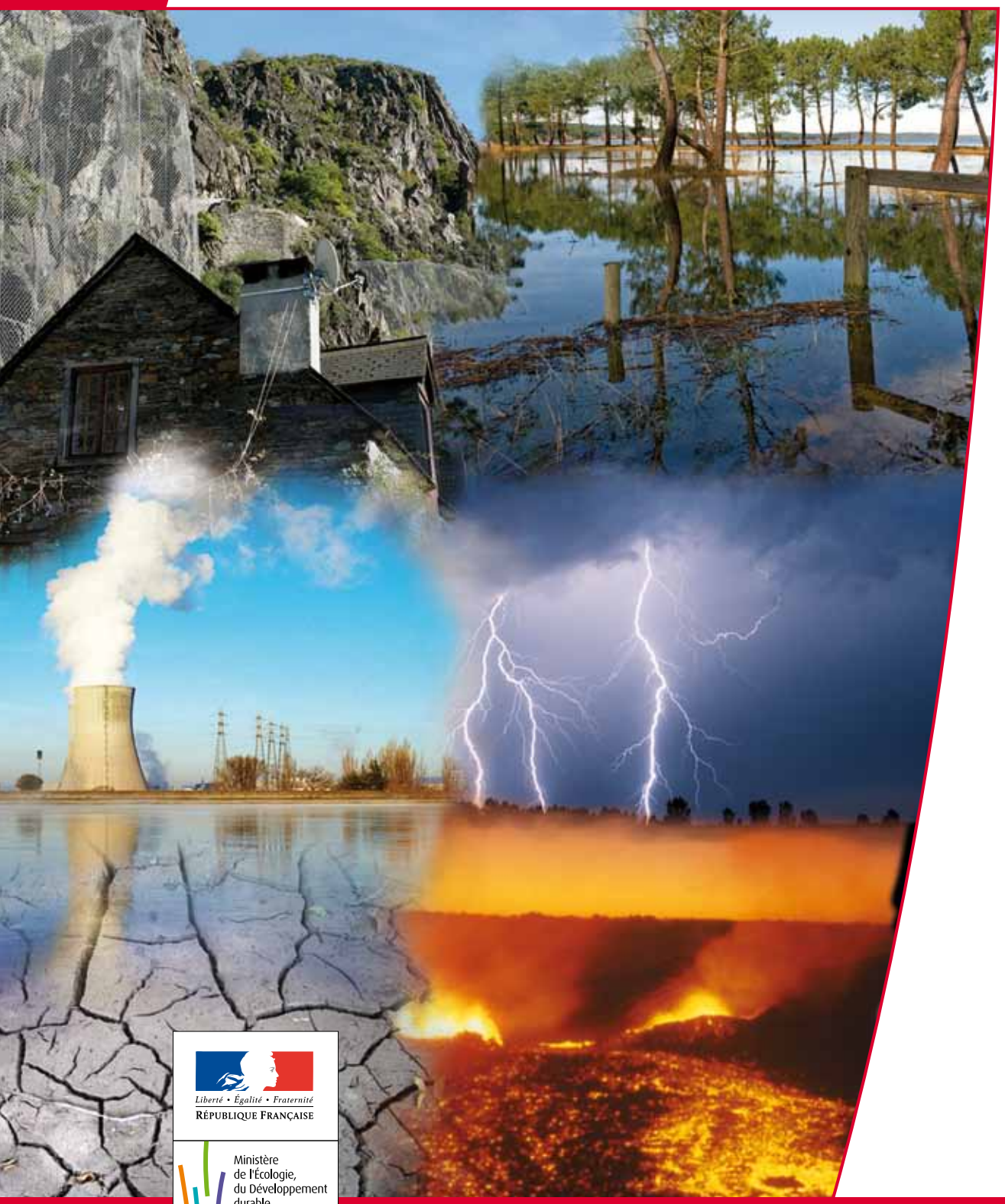
French policy to reduce the risk from disasters



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Ministère de l'Écologie, du Développement durable, des Transports et du Logement

Ministry of Ecology, Sustainable development, Transport and Housing

www.developpement-durable.gouv.fr

Natural disasters (earthquakes, cyclones, etc.) regularly cause large numbers of casualties throughout the world. Their strength and consequences are happily not so severe in France, however, those events that have taken place recently (the Xynthia storm of February 2010, that of Christmas 1999, flooding in the Somme, Languedoc-Roussillon and Var regions, forest fires in the South and the explosion at the AZF factory in Toulouse) show that in these sorts of situations human and material damage can be considerable. Two thirds of the 36000 towns and villages in France are at risk from at least one natural disaster and 15,000 of them are at risk of flooding, the main hazard in France.

