

# FLOOD RISK MANAGEMENT PLAN

2016-2021

**Introduction and summary of objectives**

ARTOIS-PICARDIE BASIN  
*Escaut & Sambre districts*



A co-built document which sets directions to prevent and control floods on the Artois-Picardie basin

## The Artois-Picardie basin, is exposed to multiple hazards and is crossed by a hydrographical network that is highly artificialized

The Artois-Picardie basin covers close to 20,000 km<sup>2</sup>, spread over five départements: Nord, Pas-de-Calais, Somme, Oise (North) and Aisne (North). It features 2,483 municipalities and is crossed by 7,800 kilometres of rivers

The hydrographic network is very dense, with a steep topography upstream - Artois hills and Ardennes foothills - and rather flat plains downstream. The basin also features particularly low lands reclaimed from the sea: The Wateringues polder zone, between Dunkirk and Calais, as well as the Somme bay. With a rich industrial history, the basin is highly artificialized and equipped with a number of water management works, both on land and on the coast (dykes, dams, sea gates, canals, water pumping stations...)

As a result of this topography, combined with a prevailing oceanic climate, the basin has been regularly hit by different types of floods. In the winter, the sequence of rain disturbances causes the main floods, through the rising of the level of the water tables or the overflowing of the main rivers, whether slow or fast. In the summer period, mobile though violent

storm fronts can generate fast rising floods as well as run-offs in sloped and urban areas. Finally, the coastal area is concerned, mainly in the winter, by green seas which can sometime defeat protection works and let the sea submerge the land.

The high density of population on the whole of the basin induces significant damage, spread over a high number of municipalities. Over the 1982-2013 period, out of 2,483 municipalities in the Artois-Picardie basin:

- 1,551 municipalities experienced at least one event qualified as "natural disaster" following a flood caused by the overflowing of a river, of which 129 have experienced at least 6.
- 2,483 municipalities experienced at least one event qualified as "natural disaster" following a flood caused by run-off, of which 203 have experienced at least 6.

## There is already a momentum on the territories to fight against floods and their consequences

In this context, the territories have organised themselves to fight against this floods and protect high-stakes areas:

30 Municipalities benefiting to date from a flood risk prevention plan

(PPRi) - a regulatory document which monitors urban development in risk areas in order to not increase vulnerability - and PPRis are currently under study for some 300 more municipalities.

• A network for the monitoring and forecasting of floods, managed by the state, is in place on 11 sections of river.

• The development and water management master plans (so-called SAGE) located on territories exposed include flood sections.

• Action programs for the prevention of floods (so-called PAPI) have been designed by the local authorities and they groups in the Saint Omer region, between the estuary of Bresle and Authie, on the Aa Delta, and on the Lys, Yser & Canche rivers. Programmes are currently officially discussed in the Boulogne and Valenciennes areas.

• Local authorities are initiating and developing local approaches such as setting up local monitoring networks or implementing programs to control run-offs and erosion.



## PGRI, a scoping tool at the level of the basin, established by the flood directive

The flood directive's objective is to reduce the negative consequences of floods on populations, on business and on the environmental and cultural heritage, and establish a consistent and shared vision of risks and thus allowing for the prioritisation of actions.

To achieve these targets, the flood directive has set a work method and a schedule that Member States must observe.

The Artois-Picardie basin, like the five other major French hydrographical basins, has already implemented the first steps:

- 1. A preliminary flood risk assessment (so-called EPRI), which includes the current understanding of hazards, the challenges exposed and the existing prevention tools, was approved on 22 December 2011.
- 2. 11 territories with a significant risk of flooding (so-called TRI) presenting major challenges (In terms of population and business) in the areas exposed to floods were selected on 26 December 2012.
- 3. The mapping of river hazards and coastal floods on the various TRIs, on the basis of the current knowledge, were approved on 16 May 2014 and on 12 December 2014.

### MAPPING OF THE 11 TRIS OF THE ARTOIS-PICARDIE BASIN



The development of the Artois-Picardie flood risk management plan (so-called PGRI), initiated in September 2013, is the next step in the implementation of the flood directive.

The PGRI defines the strategic vision of priority actions in terms of prevention of floods, at the level of the Artois-Picardie basin and for the next six years (2016-2021).

This formalises the objectives relating to the management of flood risks and provides a global vision of the basin, through:

- 1. Highlighting the great number of existing tools and approaches.
- 2. Complementing the hazard management approach with an approach to reduce vulnerability, integrated with the urban development policies.

