Opening of the call
03/03/2010

GLOBAL ENVIRONMENTAL CHANGES AND SOCIETIES PROGRAMME

GEC&S

2010 Edition
(English draft v0.9)

Call Deadline
***13:00PM* on May 18th, 2010**

Web page dedicated to the call for proposals
http://www.agence-nationale-recherche.fr/

KEY WORDS

Joint action, adaptation, agriculture and fisheries, retrospective and prospective analysis, multi-scale approaches in time and space, multi-factor and multi-sector approaches greenhouse gas attenuation, environmental goods and services, functional biodiversity, climate change, global change, environmental crises, marine and continental ecosystems, environmental policy assessment, marine and continental spatial management, governance, indicators, institutions, interactions between climate, ecosystems, natural resources and health, mitigation, lifestyles, standards and regulations, social perceptions and behaviour, large-scale pollution, pressures of human origin, regionalisation, resilience, soil and water resources, retroaction, Earth system sciences, food security, socio-economic systems, environmental information systems, vulnerability

IMPORTANT DATES

CALL DEADLINE

Research proposals must be submitted on the electronic submission web site before the following deadline:

May 18th, 2010 at 13h00 (Paris local time - **GMT+1**)

(see § 5 « Guidelines for proposal submission»)

PAPER SUBMISSION FORM

A printed version of submission *(document de soumission)* form signed by all partners must be sent by recommended letter (return receipt requested) and postmarked no later than:

24:00 PM on June 18th, 2010,
to the following postal address:
ANR – Programme CEP&S
212 rue de Bercy
75012 Paris

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It is important to read carefully the present document in its entirety as well as the regulations pertaining to the modes of funding allocation followed by the ANR before submitting a research proposal

SOMMAIRE

1 CONTEXT AND OBJECTIVES FOR THE CALL FOR PROPOSALS

1.1 CONTEXT

It is now a well-established fact that human activities are causing fundamental changes in the environment at global scale. These environmental problems are often thought of as a sum of independent phenomena: climate change, changing biodiversity, soil degradation, intensive water use, chemical pollution, and so on. In fact, the processes at work in environmental changes are profoundly interlinked by our planet's outer envelope (air, water and soils) and by overall trends in human activity (patterns of development, population growth, globalised trade and changing technology and human behaviour). Societal changes and increasing social inequality have a great many impacts in the areas of food, migration and health, but they also cause environmental changes, which, in turn, can affect human activities.

Environmental changes are closely **interlinked**, from the smallest scales in time and space where changes have become **perceptible** within a few generations, to the **scale of the entire planet**, hence the generic term "*Global Environmental Changes*"[1] (GEC). More specifically, these changes cover the following trends, which are occurring in conjunction:

- Increasing emissions of **greenhouse gases**, **diffuse pollution** and **nutrients**, associated with changes in their cycles in the atmosphere, oceans, soils and land and freshwater or marine ecosystems;
- Changing **climatic regimes and extreme climate events** in atmospheric and ocean environments (temperature, salinity, sunlight, precipitation, drought, winds, currents);
- **Melting ice** and its impacts on **hydrology** and **sea level**;
- Large-scale environmental pressures on **natural resources** such as **water** and on **air** and **soil** quality, arising from changes in modern societies;
- Human pressures on marine and terrestrial **living resources**;
- Changes in **large-scale biodiversity functions**, stemming from changes in biodiversity itself.

All these large-scale environmental changes are affected by the development of human societies, and affect these societies in turn. Therefore, **combined attenuation of the different GECs and the adaptation of societies to their impacts** have become a **crucial issue** for societies and a major scientific challenge.

It is essential that the **sciences**, in the broadest sense, should work together around their different **disciplinary components** and strengthen their **cooperation, between disciplines and even internationally**, in order to provide the necessary understanding to address present and future challenges which raise sometimes conflicting issues: short-term

[1] Cf. definitions in Annex 2 - Glossary

development and equity, lifestyles and use conflicts, resource use and preservation of the environment. In this context, there is a fundamental need to bring the **Social Sciences and Humanities (SSH)** together with the **Earth System, Materials and Life Sciences** if **progress** is to be made the decades to come in bringing fresh perspectives to bear in scientific inquiry and objects of research relating to the concept of Global Sustainability Research[2], developed by ICSU[3] and ISSC[4].

Some of these issues were investigated in depth in 2009 during two Prospective Workshops (Ateliers de Réflexion Prospective - ARP) organised by the ANR and focusing respectively on Global Environmental Changes (**CEP**, http://www.academie-sciences.fr/arpcep) and adaptation of agriculture and managed ecosystems to climate change (**ADAGE**, https://www1.clermont.inra.fr/adage).

1.2 OBJECTIVES OF THE PROGRAMME

The goal of the "GLOBAL ENVIRONMENTAL CHANGES AND SOCIETIES" programme (GEC&S) is to support both academic research projects and more targeted projects designed to provide public policy support as well as tools and services for businesses. The emphasis is on projects of proven usefulness in terms of understanding the processes underlying GECs and supporting better governance of these environmental issues.

The main objectives of the GEC&S programme are:

1. To mobilise, develop and integrate French research capabilities around the issues of GEC impacts, adaptation[5] and mitigation[6] (over and above climate), with a view to the sustainable development of societies;
2. To strengthen French capabilities in analyses of the social and human dimensions of vulnerability and the adaptability of societies to global environmental changes;
3. To foster projects involving two or more disciplines working on common objects of research;
4. To bring French research up to speed in the design and implementation of multi-disciplinary information systems dedicated to global environmental changes.
5. To develop specific and reliable databases allowing interchanges of heterogeneous information, and simulation tools and indicators for use at global and regional scales;
6. To contribute to the national research effort on "Global Sustainability Research"[7] themes addressed in international programmes, particularly **ESSP**[8] and **IHDP**.

[2] See http://www.icsu-visioning.org, where GSR is outlined in terms of 5 main challenges: improving prediction of impacts on societies, developing observation, information and communication systems, understanding risk-exposure situations that may cause breakdown, analysing the role of institutions and lifestyles and developing technological and social innovation.
[3] International Council for Science, http://www.icsu.org
[4] International Social Science Council, http://www.unesco.org/ngo/issc
[5] Cf. definitions in Annex 2 - Glossary
[6] Cf. definitions in Annexe 2 - Glossary

A particular goal is to develop both retrospective[9] and prospective research on changing trends in different productive, economic, societal and ecological systems, etc., which interact under the constraints of large-scale environmental changes.

Regional[10] challenges, appearing where global and local problems intersect, need in-depth investigation to contribute to better management and governance of impacts and responsibilities, especially in:

- vulnerable areas, meaning those exposed to severe GEC impacts but with little capacity for adaptation, such as Mediterranean and subtropical areas and mountainous, polar, coastal and island zones;
- potential mitigation areas, meaning those with substantial environmental responsibilities and high potential capacity for action, such as large urbanised areas in France and other post-industrial (or emerging) countries.

Variability and evolving trends on the intra- to inter-decadal scale should be given priority despite the inherent difficulties, while ensuring sufficient interaction with shorter (seasonal and less) or longer timescales (100 years and more).

