Rhône-Alpes, the Departmental Committee of Speleology of the Ardèche, the national natural reserves of the Gorges of the Ardèche or the Hauts de Chartreuse

- scientific more particularly around the EDYTEM research laboratory of the University of Savoie Mont-Blanc, the Chauvet Cave research team or activities carried out within the framework of the ZABR (Zone Atelier du Bassin du Rhône) around rivers Cévennes and a significant pool of researchers in different Lyon, Grenoble, Alsace, Aix and Montpellier research laboratories,
- territorial with the experience of the Chauvet Cave Great Project which constitutes an international showcase or even the involvement of the Grenoble NGO Tétraktys in terms of decentralized cooperation around local development issues based on the tourist development of natural heritages.

II. THE IFREEMIS PROJECT

II.1 - The ambitions of the project

The IFREEMIS project for the creation on a national scale of a resource center on underground environments and karst environments, is therefore part of 4 complementary ambitions :

- that of carrying a collective ambition of development likely to enhance French expertise and to strengthen the attractiveness and influence of the territory from heritage wealth in terms of karst and underground landscapes,
- that of going beyond the often segmented approaches to the underground environment by promoting the creation of links between the various fields of knowledge or expertise, in order to improve understanding of the underground environment, its protection and its valorisation,
- that of promoting exchanges and collaborations between the various actors concerned (academics & researchers, managers of cavities or protected natural areas, local communities, users of underground environments, resource managers, training organizations, etc...) on the regional and national territory, and within the framework of European networks,
- that of registering as a center of international expertise in order to support the many promoters of sustainable tourism development projects of natural or cultural heritage underground and karst who find it difficult to find the resources to support them in the definition and assembly of their project.

II.2 - The mobilization of actors within a foreshadowing association

A foreshadowing association was formed in July 2018. To date, it has nearly 25 members bringing together different categories of actors :

- training and research establishments
- stakeholders in underground tourism, conservation and enhancement of heritage natural and cultural underground and karst
- managers of protected natural areas
- operators in sports
- local authorities or their establishments
- companies or actors in the economic sectors concerned by the development of underground environments

II.3 - Missions and organization of the approach

The association has set itself the goal of working towards the creation of a benchmark organization in the underground environment, operating on the principle of an expertise platform, with the following missions :

- an integrator role, mobilizing partners around multidisciplinary joint projects in the fields of improving knowledge, training and support for project leaders,
- a role of facilitator of exchange times, promoting the sharing of knowledge and experience, the spreading of innovations, the constitution of the network at regional, national, international levels,
- a facilitating role by providing tools to support activities contributing to the above-mentioned challenges (seminar room, reception and work premises, digital tools, access to karst study sites or to school or laboratory cavities, ...

In order to structure the process of foreshadowing the project and to organize concertation within the coalition of actors, 4 thematic working committees were set up before ensuring the collective steering of the projects :

- « higher education, research, resources ” around the challenges of improving knowledge of underground environments and karst environments
- “underground environments and protected natural spaces” around the challenges of conservation and preservation of natural areas and heritage
- « training” around the challenges of upgrading the skills of those involved in the management and development of underground environments

- « underground tourism" around the issues of promotion and mediation on the one hand, and on the other hand, of support for project leaders via the constitution of an expertise platform.

III. THE THREE-YEAR ACTIVITY PROJECT 2019-2020

III.1 - A three-year project : what for ?

A roadmap. IFREEMIS is a project under construction based on a collective appropriation of the stakes, on a mobilization around a common ambition, on an iterative construction of the levers of action which make it possible to give shape, on the experimentation of a collective multi-stakeholder work within the platform.

This project therefore aims to provide a framework both for the concertation process around priority and achievable objectives, as well as for the foreshadowing actions which would be undertaken, making it possible to identify the human, material and financial means whose mobilization would be necessary for their implementation.

A base. Ambitious and probably long-term, the IFREEMIS project will probably require time to settle in and be recognized on the national and international scales to which it aims to develop. It is therefore a matter of, through a first foreshadowing phase, building the foundation of the project from the emergence of the platforms of actors concerned and the implementation of first tools for the development of collaborations.

A support for mobilizing partners. Vast, exploring various dimensions, the foreshadowing approach by its multiple contours, does not always lend itself to an easy presentation to its potential partners. The formalization of a three-year project therefore aims to contribute to its better understanding, in order to enrich the networks of actors and to solicit the institutional and financial partners essential to its development.