French policy on managing major hazards aims to make persons and property less exposed and less vulnerable and has three main objectives:

- to prevent damage, reduce its impact and then make good;
- to inform citizens in order for them to play a part in this management;
- to manage crises and disasters effectively when they occur.

Planning taking account of hazards is necessary at all levels of government and local authority decision making.

France's experience in the areas of understanding and preventing hazards and in the management of disasters has allowed it, for a number of years now, to consider a number of ways in which it can cooperate internationally in order to respond to requests for support and help from foreign partners.

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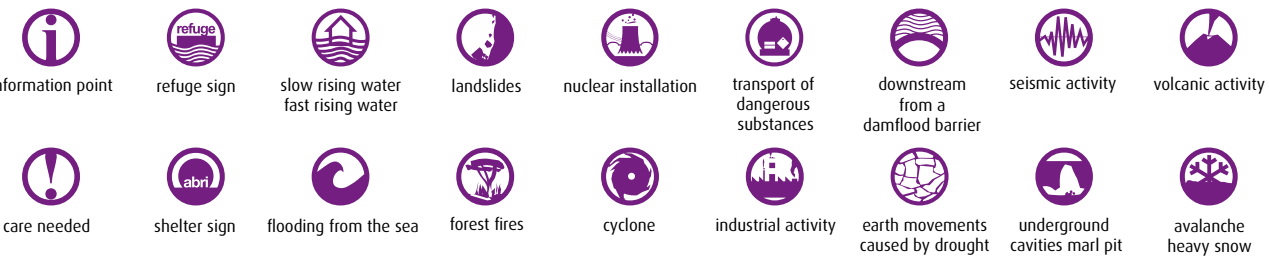

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What constitutes a **major hazard?**

The various types of hazards can be divided into five main categories:
- natural hazards: avalanches, forest fires, flooding, landslides, storms, earthquakes and volcanic eruptions;
- man-made technological hazards: these include industrial, nuclear, biological accidents, dams collapsing etc.;
- transportation hazards (persons, dangerous substances) are technological hazards but they are included as a separate category because the risks they pose vary depending on where the accident takes place;
- hazards associated with daily life, domestic accidents, road accidents etc.;
- hazards linked to war.

Major hazards have two main criteria:
- infrequency: because they do not happen very often society is more inclined to ignore them;
- serious consequences: large numbers of victims, large-scale damage to property and the environment.

Only the first three categories count as what we call major hazards and are examined in this present work. Hazards linked to conflicts are related to major hazards.
An event that is potentially a dangerous event is only a major hazard if it occurs in an area where human, economic, environmental or cultural challenges are present.
In a general way, a major hazard is characterised by large numbers of victims, a high cost in terms of material damage and impact on the environment - it is vulnerability that measures its consequences. A major hazard is therefore the combination of an unexpected event and a major challenge. For example, an earthquake in the middle of the desert is not a hazard, but an earthquake in San Francisco is a major hazard.

Society as well as the individual needs to organise to cope. A scale showing the seriousness of damage has been drawn up by the Ministry of Sustainable Development. The table below classifies natural events into 6 main categories, from an incident to a major disaster.

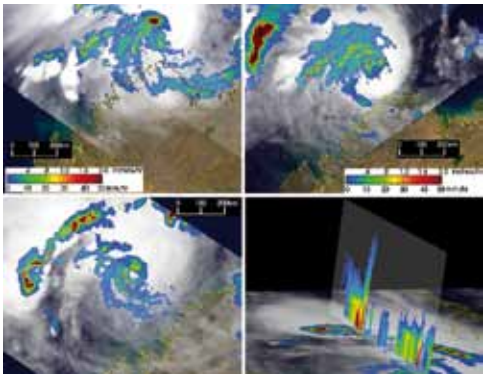
Planning for major hazards implies research into:
- what might happen;
- the threats that are present;
- the preventative measures to be put in place;
- how the various levels of management should act;
- procedures for informing persons concerned.