Research results are expected in particular on:

- Assessments of the global environmental changes under way and action undertaken to address them, at different scales and for different system compartments (ecosystems and biodiversity, natural resources uses and changes, land uses, emissions from human sources, health impacts, etc.);
- Design, development and assessments of multidisciplinary tools for forecasts, projections and indicators, particularly of *vulnerability*[11] and *resilience*[12] for the use of the scientific community or public bodies, particularly to support the development of French or international environmental policies;
- Analyses of the processes of governance of global environmental changes at "regional" and local scales.

The GEC&S programme also aims to support projects in connection with the European **GMES**[13], programme and to consolidate French contributions to this programme, from fundamental research to innovation for targeted environmental services that meet the needs of end users.

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[7] http://www.icsu-visioning.org
[8] See Earth System Science Partnership (www.essp.org) and International Human Dimensions Programme on Global Environmental Change (www.ihdp.unu.edu)
[9] Over the previous century or millennium (at most)
[10] Typically a large region or basin covering a few hundred to a few thousand km²
[11] Cf. definitions in Annex 2 - Glossary
[12] Cf. definitions in Annex 2 - Glossary
[13] Global Monitoring for Environment and Security, http://ec.europa.eu/gmes, an EU initiative to implement operational and enduring environmental services that meet citizens' needs.

GEC&S is an ANR programme that cuts across[14] the various topics addressed as well as the scientific disciplines concerned. GEC&S therefore interfaces with other ANR programmes (non-thematic programmes, "Sustainable Cities", Contaminants, Ecosystems and Health, SYSTERRA, ECOTECH and the ERA-Net BIODIVERSA and SEAS-ERA).

1.3 PRIORITIES OF THE 2010 CALL FOR PROPOSALS

Four thematic areas have been selected for 2010 edition of GEC&S. These draw in particular on recent prospective discussions at international (ICSU and ISSC) and national levels (ARP CEP, ARP ADAGE, CNRS/INEE).

In all of these areas, the programme aims to draw on all scientific disciplines in the planetary and life sciences and their interactions, but also requires a high level of involvement from SSH disciplines[15] working on the multifactor issues associated with GECs. SSH disciplines will be required to shed light on this thematic area through projects specific to their approaches and capable of bringing fresh perspectives to scientific inquiry. This call for projects therefore intends to foster:

- Disciplinary projects that draw on methodological approaches developed by the SSH or planetary and life sciences disciplines,
- Interdisciplinary projects that strengthen interactions between SSH and the planetary and life sciences.

Generally speaking, interdisciplinary projects may equally involve exploratory phases working on emerging ideas and maturation phases for systems or integrated research projects, with project sizes varying accordingly. The degree of integration in collaborative approaches within projects may also vary: pluridisciplinary > multidisciplinary > interdisciplinary > transdisciplinary (cf. JP Vanderlinden[16]).

The programme is open to consortiums of different public research laboratories, but also to consortiums involving partnerships with local authorities, public institutions responsible for collecting and managing data, companies (consultancies, service management, insurance companies, etc.), and NGOs, amongst others.
The programme also aims to strengthen links with partners in the South, either through direct support or through ad-hoc bilateral cooperation.

[14] Involving four departments: Sustainable Energy and Environment, Ecosystems and Sustainable Development, Biology – Health, and Social Sciences and Humanities.
[15] For example: demographics, economics, law, geography, history, political sciences, socio-anthropology, etc.
[16] i) Pluridisciplinarity refers to coexistence between several disciplines within the same unit, but without organised exchanges; ii) multidisciplinarity brings several distinct disciplines together around a common object of study, but with each discipline using its own rules, methods and tools; iii) interdisciplinarity refers to exchanges of concepts, rules, methods and tools between different disciplines, in order to address the same subject, and tends towards an overall understanding of that subject. iv) Transdisciplinarity is a process of integration aiming to work beyond disciplinary boundaries with the aim of understanding the complexity of the world. cf. *http://www.gisclimat.fr/actualite/ramons-production-dune-bibliographie-annotee-sur-le-concept-dinterdisciplinarite*

The 2010 call for GEC&S projects is open to international consortiums (cf. § 4.1). It should be noted that an agreement has been signed with Brazilian foundations in the States of Sao Paulo (FAPESP) and Pernambuco (FACEPE) to finance Franco-Brazilian projects. Details are given in Annex 3 of this call for projects.

2 THEMATIC AREAS

2.1 THEMATIC AREA 1: GEC IN SOCIETIES AND TERRITORIES – VULNERABILITY, ADAPTATION AND MITIGATION

The aim here is to jointly explore the areas of vulnerability and risk arising from global environmental changes and the evolving social, economic, cultural and political context, the conditions enabling societies to adapt to the new constraints and their potential for mitigation.

Main lines of inquiry

- What capacities do human societies have to meet the challenges raised by GECs (vulnerability, adaptation and mitigation), taking into account the great variety of players, intra- and inter-generational issues and other constraints relating in particular to patterns of development and geopolitical questions?
- For the communities most vulnerable to GECs, what strategies are relevant for avoidance, adaptation and transformation, and possibly for opportunities to tackle potential breakdown?

Main approaches to be developed

- Disciplinary and interdisciplinary approaches (in the social sciences and humanities)[17], and between the social sciences and humanities and other sciences;
- Collection and coupling of data, modelling, quantitative and qualitative approaches;
- Building up the dynamics of international research[18]

- *Knowledge of populations and zones exposed to risks:*
    - Analyses of determining factors (socio-economic, demographic, cultural, political, geopolitical, legal, spatial, environmental, in terms of patterns of development) and all of their various interactions with GECs;

[17] For example: anthropology, climatology, demography, law, ecology, economics, geography, management, history, philosophy, psychology, political science, sociology, etc

[18] For example in ICSU programmes: IHDP / Earth System Governance (ESG), Industrial Transformation (IT), Urbanization and Global Environmental Change (UGEC), Global Environmental Change and Human Security (GECHS), Integrated Risk Governance (IRG); IHDP-IGBP / Global Land Project (GLP) et Land–Ocean Interactions in the coastal zone (LOICZ); ESSP-IHDP / Global Carbon Project (GCP)

- Analyses of the factors that lessen or increase vulnerability and adaptation; identification of slowly evolving processes and potential crisis situations;
- Analyses of the properties of systems studied (resistance, resilience, stability) in order to determine adaptation/mitigation policies and their specific characteristics (viable, optimal, robust).

- *Adaptation of societies and mitigation of GECs :*
  - Retrospective and historical studies, comparative analyses between geographic and cultural areas of the conditions allowing societies to adapt to environmental changes;
  - Analysis of perceptions, representations, beliefs and behaviour (including lifestyles and consumption patterns) among the different players, and of their determinants;
  - Analyses of the role and dynamics of lifestyles and development, in terms of GEC mitigation or exacerbation;
  - Analyses of methods used to develop and implement measurements and standards for mitigation and adaptation;
  - Development of multi-sectoral, multi-territory and multi-cultural analyses, relevant indicators and tools for representing the complexity of GECs and associated policies (integrated modelling, retrospective and prospective analyses, etc.) in order to distinguish win-win strategies from conflicting strategies;
  - Assessments of the relevance of development and land use strategies for avoidance, adaptation and transformation, and possibly opportunity, to tackle the consequences of GECs;
  - Analyses of the processes of large-scale urbanisation and their consequences for spatial planning, including major infrastructure, and for policies in the different area categories (intermediate[19], industrial, agricultural, forested, natural) and, ultimately, on development, adaptation and mitigation policies;
  - Analyses of the role of economic sectors and markets and how GECs are affecting them across the globe and of interactions between private initiatives and measures or regulations introduced by public policy makers.