III.2 - Principles of action and values of the three-year project

The originality of the IFREEMIS project probably consists in :

- **Mobilizing the different categories of actors concerned by the knowledge, conservation, protection and enhancement of underground environments** and gradually bring them to conceive joint projects making fruitful the exchanges of practices, know-how. Bringing together such different categories of actors to build together, involves an important work of animation and a participative management method requiring a certain time of gestation of projects, essential for the collective appropriation of the approach.

Several working times and methods are thus considered :

- internally, the work in committees within the framework of the previously stated system,
- annual times of meetings, debates, such as within IFREEMIS the organization of an annual working seminar
- beyond IFREEMIS, the organization of technical days, studies or even events likely to mobilize the networks of actors concerned. Thus, it is planned for the period 2019 - 2021 :
 - to bring together in the fall of 2019 the various French research laboratories on the underground environment, a meeting likely to be renewed on an annual basis,
 - to organize from 2020 an annual colloquium / symposium event with the organization in June 2020 of an IUCN pre-congress colloquium on taking into account issues related to the underground environment in conservation and nature policies and measures, participation in July 2021 in the UIS world congress organized in Lyon, and the preparation for 2022 of an international conference on mediation issues.
- **Working simultaneously at different territorial scales** and in a complementary manner, depending on the foreshadowing actions considered :
 - on the territorial scale when it comes, for example, to experiment from 2019/2020 a hosting offer for training and research organizations, a prelude to a hotel with larger projects,
 - on the national scale considered in particular by soliciting the heads of national networks of managers of protected natural areas around the methodology of documentation and evaluation of the challenges of cavities, or the mobilization of research structures around a white paper by scientific knowledge of the underground environment,
 - on an international scale through the Netcaves project or even the establishment of an expertise platform
- **Tackling the challenges in a global manner** in order to improve knowledge, protection and enhancement by working in a complementary manner in the fields of research, training of stakeholders and support for project leaders, seeking complementarity action levers
- **Promoting a certain number of values, especially concerning :**
 - the mediation of the ambitions to protect natural environments, ecosystems and heritage and cultural of karst environments,

- the sustainable development of the territories and the mobilization, for this purpose, of the actors concerned about the challenges of preservation and enhancement of these environments and heritages,
- the sharing, pooling of knowledge, good practices and know-how in order to stimulate a virtuous collaborative dynamic to improve knowledge, management methods and mediation tools.

III.2 - The main guidelines of the 2019 - 2021 three-year project

□ Mobilizing operators in scientific research and foreshadow the creation of a project hotel

- Launching of a bottom-up and iterative approach to building the IFREEMIS scientific project. A first call for expressions of interest was launched in the fall of 2017, to which around twenty French research laboratories concerned with the study of the underground environment answered.

It is planned to relaunch the mobilization of research stakeholders around the proposal to develop a white paper on current and future issues relating to the underground environment :

- the state of knowledge and the way in which the underground environment is approached
- obstacles that scientific research is facing today
- tracks of interdisciplinary collaborations capable of questioning the dynamics and interactions that only a systemic approach can grasp and which would constitute IFREEMIS 'roadmap for the following years.

The work would be organized around cross-disciplinary themes (knowledge of the environment, management of resources, conservation, entry into the human sciences), giving rise to a declaration of intention and interest to animate or participate in the process. This call for participation would be launched in the 2nd quarter of 2019.

It would be materialized by the constitution of a scientific committee overseeing the process and by the organization over 2 days in November 2019 of a meeting of the various research structures concerned, a meeting which would have the vocation of being reiterated then, on a annual rythm.

The ambition is from 2020 to extend the process within the framework of a research group labeled by the CNRS and to then be able to subscribe to the calls for research projects launched by the National Research Agency.

- **Experimentation on the territory of an integrated welcoming offer for training and research organizations and support reflection on the creation of a project hotel.**

It is planned to experiment from the 2019/2020 academic year a turnkey welcoming offer, on the Ardèche territory, for training and research activities, primarily in the fields of environmental sciences, by taking into account the expression of needs updated by the first market study carried out in 2018.

This welcoming offer would enable to :

- To better position the Ardèche as a destination for field activities for research and training in the fields of geosciences and to enhance the wealth and diversity of natural sites and local actors present on the territory,
- To test life-size and thus better measure the volume of activity that could be generated by this niche, admittedly a niche, but a vector of notoriety and attractiveness,
- To work on the needs that the project hotel aims to meet, and to install IFREEMIS in the landscape of training and research organizations, beyond those that have answered or are going to respond to calls for participation and events of interest.