The management of hazards works on two levels:
- preventative measures designed to remove or reduce the effects of a possible event on persons or property; these measures are part and parcel of sustainable development since prevention tries to reduce the economic, social and environmental consequences of an imprudent development as opposed to restoration which, obviously, follows on from a crisis;
- intervention when the damaging event occurs.

The two levels are complementary; for if not enough preventative measures are taken then society will need to agree to large-scale spending to ensure the management and then the restoration of damage that may be severe and might include mourning the loss of human life.

Levels of seriousness of damage

Category		Human damage	Material damage
0	Incident	No injuries	Less than €0.3M
1	Accident	1 or more injured	Between €0.3 and €3M
2	Serious accident	1 to 9 deaths	Between €3 and €30M
3	Very serious accident	10 to 99 deaths	Between €30 and €300M
4	Disaster	100 to 999 deaths	Between €300 and €3,000M
5	Major disaster	1000 dead or more	€3,000M or more


The seven pillars
of French prevention policy

1 Understanding of phenomena, unexpected events and the risks they pose

Greater knowledge of hazards posed leads to a better understanding of the consequences of phenomena and an appropriate response can therefore be made, one that takes account of the level of vulnerability of the area under consideration:

- understanding past events, using historical research and the drawing up of data bases of events and of sites, such as, for example the data base of subterranean cavities, the list of floods, the atlas of areas liable to flood, the standing enquiry into avalanches, the map of avalanche phenomena or the forest fire data base;
- the various arms of the State, the French meteorological service, large numbers of French and European laboratories undertaking research that tries to understand the way these phenomena operate and to anticipate their behaviour whether it is earthquakes, forest fires, hazards involving water or technological hazards;
- using technical studies to enable the preparation of maps to show the extent and intensity of these phenomena. Studies that will sometimes enable certain phenomena to be foreseen, hours or even minutes before they occur.

It is vital that these areas of research are developed and that all of this knowledge is made available to the greatest number, in particular using the Internet, or in cooperation with other bodies.

2 Monitoring

Monitoring means people can be alerted to a danger using efficient methods that suit each type of phenomenon. Meteorological monitoring, for example, is one essential part of the measures for forecasting storms, avalanches or forest fires. Geophysical monitoring is also very useful in certain geographical areas.Water monitoring is essential for forecasting flooding. Large-scale earth movements, volcanic phenomena are, also, monitored round the clock.

3 Safety information and public education

The citizen needs to be the main actor in their own safety and that of their family. In France, there are a number of easily accessible ways available to make this happen.

Information on major hazards and their consequences for people, their property and the environment are available at council offices in every town and village and, often, on the internet.
These documents also give information on safety measures that have been put in place to limit the effects of an event.

- The Ministry of Sustainable Development website for the prevention of major hazards can be viewed on www.prim.net. It makes available to everyone complete files on hazards, the information available, the state of the major hazards in each French local authority area, the list of declarations of natural disasters and, on the Cartorisques Interface, a maps of events and the plans for the prevention of natural disasters (PPRN).
- Information for citizens also includes keeping alive memories of past events. Since 2003, to remind people of how high floods can reach, the putting in place of standardised markers showing the height of floods and the maintenance of those already in place has been mandatory for all authorities where floods have occurred.
- Since 2006 the law requires information on a purchaser or tenant of any property, whether built or not, situated in an unsafe area and/or within the perimeter of a plan for the prevention of natural or technological hazards, to be made available.
- Specific information on technological hazards is also made available to citizens.

Under Article 13 of the European Directive Seveso II owners of upper tier sites classified Seveso with constraints are obliged to provide information for the local population. Although coordinated by the State the production of this information is entirely financed by the generator of the hazard and should be re-issued every five years.

The Law of 30 July 2003 strengthened the provision of safety information and created different local, departmental and national



coordinating bodies.At national level, the Advisory Board on the Prevention of Major Natural Hazards (COPRNM) has been charged with giving advice and making suggestions for the prevention of natural hazards. It includes elected representatives, State services, experts and qualified persons from other walks of life.