- *Governance and roles*
  - Analyses of the roles of the different public or private players in tackling GECs, of the structure of discourse and proposals (types of justification, values, knowledge brought into play) and how they are disseminated; studies of change in the balance of power, in the logic driving actions, in capabilities;
  - Analyses of patterns of knowledge production (scientific, technical and non-specialist) and of the relationships between science, society and decision-making in addressing global environmental changes;

[19] Projects focusing on design, engineering, management and trends in sustainable cities should be submitted to the call for projects on "Sustainable Cities".

- Analyses of the role of institutional and stakeholder dynamics and how they develop (including in public debate), negotiating patterns and the implementation of measures, instruments, policies and responses (organised and spontaneous) and their effectiveness;
- Studies on linkages between different policies, including between different scales of action, whether in space or time, and especially between environmental policies (climate, biodiversity, water, air and soil quality, etc.) ;
- Studies of the most relevant systems for protection and insurance against GECs, solidarity, reparation and responsibility;
- Studies of interactions between geopolitical trends and methods of international cooperation capable of addressing GEC issues.

2.2 THEMATIC AREA 2: GEC AND ITS INTERACTIONS WITH ECOSYSTEMS AND THEIR BIODIVERSITY

The aim here is to support projects addressing reciprocal interaction (including retroaction) between the dynamics of biodiversity and ecosystems, the changing climate and natural resources (water and soils) and associated socio-economic factors. Particular emphasis is given to the functional role of biodiversity and the use of living resources.

Approaches will need to be based on simulations of clearly identified processes and mechanisms, to be developed and tested at several scales in time and space using long time series and parameterised and validated through experimental data, including production of synoptic indicators of mitigation and adaptation.

This thematic area focuses on quantitative and qualitative assessments of ecosystem functions and services, especially in view of uses of continental land areas or marine systems and the constraints arising from GECs.

Main lines of inquiry

- Functional roles of biodiversity: how to characterise, at regional and/or large scale, the functional roles of land and marine biodiversity, and the trajectories that may lead to breakdown in resources or ecosystem services as a result of GECs.
- Responses to GECs and resource use: How do GECs and resource use affect biodiversity at the different levels of biological organisation (organisms, populations, communities, ecosystems) and their interactions? Conversely, what role can biodiversity play in adapting to or mitigating GECs?

Main approaches to be developed

- Mobilisation and interaction between disciplines [20] ;

[20] For example: Agronomy, Biology, Climatology, ecology (Biotope and Biocenosis), Economics of Fisheries and Agriculture, Halieutics, Mathematics (applied and statistics), Oceanography

- Development of synoptic indicators to support national or international management policies;
- Building up the dynamics of international research[21] ;
- Development of integrated regional systems for observation, experimentation, analysis and forecasting of interactions between GECs and land, coastal and marine ecosystems, particularly in a context of (over)-exploitation;
- Retrospective studies, over the last century or millennium, of observations or archives based on long time-series and illustrating large scale co-evolution of levels of ecosystem organisation and development of human societies;
- Improved representations of land and marine biodiversity and its major functions, in Earth system models geared to mitigation and adaptation of human activities.

2.3 THEMATIC AREA 3: NATURAL RESOURCES AND FOOD SECURITY IN THE CONTEXT OF GEC

By 2050, we will be faced with the challenge of feeding and generally securing the welfare of 9 billion human beings. Because living resources on land and in the oceans, as well as water and soils, are finite and unequally distributed, the specific challenge is to optimise the use of ecosystem supply services (as defined in the Millennium Ecosystem Assessment) while preserving ecosystem renewal services provided by the environment (e.g. water and air purification, GHG attenuation[22], …). Human pressures on natural resources, especially water and soils, will continue to increase, not only for food production but also for urban expansion, industry, energy and future developments like green chemicals.

With these dynamics disrupted by GECs and subject to market globalisation, in a context of widely differing land rights and agricultural, industrial and urban policies, issues of food security and the availability and quality of soil and water resources have become crucial.

Projects may address some of these major issues on the scale of appropriate geographic reference systems[23].

Main lines of inquiry

- *Risks and opportunities arising from GECs:*

[21] For example in ICSU programmes: DIVERSITAS / EcoServices, BioSustainability, AgroBiodiversity, Global Mountain Biodiversity (GMBA) and Global Invasive Species (GISP); IHDP-IGBP / Global Land Project (GLP); IGBP / Integrated Marine Bioegeochemistry and Ecosystem Research (IMBER) and Land–Ocean Interactions in the Coastal Zone (LOICZ)

[22] At present, agriculture contributes about 14% of greenhouse gas (GHG) emissions worldwide; when land-use changes, including deforestation, are taken into account along with fisheries, the percentage increases to more than one third of emissions (source IPCC).

[23] The impact of global change at micro-scales, where resource use is on the scale of single plots to particular landscapes, is primarily addressed under the SYSTERRA programme.

- How will production be favoured, affected or redistributed by the global environmental changes now taking place (climate, water quality and quantity, soil and air quality, epidemiological factors, etc.) and adding to direct human pressures arising from changing uses and practices and conflicts?

- *Competition between adaptation and mitigation:*
  - How to increase world food production to cover needs in the next half-century, while preserving biodiversity and ecosystem services and reducing the effects of GECs (water and soil quality, carbon storage, biofuels, etc.) ?
  - What scenarios can be developed to predict the direct and indirect effects on climate of adaptation and mitigation? Economic and energy costs? Risks, inertia and flexibility in land use? Using what tools and what indicators?

Main approaches to be developed

- Mobilisation and interaction between disciplines [24]
- Building up the dynamics of international research [25]

- *Adaptation, water and soil resources, sustainable development strategies*
  - Analyses of the role of GECs in changing hydrological and ground water regimes and of the impacts on quality and competition for access to water;
  - Development of research on total water consumption of cultivation systems and permanent vegetation with a view to integrated water management at catchment basin scale;
  - Studies on the resilience and evolution of critical zones in the subsoil-soil-biosphere continuum (biotic and abiotic components), and large-scale impacts on biogeochemical cycles and water quality;
  - Acquisition of new data and development of objective indicators of quality, availability and degradation of resources that can be deployed on the scale of a country or large sub-continental region.
  - Development of scenarios for changing practices based on agronomic (or halieutic) models integrating hydrology or soil dynamics;
  - Studies of the relevance of adaptations proposed by the different agricultural and fisheries sectors with regard to water and soil resources, and identification of potential disaster areas.