## A co-building effort between State and territories, subject to continuous improvement

The Artois-Picardie basin PGRI was developed by closely involving the territory's stakeholders: State departments, local authorities, structures with local strategies, managers, trade unions, neighbourhood associations etc.

The governance for the development of the PGRI has relied on several bodies, gathered at basin level:

- 1. A steering committee, the flood committee of the basin, who define the flood risk management policy at basin level.

Adapting to the local context, the national challenges objectives:



Increasing the safety of population exposed.



Stabilising in the short term, and reducing in the mid-term, the cost of damage.



Drastically shortening the time it takes for the stricken territories to return to normalcy.

In parallel, the development of local strategies for the management of flood risks (so-called SLGRI) (SLGRI) was engaged in the spring of 2014. These strategies make up the planning documents in the river basins around the TRIs. They will adapt the Artois-Picardie PGRI to the specific challenges of the various territories

A technical committee, made up of State departments, and in charge of ensuring that the PGRI is successfully developed.

A strategic territorial committee, a collaboration body gathering structures with SLGRIs and SAGEs, as well as State public services and establishments.

As a complement to the work of these bodies, a series of interviews has been conducted to develop the initiating file for the PGRI. Then, two phases of territorial workshops were organised in order to collect expectations, comments and proposal from local stakeholders involved in the management of flood risks. These 11 workshops were reorganised between January and May 2014, and over 300 people attended. The exchanges and debates helped progressively draft the document and led to the version of the Artois-Picardie PGRI, subjected to public consultation.

A continuous improvement approach has now started and will continue up to the sign off of the document by the *Préfet coordonnateur* of the Artois Picardie basin, and also during its implementation. As with the SDAGE, with which it is consistent, the PGRI is approved for six years, and then reviewed for a new cycle of implementation.

#### **40 measures to reach 5 objectives, applicable to the whole of the basin**

The PGRI sets 5 objectives, which are translated into 16 orientations each grouping several measures. As an introduction to each orientation, an overview of the reasons and principles of the action details the context and the challenges which have led to proposing the measures.

The PGRI is enforceable against the public authority. Urban planning documents must be compatible, or made compatible within three years of the sign off of the PGRI, with the provisions of objective 1 and 2 of the Artois-Picardie PGRI.

The urban planning documents shall also be made compatible with objectives 3, 4 and 5 of the Artois-Picardie PGRI

The 5 objectives of the Artois-Picardie PGRI are:

- **Objective 1.** Sustainably improving the territories and reducing the vulnerability of assets exposed to floods
- **Objective 2.** Helping to reduce run-offs, while ensuring the conservation of aquatic environments
- **Objective 3.** Improving the understanding of flood risks and the sharing of information, in order to inform decisions and empower stakeholders
- **Objective 4.** Prepare for crisis and aid in the return to normalcy of the stricken territories
- **Objective 5.** Implement governance

### **Objective 1. Sustainably improving the territories and reducing the vulnerability of assets exposed to floods**

**The PGRI has set three progressive levels to strengthen the taking into account of the flood risks in the territories development (Orientation 1):**

*Observe the principles of prevention of the risk and unbuildability in the most exposed areas:*

- The strict conservation of floodplains, of wetlands and dunal areas, or failing this, observance of the principle of "preventing, reducing or offsetting".
- The prohibition to build in areas with high hazards or behind dykes, except justified exception
- The limitation of sensitive equipment and adapting to the risks of new buildings in flood areas.
- The identification of zones hazardous to human life, accompanied by safety procedures.

*Control land-use in flood prone areas available for building, in compliance with the "preventing, reducing or offsetting" principle, via the urban planning documents and development decisions:*

- The classification of non-urbanised areas in natural or agricultural areas.
- The guarantee of the capacity of evacuation, access to emergency services and resilience of new facilities.
- The follow up of devolution of vulnerability in flood-prone areas.

*Train and support development stakeholders (Municipalities and urban development professionals) to better take into account the flood risk*

**The PGRI promotes the reduction of the vulnerability of existing structures (Orientation 2) through:**

- *Prescriptions and recommendations introduced in the risk prevention plan*
- *Technical and administrative support to the implementation of collective actions for local work owners.*
- *Organisation of a hierarchy of intervention sectors taking advantage of major urban rejuvenation operations.*

## Objective 2. Helping to reduce run-offs, while ensuring the conservation of aquatic environments

In line with the SDAGE, the PGRI sets principles for the conservation and the restoration of natural areas that help with slowing down run-offs (orientation 3):

- The conservation and restoration of natural floodplains, including smaller rivers and ditches, as well as wetlands.
- The limitation and control of floodplain embankment projects.
- The maintenance of rivers reconciling water management and environmental requirements, via the implementation of multiannual plans and support to residents by local authorities.
- The conservation of the water management capacity of ditches via awareness raising for residents, control, and the organisation of inventories at the level of the local authorities.