This offer would be based on :

- an internship with a professional bachelor student for its construction phase (in progress, first semester 2019) and potentially involving a volunteer in the context of civic service from the second semester 2019,
- the IFREEMIS network concerning access to study sites but also to complete the range of services offered beyond accommodation (loan of materials, on-site support, reception within instrumented cavities, ...)
- depending on the management mode of the service chosen, potentially the know-how, technical nature and logistics of "Passerelles Patrimoines" (Heritage Links) for the setting up of « à la carte » group stays, their marketing via local receptive agencies,
- the possibility of support and exchanges with the structures for the management and enhancement of protected natural sites on the territory and having resources in terms of knowledge of the environment, preservation of environments and biodiversity, enhancement of sites and mediation of costumes.

The content of the offer, the request processing process, the service management mode and the communication are under consideration and should be the subject of proposals during the second quarter of 2019.

The IFREEMIS project also includes the creation of a seminar center (under the supervision of the SMERGC) and a project hotel.

The latter is an interdisciplinary structure which aims to : attract researchers and/or teams of national or international renown, participate in interdisciplinary training and boost research

projects called contact with the field, launch calls for projects in partnership with research or teaching centers, communities, economic actors.

It is also a welcoming structure "a third place, outside the walls and academic constraints" having a role to play as a place of exchange and sharing of experiences between researchers, place of legibility of the specificities of the underground environment with institutional partners, a place of exchange with other actors in the underground environment, a place of training and welcoming for training and research activities.

The contracting authority for the project hotel is not intended to be carried by the association but rather by a local authority which would own the equipment. However, the association, throughout the project preparation process, will be able to contribute, alongside public authorities, to the definition of needs, to the reflection of the economic model of the establishment and the definition of its technical characteristics, to the mobilization of the networks of actors concerned regarding the offer it could constitute.

□ Defining a common methodology for documenting and evaluating the challenges of karst sets and cavities

Initiated in recent years as part of a joint work associating the Departmental Committee of Speleology of the Ardèche, the National Conservatory of Natural Areas Rhône-Alpes and the Syndicate of Management of the Ardèche Gorges, the construction project of " a common methodology for describing karst systems and cavities starts from the observation of the absence of a common "standardized" methodology preventing the homogeneous production of descriptive data on cavities and karst sectors, causing great difficulty in prioritizing the challenges of the systems karsts. Ultimately, the objectives are triple :

- improve knowledge of underground and karst environments by creating a national observatory for underground environments, the supply of which would be based on a standardized data collection protocol,
- give the possibility for managers of protected natural areas in karst environments to build conservation states from which they could draw up their management plans,
- initiate work to prioritize issues and risks, in particular with the French Biodiversity Agency, work likely to be able to support the development of public policies in these areas.

Over the 2019/2021 period, IFREEMIS could extend the experimentation process undertaken on the territory (around thirty cavities concerned), by :

- the mobilization (first semester 2019) of the manager heads of networks of protected natural areas and of institutions likely to be interested in and supporting the approach

- the search for a scientific validation of the methodology built by the constitution of an expert committee meeting over the period 2019-2021 on a half-annual basis
 - the launch of a reflection (feasibility study) on the creation of an online data entry tool, accompanied by a simplified intelligence protocol, the creation of a mobile data entry application allowing its deployment within the framework of a participatory science approach, the setting up of a training session on observation questions, as well as the construction of a database starting with an observatory on underground environments
 - the testing of the validated methodology on a larger scale, in two test territories in which IFREEMIS could be appointed.
- Working to better take into account the challenges of the underground environment within nature protection policies and measures**

The underground environment is only too rarely taken into account in the definition and implementation of nature conservation and protection policies despite the specific challenges, its geo and biodiversity, ecosystems and heritage it shelters, its vulnerability to anthropogenic activities.

Taking advantage of the opportunity represented by the organization in France in 2020 and then in 2021 of two large-scale international gatherings (IUCN world congress in Marseille in June 2020, UIS world congress in Lyon in July 2021), it is proposed that IFREEMIS can mobilize and militate in favor of better taking into account the challenges of the underground environment within nature protection policies and measures by mobilizing the different networks of actors to which its members belong.

Thus, over the period considered, the association could be the architect of several initiatives :

- the development (in progress) and international mobilization around a draft resolution presented at the IUCN World Congress,
- the organization in pre-congress, in June 2020, of an international conference testifying to these issues and to initiatives taken on an international scale to meet the challenges they contain and the participation straight afterward the events organized within the framework of the Congress,
- the pursuit, beyond the work of mobilizing networks and raising awareness among public authorities, taking advantage of the various national and international opportunities that may arise (conferences, national or international meetings relating to geodiversity and biodiversity, ...).