- *Interactions between adaptation, attenuation, land uses and food or non-food production:*
  - Use of measurement networks and manipulatory experiments to characterise the mitigation potential of agro-systems and the different associated options for adaptation;

[24] For example: Agronomy, Agro-economics, Anthropology, Climatology, Ecology, Environmental and Agricultural Economics, Halieutics, Hydrology and Hydrogeology, Soil Science, Political Science, Sociology.
[25] For example in ICSU programmes: ESSP / Global Water System Project (GWSP), Global Environmental Change and Food Systems (GECAFS) and The CGIAR Challenge program "Climate Change, Agriculture and Food Security" (CCAFS)

- Development and harmonisation of synoptic data and tools for integrated economic-climate-environment-ecosystem analyses, and assessment of policies for mitigation and adaptation at continental or global scale;
- Development of second generation scenarios integrating the full range of SSH input to finalise scenarios taking interactions between mitigation and adaptation into account;
- Application at European scale of Common Agricultural Policy reforms geared to maximized food security coupled with reduced environmental impacts;
- Applications at global scale concerning the food mix (livestock, agriculture, aquaculture, fishing) associated with consumption patterns.

- *Sectoral and food security impacts*
  - Analyses of changing trends in trade in agricultural or fisheries products constrained by GECs, and of their potential impact on the organisation of production, processing and distribution sectors;
  - Analyses of large-scale retroaction stemming from changes in infrastructure (hydraulic, coastal, agricultural, aquaculture, etc.), changing practices (technologies and uses) and sectors (biotechnology, energy, etc.) on environmental services, natural area conservation, biodiversity protection and, ultimately, on conditions for the emergence of agro-ecology systems;
  - Macro-economic and possibly sociological analyses of subsistence sectors and GEC adaptation in the areas affected, including detailed disaggregation of current sectoral models;
  - Identification of probable changes in relationships within food sectors, and especially relocation in contexts where a variety of adaptation and mitigation strategies are being introduced;
  - Analyses of the regulating or amplifying role of agricultural or fisheries markets and policies in the event of climatic or environmental crises (retrospective analysis required);
  - Comparative studies on the dynamics of adaptation and mitigation behaviour, and on the question of the economic value of soils and water resources (including virtual water associated with transport).

2.4 THEMATIC AREA 4: GLOBAL ENVIRONMENTAL CHANGES AND THEIR EFFECT ON HEALTH

The aim here is to characterise global environmental changes that produce direct or indirect impacts on health or are likely to do so in the coming decades. A further aim is to describe these impacts and determine the specific contribution of global environmental changes in

relation to other health determinants, whether behavioural, social or genetic. Studies may draw on the different programmes launched in recent years at international level[26].

Main lines of inquiry

- Which GEC components are likely to have effects on human health, and what kind of effects?
- Adaptation: what responses can societies make to reduce the harmful effects of GECs for human health?

Main approaches to be developed

- Develop pluri-disciplinary and integrating approaches between the environmental sciences (including climate), the biological and medical sciences (including biostatistics and epidemiology) and the humanities and social sciences;
- Develop new methods for data coupling, modelling, simulations, alerting and forecasting.

- *Assessments of factors liable to have an impact on health*
  - Define methods of observation (ground or satellite), the relevant data and space and time scales, formalise methods for coupling environmental data (environmental quality, climate, agricultural and industrial production methods, housing, urban planning, etc.) with health data (exposure, morbidity, mortality, pathology, access to health care) and the socio-demographic characteristics of human populations (including lifestyles, social practices, etc.) ;
  - Develop databases on environment and health capable of contributing to the definition of indicators, to real-time surveillance and to predictive modelling.

- *Populations and zones exposed to risks*
  - Identify the potential effects of different GECs and their synergies on the health of human populations (e.g. mortality and morbidity, changes in the clinical expression of pathologies [27] and in the distribution of diseases in space and time);
  - Characterise changing trends in zones and populations exposed to risks and in factors of vulnerability (e.g. age, state of health, socio-economic characteristics, access to health care and health services);
- *Dynamics of transmissible diseases and environmental changes*
  - Studies on the impact of different GECs on the dynamics in space and time of infectious diseases, on the pathogen transmission cycle and on the respective contributions of the different factors;
  - Studies on changes in transmission cycles and in pathogen replication rates, on pathogen migration in the environment and the development of vectors or

[26] For example in ICSU programmes: ESSP-IHDP / Global Change and Human Health with links to UN-WHO/PHE/Climate change and human health; ICSU/Health and wellbeing in a changing urban environment.
[27] Respiratory, immune-allergic, coronary, transmissible and non transmissible infectious diseases…

reservoirs; monitoring studies on changes in the virulence of etiological agents, genetic evolution of pathogens, appearance of resistance or adaptation in human activities (e.g. in agriculture, livestock, land use and coastal zones) ;

- Develop predictive or retrospective models that can estimate changes in the incidence of infectious diseases, based on scenarios or observations of global environmental changes.

3 EVALUATION OF RESEARCH PROPOSALS

The main steps in the selection process are as follows:

- The acceptability of submitted proposals is checked by both the ANR and by the support unit according to criteria specified in § 3.1.
- Eligibility of submitted proposals is checked by the evaluation committee, according to the criteria specified in § 3.2.
- Peer reviewers are appointed by the evaluation committee.
- Peer reviewers issue their assessments based on the evaluation criteria specified in § 3.3 (evaluation grid for peer reviewers is available on the web page dedicated to the call for proposals – as indicated on p1).
- The evaluation committee reviews research proposals upon reception of the peer reviewers' assessments, and draft a scientific evaluation report (consult the evaluation grid available on the web page dedicated to the call).
- The steering committee examines the submitted proposals and issues a list of proposals to be proposed for funding by the ANR (consult the steering committee grid on the web page dedicated to the call).
- A list of proposals selected by the ANR (comprising a main list and a complementary list) is published on the ANR website, on the page dedicated to the call.
- A consolidated evaluation report is sent to the coordinators of non-selected research proposals.
- The proposals selected are subjected to a negotiation phase for scientific, financial and administrative issues.
- A final list of projects selected for funding by the ANR is published on the ANR website calls page.

The role of each of the principal actors in the selection process is as follows:

- Peer reviewers, appointed by the review committee, issue a written assessment for all proposed projects. Each project is reviewed by at least two experts.
- The review committee is composed of eminent national and international scientists whose fields of expertise correspond to the requirements of the call. Its assignment is to review the proposed projects based on the assessments of the external experts and to assign each proposal to one of three categories: A (recommended); B (acceptable); or C (rejected).

- The steering committee is composed of eminent personalities and/or institutional representatives. Based on the findings of the evaluation committee, the steering committee delivers a list of projects proposed for funding by the ANR.

All persons involved in the selection process must respect and follow the good practices stated within Code of Deontology of the ANR, and in particular the rules pertaining to the confidentiality and conflict of interest. The Code of Deontology can be consulted on the ANR website[28].
The operational and organisational procedures that apply to evaluation committees and steering committees are stated in documents available on the ANR website.
Lists of committee members of are available on the ANR website[29].

3.1 ACCEPTABILITY CRITERIA

IMPORTANT

Proposals not meeting the requirements for acceptability will not be submitted to the evaluation committee and will in no case be granted for ANR funding.