Since 2004, making schoolchildren aware of major hazards is officially part of the Education code. It is part of the curriculum in both primary and secondary schools and is tested. As part of the measures agreed in the International Strategy for Disaster Reduction (SIPC-ISDR) a body created by the UN in 2000, each second Wednesday in October is devoted to various local awareness initiatives.

4 Planning for hazards when making spatial decisions and designing cities

In order to reduce damage from natural disasters there is a need to control planning, the uses to which the natural habitat and rural spaces are put and to safeguard the development of fragile urban environments, in order to avoid increasing the challenges faced in areas at risk and to reduce vulnerability in those areas that are already urban environments. The plans for the prevention of foreseeable environmental hazards (PPR) aim to fulfil this.

After a public enquiry and approval from the Prefect, the PPRn is declared to be of public utility and is annexed to the Local Development Framework (PLU) which has to adapt to it. From then on, planning decisions that to take account of these documents whose provisions rank above all other considerations.
The same measures apply to technological and mining hazards (PPRt)

5 Reducing vulnerability

The objective of mitigation is to reduce damage by reducing either the intensity of certain events - flooding, mudslides, avalanches etc. or vulnerability to the risk - homes, commercial and industrial buildings, historic monuments, tourist sites, telecommunications networks, water, electricity and communication systems etc.

Above all mitigation requires all persons concerned to be trained - architects, civil engineers, entrepreneurs etc. in the areas of design and planning for climate and geological phenomena as well as the building regulations.
Insurance cover for disasters is included in Damage to Homes and is guaranteed by the State.

6 Preparing

Public bodies have a duty to organise all necessary safety measures. Organising this requires a balanced sharing of competences between the State and local authorities.
When a rescue organisation is of a certain size or is of a certain type, in each département, defence or maritime area, it becomes a part of the Civil Defence Response (Law on the modernisation of Civil Defence of 13 August 2004).

The organisation of a Civil Defence Response (ORSEC)

This response, on the orders of the Prefect, determines, given the hazards that exist in the département, the general organisation of any rescue and draws up a list of all the public and private bodies able to be deployed. It will include all general measures applicable in all circumstances and others that are proper to specific identifiable hazards.

The measures in the ORSEC plans also anticipate those measures that need to be taken and the rescue plans to be implemented to counter threats from particular hazards or that are linked to the existence and operation of specific installations and works. Special Intervention Plans (PPI) particularly for those sites classified as Seveso, hydroelectric dams and nuclear sites might also be drawn up.

Local Disaster Plan (PCS)

Within their area the Mayor is responsible for providing a first response. A Local Disaster Plan (PCS) is mandatory in local authority areas where there is a Plan for the Prevention of Foreseeable Natural Disasters that has been approved, or where it falls within an area where there is a particular intervention plan. If there is a disaster it will list the means available to a local authority for use alongside other bodies intervening, rescue services, charities etc.

Particular Safeguarding Plan (PPMS)

In educational institutions that might be exposed to one or more

major hazard the head of the establishment is obliged to draw up, in the name of (and in cooperation with the local mayor and the rescue services) a Particular Safeguarding Plan (PPMS). This plan should take into account each of the major hazards to which the establishment might be exposed. Regular simulation exercises should then take place.

7 Feedback

After the crisis, there should be time for analysis. Every natural disaster and each technological accident means looking again at practices and certainties. It is a time to examine what went wrong and to find out how to create the conditions necessary for the lessening the risk in the future. At national level in France, the Department of Ecology, Sustainable development, Transport and Housing has the staff and organisational structure to analyse this feedback.

The list of the main bodies dealing with the prevention of major hazards can be consulted on **www.prim.net** and in particular annex 3 of the document *La démarche française de prévention des risques majeurs* which can be downloaded under the heading 'catalogue'. This document introduces the objectives, methodological principles, the means and bodies associated with the prevention of major hazards in France.

Each year the Director in Charge of Major Risks publishes an annual report which is submitted to the Advisory Board on the Prevention of Major Natural Hazards (COPRNM) for their comments.This report is online on the website of the Department of Ecology, Sustainable Development, Transport and Housing: **www.developpement-durable.gouv.fr**

International cooperation for the reduction of natural disasters - France's contribution

Acknowledged and shared expertise

France is active in a number of areas around the world and its international activity is wide ranging in the fields of climate, water, biodiversity, civil defence, heritage and environmental protection, meteorological knowledge, seismic, geophysical and spatial observation.