Valuing know-how within an expertise platform

The asset of IFREEMIS is to be able to bring together a wide range of expertise capable of comprehending in a global manner the challenges of preservation and enhancement of underground environments and its natural and cultural heritages. The project therefore consists in formalizing this coalition of expertise, testing and animating this capacity for collective work in the context of either projects to build training offers or support missions for project leaders.

Through a service offering identifying the expertise that can be mobilized, the aim will be to enrich the other components of the IFREEMIS project, to contribute to the reputation of the platform, to enhance French expertise, particularly internationally, and to provide IFREEMIS additional resources to finance its activities.

The formalization of the service offer will be one of the priorities for 2019 and may be entrusted, subject to confirmation of the funding expected, to the project manager who would be recruited.

Monitoring work on support missions will also be implemented over the coming year with the support of member organizations of the association, as well as internally, work to define operating procedures in terms of operation and financing within the platform.

Experienced since May 2018 as part of the 18-month mission to support the municipality of Saint Remèze (Ardèche) in the development of a new project to enhance and exploit tourism at the Madeleine site, the platform will also be able to draw on experiences such as the cooperation project considered with the province of Khammouane over the period 2019/2002 and for which IFREEMIS, as a partner, would be responsible for coordinating the various expertises.

Linking needs and training offer

The training offer, like the approaches and actors of underground environments remains relatively little supplied and segmented between university establishments, sports federations, initial training establishments, training establishment for engineers or training modules initiated by professional organizations. Few are the links between the public, the experiences between the different offers.

The ambition of IFREEMIS is therefore to allow the expression of training needs, to bring them together in order to favor the construction of adapted responses, complementary to the existing offer, within the network of training organizations members of the platform.

- **Setting up a catalog of the training offer.** Firstly, in 2019, the objective is to build a catalog of the training offered by the members of the IFREEMIS platform, whether it is a diploma or a thematic, initial or continuous, catalog allowing to give visibility of the existing. The catalog could be enriched if necessary by the inventory carried out in 2013/2014 by the University of Savoie Mont Blanc.
- **Identifying training needs.** The second stage (2019/2020) will consist in completing the identification of training needs, thus completing the work undertaken on the one hand by

ANECAT with its members, on the other hand by the FFS in connection with the SNPSC and the National Pole of Nature Sports Resources. Investigative work carried out by a volunteer as part of a civic service could be conducted for this purpose.

- **Experimenting with a complementary offer.** At the same time, in 2020/2021, the objective will be to experiment with two additional training modules:
 - one on the management of underground environments within natural areas for the benefit of managers of protected natural areas and public authorities,
 - the other on the mediation of underground environments intended for guides who evolve into natural caves or arranged for tourism.

The construction of these two modules within the training commission launched in the second quarter of 2019 will be accompanied by a reflection on the economic model of the offer and the conditions for pooling within the platform, the necessary engineering to implement it and inform the likely public to be interested.

- **Testing new approaches.** Finally the Netcaves project carried under the aegis of IFREEMIS by the Grenoble-Alpes University, in partnership with the association IFREEMIS, the universities of Bologna and Almeria and the national associations (France, Italy and Spain) of tourist caves operators will aim, as part of a three-year European cooperation program (2019 - 2022), to :
 - work on improving mediation practices in tourist caves, and training guides (with the aim of helping to make them less vulnerable),
 - capitalize on the know-how identified at European level from an inventory of practices in the different countries, then at the end of the project (1st semester 2022) of a spreading event (of symposium type),
 - train in new mediation methods that better integrate the use of digital technologies based on the concept of "educational training cave" which would be used in the context of the project,
 - set up both self-assessment and online training (MOOC) tools.

This project, if selected under the Erasmus + program, would gradually mobilize

IFREEMIS over the 2019-2022 period, to reach approximately one third of *ETP*, with European funding, the last year, particularly around the challenges of construction of "a European network of actors in mediation in the underground environment.

- **Continuing the structuring of the IFREEMIS platform and work for its recognition by institutional partners**

One of the challenges for IFREEMIS in this period of foreshadowing and operational launch will also be to continue :

- the committed work of internal structuring of the functioning of the platform (definition of internal operating processes, work on the legal, regulatory, financial framework of the actions implemented, ...),
- promotion and communication actions on the project, in particular the establishment of the website and the creation of the communication supports considered when the communication plan was adopted in mid-2018,
- the awareness-raising initiatives of institutional partners so that they can accompany and financially support the development of the project and the deployment of planned foreshadowing actions, which induces the involvement of the association's administrators, its partners and the project manager responsible to support the association.

It goes without saying that the actions planned within this three-year project of activities can only be genuinely and progressively launched once the funding necessary for their implementation on the one hand and the engineering of the project they underlie on the other hand could have been combined.