1) The proposals must be submitted **within the deadlines, in the required format, duly filled-in**.
2) The project **coordinator** should not be a member of the evaluation committee nor of the steering committee of the programme.
3) The **duration** of the project must be between 18 to 48 months.
4) **Partnership.** This call is open to :

   Research projects in collaboration composed at least of two different partners, whom one at least is a public research organisation (university, EPST, EPIC,…) [30].

3.2 ELIGIBILITY CRITERIA

IMPORTANT

Proposals not meeting the eligibility criteria after examination by the evaluation committee will in no case be granted ANR funding.

[28] http://www.agence-nationale-recherche.fr/DocumentsAgence
[29] http://www.agence-nationale-recherche.fr/Comites
[30] See definitions in annex 1.

1) The proposal content **must be in adequacy with the themes** of the call, as described in § 2.
2) The administrative and financial part of the proposal (*document de soumission*) must be submitted **within the deadlines, in the required format, and signed by all partners**.
3) **Type of research**: this call for proposals is open to:
   - Fundamental research projects[31],
   - Industrial research projects[16],

   The projects considered as "experimental development" are not accepted in this call, as they are eligible in the call ECO-INDUSTRIE initiated by DGCIS, ADEME and OSEO on similar topics.
4) French-Chinese proposals have to follow the procedure described in annex 2.

3.3 EVALUATION CRITERIA

IMPORTANT

Research proposals successfully meeting the criteria of acceptability and the criteria of eligibility will be evaluated according to the criteria specified below. (The external review grid and the evaluation committee grid may be consulted on the web site announcing the call, see address p1.)

- The proposal's relevance to the themes stated in the call
  - degree of fit with the themes of the call (cf. § 2),
  - degree of fit with the recommendations provided in the call (cf. § 3.4).
- Scientific and technical quality
  - scientific excellence relative to state-of-the-art in the project's field,
  - innovative character of the proposal, in terms of both technological innovation and opening new perspectives compared to the status quo,
  - solutions to technical barriers,
  - degree of integration of various scientific sub-fields or fields.
- Methodology, and quality of project conception and coordination
  - the positioning of the proposal relative to state-of-the-art and technological innovation,
  - the project's scientific and technical feasibility, and the methods chosen,
  - the way the project is build, the rigor with which deliverables have been defined, the identification of milestones,
  - the quality of the project coordination plan (the financial and legal management of the project) including the experience and level of involvement of the principal coordinator,

[31] See definition of categories of research projects annexed to this document § 1.2.

  - strategies for applying and transferring the final results of the project.
- Overall impact of the project
  - Interest in term of environmental challenge (to be quantified as much as possible
  - Potential for use or integration of project findings by the scientific or industrial communities or society, the impact of the project in terms of new knowledge production,
  - the outlook for industrial or technological application or a demonstration of economic and commercial potential, possible business plans resulting from findings, integration into industrial activity, the credibility of the declared transferability,
  - value of the project for society, e.g. public health, etc.
  - when appropriate, the response to questions of environmental impact.

- Quality of the consortium
  - the level of scientific excellence and expertise of the research teams involved,
  - the degree of fit between the partnership and the scientific and technical objectives,
  - the degree of complementarity among partners,
  - the degree of openness to other actors,
  - an active role for private sector partners.

- Adequate project funding / project feasibility
  - realistic schedule
  - means well-adapted to project implementation,
  - justification of amount of funding requested in light of the project,
  - costs of coordination in proportion to the project,
  - justification of personnel needs,
  - justification of temporary personnel needs (interns, Ph.D students, post-docs),
  - proper estimate of the amount of needed equipment purchase and investment,
  - proper estimate of other budget items (researcher mobility, sub-contracting, supplies…).

3.4 MAIN RECOMMENDATIONS

RECOMMENDATIONS ABOUT THE PROPOSAL CONTEXT (CRITERIAS 1 ET 2)

Proposal should carefully present industrial and economical perspectives of the targeted technologies (analysis of value, market size, term for market implementation, competition with other technologies…).

Applicants will have to detail the potential impacts of the targeted technologies on the environment (use of rare materials, energy balance…), on health and on safety (potential toxicity of materials, in relation with REACH regulation, fiere resistance…). Life cycle assessment (and evaluation of recycling potential) of those technologies will have to be considered in the work program, if necessary.

RECOMMENDATIONS ABOUT THE PROJECT OUTCOMES (CRITERIA 4)

Applicants must clearly detail the ways their technologies will be implemented, the expected outcomes and the agenda towards the market implementation. Proposals will have to describe with some quantitative informations, the potential impact of of the project in economical and environmental aspects.

RECOMMENDATIONS ABOUT THE CONSORTIUM (CRITERIA 5)

In public-private partnerships, one expect in general for private partners a the total manpower (in man.month) for both permanent and temporary staff allocated to the project to represent about :

- 20 to 30% for basic research projects,
- 30 to 60% for industrial research projects,

CONDITIONS FOR FUNDING TEMPORARY PERSONNEL

For the present programme, temporary personnel (interns, post-docs, short-term contracts, temporary workers, etc.) may be used for the project. Except in particular cases, the overall temporary personnel contribution as measured in person-months should respect a reasonable equilibrium of the total work force effort represented by the project.

RECOMMENDATIONS CONCERNING ANR FUNDING REQUESTS

In the context of the present call for proposals, applicants are encouraged to file proposals that justify ANR funding to a level between 500 k€ and 1500 k€, including for fundamental research proposals. This recommendation does not exclude the possibility that projects will be funded for amounts either below or above this range.

RECOMMENDATIONS ABOUT THE APPLICATION FOR LABELING FROM A COMPETITIVENESS CLUSTER

Project consortiums that intend to apply for a competitiveness cluster label are invited to contact the cluster during the proposal preparation phase and before the before the submission of the proposal to ANR.

4 GENERAL FUNDING MECHANISMS

4.1 ANR FUNDING

- TYPE OF FUNDING

Funds allocated by the ANR to each partner will take the form of a non-reimbursable grant, according to the methods stipulated in "Regulations relative to the means of allocation of ANR funds", which may be consulted on the ANR website[32].
ANR funding is limited to projects led by researchers residing in France, and to laboratories affiliated with French public research organisations or institutions of higher education or

[32] http://www.agence-nationale-recherche.fr/DocumentsAgence

French institutions located abroad, including any international associated laboratories. The participation of international partners is nevertheless possible as long as each international partner funds its own participation in a project.

IMPORTANT

The ANR will not allocate grants lower than 15,000 € to any participant in a project.

- PERCENTAGE OF PRIVATE SECTOR FUNDING

Concerning private enterprises, the maximum percentage of ANR funding for this call is as follows:

Type of project	Maximum %age of funding to SMEs	Maximum %age of funding to non-SME firms
Fundamental research[33]	45 % of eligible expenditure	30 % of eligible expenditure
Industrial Research	45 *% of eligible expenditure	30 % of eligible expenditure

(*) For projects that do not call for real collaboration between a firm and a research organisation, the maximum percentage is 35 %.

There is real collaboration between a firm and a research organisation when the research organisation underwrites at least 10% of costs on which the funding request is based and when it retains the right to publish the results of the research, whenever these results were obtained from the organisation's own research efforts.