French experts actively participate in several international projects:
- UNESCO's Intergovernmental Oceanographic Commission (IOC) tsunami warning systems;
- The World Meteorological Organization (WMO) forecasting, monitoring and early warning systems, part of the natural disaster prevention programme;
- seismic activity monitoring;
- heritage protection, to extend to natural disasters those objectives of the Hague Convention (1954) that apply to the protection of cultural property.

Concerned about responding to the expectations of third countries, especially developing countries, France is anxious to develop partnerships that bring together government departments, public bodies as well as non-governmental and private operators in order to offer global and transparent cooperation, expertise and engineering skills.

These partnerships would take into consideration the particular nature of a partner country and adapt to local conditions in order to encourage the appropriation and acculturalisation of skills and thereby achieve a true shared approach to hazards and the reduction of risk from disasters.

France's scientific and operational expertise allows it to coope-



United Nations
International Strategy for Disaster Reduction

rate in a number of fields:
- understanding events and the challenges and techniques available for the reduction of major hazards;
- planning and urban development;
- construction;
- informing populations;
- training, research and scientific education;
- education in schools;
- safeguarding heritage;
- tools for surveillance, forecasting and vigilance;
- putting in place techniques and procedures for feedback;
- dynamic and evolving hazard management;
- research into new emerging hazards linked to deteriorating biodiversity, an increase in the frequency and/or seriousness of extreme events, etc.

International agreements and cooperation with other countries

France develops its various efforts to reduce risk and to prevent disasters, wishing, at one and the same time, to make its actions in these areas complementary to and consistent with its international and EU commitments and its own policies in these areas.

Since 1987 as a signatory to the EUR-OPA open agreement of the Council of Europe, France is cooperating with 25 other European and Mediterranean States in the area of the prevention and management of major hazards. France will hold the vice-presidency of the organisation until the end of 2014. France's action is in line with the implementation of Hyogo Framework for Action (2005-2015) whose focal point is the Secretariat of The International Strategy for Disaster Reduction (SIPC-ISDR) based in Geneva. Founded in 2000 by the United Nations, this organisation's objective is, through sustainable development, to build the resilience of nations and communities to disasters by making them aware of the importance of preventing disasters; understanding problems at world level and involving each individual person and each population group in efforts to reduce all the different types of damage caused by natural hazards.

The French national contribution to the ISDR is built around the Advisory Board on the Prevention of Major Natural Hazards (COPRNM) under the aegis of the Director in Charge of Major Risks together with the French Association for the Prevention of Natural Disasters (AFPCN). The COPRNM has drawn up a international action strategy in order to strengthen France's ability to offer expertise and cooperation internationally.

Beyond France's borders its embassies and local offices of the French Development Agency (AFD) are the intermediary through which offers for French cooperation for the prevention of risk are made.

France is also committed to the Global Facility for Disaster Reduction and Recovery (GFDRR), a partnership founded in 2006 by the World Bank, the United Nations and other stakeholders that aims to help developing countries to strengthen their capacity to prevent disasters, adapt to climate change and rebuild capacity post-disaster. The programme has three financing tracks:
- one track supports the international strategy for disaster reduction;
- one track supports countries mainstreaming disaster reduction in their development strategies;
- one track is the rapid financing of post-disaster reconstruction in developing countries.

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Links for further information

Ministère du Développement durable – direction générale de la prévention des risques (DGPR)
www.developpement-durable.gouv.fr - www.prim.net

Ministère des Affaires étrangères www.diplomatie.gouv.fr

Ministère de l'Intérieur www.interieur.gouv.fr

Association française pour la prévention des catastrophes naturelles (AFPCN) www.afpcn.org

Association française du génie parasismique (AFPS) www.afps-seisme.org

Bureau de recherches géologiques et minières (BRGM) www.brgm.fr

Bouclier bleu www.bouclier-bleu.fr

Croix-Rouge française www.croix-rouge.fr

IFFO-RME www.iffo-rme.fr

Institut national de l'environnement industriel et des risques (INERIS) www.ineris.fr

Institut de physique du globe de Paris www.ipgp.fr

Institut des risques majeurs (IRMA) www.irma-grenoble.com

Institut de radioprotection et de sûreté nucléaire (IRSN) www.irsn.fr

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