Note: The unfunded portion of R&D expenditure associated with a project may qualify for funding under the CIR (French research tax credit program - article 244 quater B of the "code général des impôts").

For further explanations on the procedures, please check the following site :

http://www.agence-nationale-recherche.fr/CIR

The completed and signed forms of CIR certificates should be adressed by mail to the following address :

[33] See definitions of research categories annexed to this document § 6.3.

ANR
Département DPC/CIR
212 Rue de Bercy
75012 Paris cedex

IMPORTANT

The incentive effect of ANR funding allocated to a firm other than an SME ought to be established. Therefore non-SMEs selected for funding under the present call will be asked to provide the elements necessary for evaluating this aspect, during the negotiation phase of the administrative and financial elements of proposals.

- CONDITIONS FOR FUNDING TEMPORARY PERSONNEL

For the present programme, temporary personnel (interns, post-docs, short-term contracts, temporary workers, etc.) may be used for the project. Except in particular cases, the overall temporary personnel contribution as measured in person-months should not exceed 50% of the total work force effort represented by the project.

PHD SCHOLARSHIPS

For that call, PhD scholarships are authorized by ANR. The funding of a PhD scholarship does not prejudge of the agreement of the university PhD administration. PhD students has to be considered as temporary personnel in the project proposal (see the condition above).

4.2 CONSORTIUM AGREEMENT

For projects involving a partnership between a research organisation and a commercial firm[34], the partners must reach an agreement, under the auspices of the principal coordinator, stipulating arrangements covering:

- the distribution of tasks and of the human and financial means devoted to the deliverables;
- the sharing of intellectual property rights linked to findings obtained within the framework of the project;
- rules concerning publication / dissemination of results;
- the application and transfer of project findings.

This set of agreements will help determine any indirect funding likely to impact the calculation of the maximum EU-authorised funding level as stipulated in the EU Community framework for State aid for research, development and innovation (referred to hereafter as "the Community framework").

[34] See definitions annexed to this document § 1.1.

The lack of indirect funding will be assumed in cases where at least one of the following conditions is fulfilled:

- the commercial firm beneficiary, within the Community framework, underwrites the entirety of project costs;
- where results cannot be protected by intellectual property rights, the research organisation beneficiary is free to use and disseminate widely these results;
- where results can be protected by intellectual property rights, the research organisation beneficiary retains ownership of these rights;
- the commercial firm beneficiary, within the Community framework, benefits from a result developed by a research organisation beneficiary and remunerates the latter to a level in keeping with market conditions.

The principal coordinator will transmit a copy of this agreement to the ANR or the support unit along with a signed statement by the partners attesting to the compatibility of the agreement with EU regulations governing indirect funding as well as with the ANR contract. **This transmittal should take place within a maximum of 12 months after the date of the act officially allocating the aid.**

The statement therefore must certify either that the consortium agreement fulfils one of the conditions listed above or that all intellectual property rights linked to project findings are allocated to the various partners in a way that adequately reflects their respective interests and their level of participation including in project funding. Lacking this assurance, the consortium agreement may be considered as a form of indirect funding, leading to a reduction in the percentage of funding allocated by the ANR.

4.3 COMPETITIVENESS CLUSTERS

The steering committee will take into account that a project has received a label awarded by a Competitiveness Cluster. It should be kept in mind that all partners do not need to be members of a Cluster in order for the project to be labelled as a "Competitiveness Cluster project".

The partners of a project benefiting from a label awarded by one or more Clusters and which are located within the geographic zone of this(ese) Cluster(s) may receive a supplemental allocation for project funding from the ANR.
The procedure is as follows:

- The form to be used to demonstrate that a project has been awarded a label by a Competitiveness Cluster has to be completed on the ANR online submission web site.
- The coordinating partner has to transmit the form attesting to labelling by the Cluster, **Part 1 having been duly completed**, in electronic form to the governing structure of each of the Clusters solicited.

- For Cluster-labelled projects, the governing structure of the concerned Clusters is to deliver to the ANR the form attesting to quality certification, **Part 2 having been duly completed,** in **two versions**: a **signed** print version delivered by courier service, and an electronic version in Word format (*.doc). (The postal and electronic addresses are shown on the form.)
- The signed print version of the Cluster label verification form is to be received by the ANR **no later than two months** after the closing deadline for the call for proposals.

4.4 OTHER FUNDING STIPULATIONS

Partners of projects funded by the ANR are still under the same obligation to respect all the regulations, ethical codes and standards of good practice that apply to their field, regardless of the source of funding.

The principal coordinator, acting on behalf of all project partners, is bound to inform ANR in a timely manner of any change likely to affect the project's content, partnership structure or schedule and that occurs between proposal filing and the publication of the final list of selected projects.

5 RULES FOR APPLYING

5.1 CONTENTS OF THE APPLICATION FILE

The funding application file must include all elements needed for the scientific and technical assessment of the project. It must be duly filled-in by the closing date for applications, which is indicated on p2 of the present call for proposals.

IMPORTANT

No additional element to an application will be accepted after the deadline indicated on p2 of the present call for proposals.

A complete research proposal comprises two distinct completed forms:

- **The "*document de soumission*" is a description of administrative and budgetary structure. It has to be filed up online on th submission website**

The "scientific document" is the description of the scientific and technical content. The "scientific document" is available on the webpage of the call as mentioned on page 1.

It is recommended to generate a scientific and technical description of the project in English, In cases where the scientific and technical description are generated in French, an English translation may be requested in time for use in later stages of proposal evaluation.

5.2 TRANSMITTAL OF THE APPLICATION FILE

THE SUBMISSION PROCEDURE HAS TO BE DONE ONLINE USING ANR'S SUBMISSION WEBSITE AS INDICATED ON PAGE 1

1) ONLINE SUBMISSION, must strictly :
- be completed be the call closing date indicated in page 1, using the web links indicated on the webpage of the call.

AFTER COMPLETION OF ALL THE INFORMATIONS FROM THE PROJECT PARTNERS, THE COORDINATOR HAS TO VALIDATE THE ONLINE SUBMISSION PROCESS, PRESSING THE BUTTON ON "SOUMETTRE"

An official receipt in either paper or electronic form will be sent to the principal coordinator by the ANR or by the support unit after the closing of the call for proposals.

After validation of the online submission process, the project proposal can be modified until the closing date of the call.

Only the data contained in the submission website at the closing deadline will be taken into account.

2) TRANSMITTAL OF THE PRINTED VERSION of the administrative and financial documents (*document de soumission*) printed and signed from all project partners.

This document must be sent by registered mail with return receipt later than the date indicated on page 2, the seal of the postmark, to the address indicated on page 2.

5.3 CONSEILS POUR LA SOUMISSION *(FRENCH)*

Il est fortement conseillé :
- De ne pas attendre la date limite d'envoi des projets pour effectuer la soumission en ligne de leur projet ;
- De valider **et** enregistrer les informations saisies avant de quitter chaque page ;
- De télécharger le récapitulatif complet du projet au format Excel ;
- Après validation de la soumission en ligne, le projet pourra encore être modifié jusqu'à la date de clôture de l'appel à projets ;
- De consulter régulièrement le site internet dédié au programme, à l'adresse indiquée p. 2, qui comporte des informations actualisées concernant son déroulement (guide d'utilisation du site de soumission, guide d'établissement des budgets, glossaire, FAQ…) ;

- De contacter, si besoin, les correspondants par courrier électronique, à(aux) (l')adresse(s) mentionnées p. 2 du présent appel à projets.

Il est rappelé que, pour chaque partenaire organisme public ou fondation de recherche, le responsable scientifique et technique ainsi que le directeur du laboratoire **doivent signer** le document de soumission.

ANNEXES

1. ANNEX 1 - DEFINITIONS

1.1 TYPES OF RESEARCH

- "Fundamental research" shall mean an activity designed to broaden scientific and technical knowledge not linked to industrial or commercial objectives (JOCE 28/02/2004 L 63/23).
- "Industrial research" shall mean planned research or critical investigation aimed at the acquisition of new knowledge, the objective being that such knowledge may be useful in developing new products, processes or services or in bringing about a significant improvement in existing products, processes or services (JOCE 28/02/2004 L 63/23).
- "Pre-competitive development" shall mean the shaping of the results of industrial research into a plan, arrangement or design for new, altered or improved products, processes or services, whether they are intended to be sold or used, including the creation of an initial prototype which could not be used commercially. This may also include the conceptual formulation and design of other products, processes or services and initial demonstration projects or pilot projects, provided that such projects cannot be converted or used for industrial applications or commercial exploitation. It does not include the routine or periodic changes made to products, production lines, manufacturing processes, existing services and other operations in progress, even if such changes may represent improvements (JOCE 28/02/2004 L 63/23).

1.2 PROJECT ORGANISATION

For each project a coordinator will be nominated for each country, in case of multi-national projects, only one of them will be the principal coordinator of the whole project. Each partner should nominate a scientific and technological responsible.

Coordinating partner: the parent research organization or company of the coordinator.

Principal coordinator: the person responsible of the scientific, technical and financial coordination of the project, establishing and formalizing the collaboration between the partners, the production of project deliverables, the meetings progress and the communication of the results.

National coordinator: the person responsible of the scientific, technical and financial coordination of the project at national level.

Partner: research unit or enterprise.

Scientific and technological responsible: he will be the principal contact with the principal and national coordinators and will be in charge of the partner's work packages deliverable.

1.3 DEFINITIONS FOR ORGANISATIONS

Research organisation, an entity, such as an university or a research institute, whatever is its legal status public or private) or its mode of financing, the first purpose of which is to carry on basic or industrial research activities or experimental development and to disseminate their results by publication, training or transfer technology; their profits are entirely reinvested in these activities, results disseminations and/or in teaching; enterprises or private companies which can exercise an influence on such an entity, for example in their quality of shareholder or member, will not benefit from any privileged access to its research capacities or to the results that have been produced.

Technical centers, except if duly motivated, are considered as research organisations.

Enterprise, is defined as an organisation having an economic activity.

Small and medium-sized enterprise (SME), is defined according to European Commission. A small enterprise fewer than 50 and a medium-sized enterprise fewer than 250, and with an annual turnover lower than 50 M€ or an annual balance sheet lower than 43 M€.

Micro-enterprise, is defined as an SME with fewer than 10 employees, and with an annual turnover or an overall annual balance sheet of no more than 2 M€.

1.4 OTHER DEFINITIONS

Effect of incentive: to have an effect of incentive means, at the end of the common contract, that the grant has to activate for the recipient, a change in behaving bringing into an intensification its activities of Research and Development: the grant must have as a consequence to increase the size, the reach, the budget or the rhythm of Research and development activities. The effect of incentive analysis will be based on the comparison of the situation with and without granting, starting from a questionnaire that the company will be obliged to fill up. In this respect, several indicators will be used: total cost of the project, the workforce of Research and Development allocated to the project, the project scale, the risk degree, increase of work risks, the increase of Research and development expenses in the private company, …

Working time of the researchers employed by University (or enseignants-chercheurs, specific for France): the percentage of working time of this type of researchers is based on the time spent for research (considered as 100 %). Hence, a researcher who dedicates his(hers) whole research time to a project during one year will participate to this project for 12 man.month (no matter what is the time spending in teaching). However, for calculating the total cost of the project, his(hers) salary will be added for 50 %.

2. ANNEX 2 – GLOSSARY

Adaptation capacity of a system: the capacity of a social system or an ecosystem to adjust to changes affecting it, in order to attenuate potential effects, take advantage of opportunities or cope with the consequences.

Global environmental changes (or Global Change): a generic term covering multiple environmental and ecological changes on the Earth's surface in response to a combination of natural and human factors. These include, in particular, climate change and changing trends in biodiversity, land use, urbanisation, etc.

Governance: in this document, governance is taken to mean the way in which all stakeholders are coordinated around issues arising from the use or management of common goods, with good governance defined as governance that enables all these stakeholders to achieve collectively agreed objectives as effectively as possible.

Resilience of a system: the dynamic capacity of a system to return (or not) to a stable state or to maintain its functions following a disturbance.

Mitigation: the implementation of technologies and/or policies designed to reduce the impacts of global environmental changes in a context of sustainable development.

Risk: the probability that a danger or vulnerability associated with a natural phenomenon or with pressure or exposure of human origin will actually arise.

Earth System Science: the study of the Earth System and more specifically the observation, understanding and prediction of global environmental changes involving interactions between soils, water, atmosphere, biosphere, societies, technologies and economic systems.

Sensitivity of a system: the proportion to which a system is influenced, positively or negatively, by disturbances whose effects may be direct or indirect.

The climate system: a system with five main components: the atmosphere, the hydrosphere, the cryosphere, the continental surface and the biosphere (which includes the pedosphere), and which evolves over time with the effects of its own internal dynamics, of natural external causes (astronomic influences, volcanism, etc.) and forcing of human origin (changes in the composition of the atmosphere and waters, in land uses and so on).

Earth system: this comprises all of the physical, biological and social components, processes and interactions that determine the state and dynamics of the planet, including biotopes and humans.

Vulnerability: the extent to which a system is likely to be negatively affected by the effects of global changes (of climatic or human origin). Vulnerability depends on the nature, scale and rate of changes to which the system is exposed, but also on its sensitivity and its capacity for adapting to these changes. In this context, the concept of "Danger" is taken to be synonymous with vulnerability.

3. ANNEX 3 – SUBMISSION AND EVALUATION RULES FOR FRANCO-BRAZILIANS PROJECTS

3.1 CONTEXT

An agreement was signed on 15 May 2009 between the ANR and two Brazilian foundations, Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP) and Fundação de Amparo à Ciência e Tecnologia do Estado de Pernambuco (FACEPE), for the purpose of facilitating implementation of high-quality scientific projects proposed under the ANR programme on Global Environmental Changes and Societies (GEC&S).

3.2 OBJECTIVES OF THE PROGRAMME

The GEC&S programme has been broadened out in order to foster the implementation of projects of scientific excellence designed to investigate the effects of global change in different natural or artificial environments of interest to Brazil.

The goal is to finance new high-quality research projects with an even balance between scientific contributions from French partners and partners from the Brazilian States of Sao Paulo and Pernambuco.

Projects should have a maximum duration of 2 to 4 years.

3.3 THEMATIC AREAS

The ANR programme addresses topics relevant to global environmental changes in an exhaustive manner. However, under this collaboration between France and Brazil, the FAPESP and FACEPE will give priority to the financing of selected projects in the following areas:

- Effects of global environmental changes on physical and biogeochemical conditions in the southern Atlantic (i.e. modelling of climate change at global and regional scales, changes in the carbon cycle and their impacts on marine ecosystems).
- Observations and modelling of changes in land use in the semi-arid regions of Pernambuco and Sao Paulo (remote sensing, measurements of changes in the carbon cycle, modelling, socio-economic impacts, vulnerability and adaptation strategies).

- Impact of global environmental changes on the availability of water resources in sensitive zones (i.e.: semi-arid regions in north-eastern Brazil and the State of Sao Paulo, uses of water for agriculture, hydropower, water distribution, identification of areas of vulnerability and adaptation strategies).
- Impact of global environmental changes on coastal areas in the States of Pernambuco and Sao Paulo (i.e.: impacts on coastal zones and particularly the urban zones of Recife).

3.4 EXAMINATION OF PROJECT PROPOSALS

Project selection takes place in two stages:

a) Projects are first assessed for eligibility and selected by the ANR, FAPESP and FACEPE (each project is therefore assessed by the parties on both sides). Where the ANR is concerned, projects will be assessed in the same way and against the same criteria as other projects submitted to the GEC&S programme, with the addition of the specific criteria described in §3.2.

b) Secondly, the ANR, FAPESP and FACEPE will jointly decide which Franco-Brazilian projects are to be financed among those selected by the evaluation and steering committees of the GEC&S programme and by the selection committees of the FAPESP and FACEPE.

3.5 RECEIVABILITY CRITERIA

- Applications must be submitted in each country in the required format, in compliance with each country's receivability and eligibility rules and closing dates for tenders.
- Proposals submitted in only one country are not receivable
- **Two types of bi-national projects are eligible:**
  - **Bi-national projects involving French teams AND teams from the State of Sao Paulo AND the State of Pernambuco**
  - **Bi-national projects involving French teams AND teams from the State of Sao Paulo OR the State of Pernambuco**

3.6 ELIGIBILITY CRITERIA

- The French partners must satisfy the eligibility criteria set out in this call for projects (see § 3.3 of the GEC&S call for projects). The Brazilian partners must satisfy the eligibility criteria of the FAPESP and FACEPE.
- The rules for submitting proposals to the ANR which involve cooperation with Brazil are identical to those for purely national projects.
- Applicants must provide the required administrative and financial information on line on the ANR submissions web page as well as the scientific document in English

(scientific and technical), including the required material listed in the "Important Recommendations" section in this document. Both documents must be submitted on 18 May 2010 AT THE LATEST to the GEC programme's on-line submissions page, at the address given on the web details page in this call for projects. Administrative information from Brazilian partners may be entered on line on the ANR submissions site by the project's French coordinator. Financial information entered for the Brazilian partners must show 0% grant support, in order to give a true picture of the total amount of ANR aid requested by the French partners.

- The same project, with the same scientific content, must be submitted to the ANR by French teams and to the FACEPE and FAPESP by Brazilian teams, in accordance with the rules of these foundations and in compliance with their eligibility criteria.

3.7 EVALUATION CRITERIA

The evaluation criteria for international cooperation proposals are as follows:

- The criteria described in the text of this call for projects.
- Value added by Franco-Brazilian cooperation
- Evenly balanced scientific and financial contributions from each country.

3.8 IMPORTANT RECOMMANDATIONS

It is particularly important that projects submitted to the ANR include the contributions of both French and Brazilian teams. Sufficient information must be given (descriptive text, tables summarising budgets and resources) to allow their respective contributions to be assessed in terms of each team's scientific input, resources and grant requests.

RECOMMENDATIONS CONCERNING STAFF INVOLVEMENT

Besides the recommendations set out in the text of the call for projects, partners must keep an even balance between scientific contributions from each country.
Teams from each country must appoint a "national" scientific project leader.

RECOMMENDATIONS CONCERNING REQUESTS FOR FINANCING

Besides the recommendations set out in the text of the national call for projects, partners must keep an even balance between the financial contributions requested by each country.

RECOMMENDATIONS CONCERNING PARTNERSHIPS

In the event of a positive evaluation of a proposal from only one of the two agencies, the project may under no circumstances receive funding. It is therefore very important to give particular attention to the receivability, eligibility and assessment criteria used by each of the two agencies.

RECOMMENDATIONS CONCERNING THE GRANT APPLICATION

Applicants are reminded that, in addition to the material required in all project applications for the GEC programme, they must fill in paragraphs 1.6 and 1.7 of the scientific dossier:

- The respective contributions of the French and Brazilian partners must be presented in a table showing staff requirements in person-months per task, equipment used and the financial support requested by the partners in each country.
- The respective scientific contributions and responsibilities of each partner in the project must be clearly stated.
- An even balance must be ensured between the scientific contributions (staffing and equipment) of each country.
- The added value of international cooperation must be stated.
- A synoptic description of the French and Brazilian partners must be provided to substantiate the relevance of the choice of laboratory to carry out the project.
- A brief CV must be provided for the French and Brazilian scientific and technical project leaders, showing their five main publications / patents taken out in the last five years.
- If one of the partners is already receiving funding for a related topic, the difference and added value of this project must be explained and the budget adjusted accordingly.

RECOMMENDATIONS CONCERNING THE LANGUAGE INWHICH THE APPLICATION IS MADE

International projects must be submitted to the ANR in English
The ANR and the FAPESP and FACEPE will exchange the projects submitted to them.

FOR MORE INFORMATION ON RULES FOR FOREIGN PARTNERS

It is important to make contact as soon as possible with the FAPESP and FACEPE, who will be financing the Brazilian partners.

FAPESP contact
Alexandre Roccato
Email : aroccatto@fapesp.br

FACEPE contact
Prof. Alfredo Arnóbio de Souza da Gama (Diretor Científico)
Email: diretoria@facepe.br

3.9 GENERAL PROVISIONS ON FINANCING

The "principle of place" will be applied for financing, i.e., each organisation - ANR and FAPESP and FACEPE – will fund its share of expenses incurred by its partner(s). Each partner should plan to take part in a mid-term or closing symposium taking place abroad.

The general financing provisions applying to French teams are those set out in the ANR call for projects.

3.10 CONSORTIUM AGREEMENTS

Consortium agreements are mandatory for all projects involving international cooperation.

Before any disbursal, partners participating in the project will be required to draw up and supply to the ANR a cooperation agreement defining the way in which intellectual property rights are to be handled between partners, and their respective obligations.

3.11 COMPETITIVENESS CLUSTERS

The general provisions concerning competitiveness clusters are those set out in the text of the ANR call for projects.

3.12 OTHER PROVISIONS

The "other provisions" set out in the text of the ANR call for projects also apply to international projects.

3.13 PROVISIONAL SCHEDULE

Joint decision by ANR/FAPESP/FACEPE and publication of results: October 2010
Project contracts signed: December 2010.