**The PGRI promotes the implementation of common strategies for coastline management and the fight against coastal floods (orientation 4)**, and reasserts the great principles of action: analyses taking into account human, natural and economic challenges, non-aggravation of the risk around structures, implementation as a priority of soft methods that allow for natural fluctuations of the coastal area.

**In line with the SDAGE, the PGRI includes measures to limit run-off, in urban and rural areas. (Orientation 5):**

- The limitation of sealing, putting the priority on infiltration and alternative rainwater management techniques.
- The development of rainwater sanitation zones by local authorities, and awareness raising on the proper maintenance of structures.
- The maintenance of landscape elements that contribute to the control of run-off and erosion (Meadows, hedges, wooded areas).

**The PGRI supports the global approach in terms of control of hazards (Orientation 6):**

- The development of facilities with a dual function: flooding and quality of environment.
- The assessment of the relevance of developments in the light of the risks for human life and economic and environmental criteria.
- Reflection at the appropriate level so that there can be upstream /downstream solidarity and study of alternative solutions to protection
- Sustainable and relevant management of flood protection structures.

## Objective 3. Improve the understanding of flood risks and the sharing of information, in order to inform decisions and empower stakeholders

**The PGRI encourages the sustained approach to acquire knowledge on flooding phenomena and the challenges of flood prone areas (Orientations 7 and 8):**

- The study of the lesser-known phenomena causing floods: combination of hazards, rising of water table levels, role of water management structures, floods on the secondary hydrographical network.
- The taking into account on a systematic basis of several periods of flood recurrence when mapping out flood prone areas.
- The development of maps of potential run-off axes, in particularly exposed areas, via specific studies conducted for example as part of the establishment or review of urban planning document.
- Better taking into account of potential consequences of climate change on the coastline, on the possibilities of outlet to the sea and on weather events.
- The mapping and description of stakes in flood prone areas, and especially networks, sensitive and strategic equipment.
- The development of methods for the assessment of damage that are adapted to the territories

The PGRI envisages the sharing of this knowledge through the creation of a database at the level of the Artois-Picardie basin, as well as reinforced exchanges between local authorities and State departments.

**The PGRI strengthens the culture of risk, to empower stakeholders and collectively improve safety in the face of floods, through operations that are diversified and adapted to the territories (Orientation 10):**

- Raising the awareness of elected members via the States Department and local strategy structures.
- Town Council information (DICRIM, flood level marks, public meetings).
- Innovating initiatives to inform and raise the awareness of citizens, involvement of community structures, promotion of safety plans, raising the awareness and training social and economic stakeholders.

#### Objective 4. Prepare for crisis and aid in the return to normalcy of the stricken territories

In order to anticipate the crisis, the PGRI strengthens and develops:

- **Forecast and monitoring tools (Orientation 11):** improvement of the monitoring and alert scheme managed by the State and development of local systems, continuation of the works started on the sites subject to complex or fast phenomena (Storm surges, rising of water table levels, *wateringues* areas, flash floods, mudslides).
- **Alert and Crisis Management tools (Orientation 12):** establishment of PCS that include true operational flood sections, organisation of crisis drills, information of newly elected members, pooling of resources at the intermunicipal level.
- **Preparation of the after-crisis period (Orientation 13):** anticipation of the operational support missions, of the support to the victims in the compensation procedure, and the management of the flood-related waste.

The PGRI encourages the implementation of coordinated protocols for the management of water management facilities during floods, and aims at implementing emergency solutions for the most sensitive water management facilities.

#### Objective 5. Implement a flood risk governance that establishes solidarity between the territories

The PGRI promotes the implementation of global strategies for the prevention of flood risks, that cover consistent hydrographical river basins (Orientation 14), via:

- The implementation of flood prevention action programmes (So-called PAPI) and their 7 axes (knowledge and awareness of the risk, monitoring and forecast, alert and crisis management, taking into account of the risk in urban planning, reduction of vulnerability, reduction of runoff, management of protection structures).
- Reflection and arbitration involving upstream, downstream, plateau and bottom of the valley territories, in a logic of solidarity of the territories and efficiency of the action.

**The PGRI enhances the coordination of work owners in terms of flood risks (Orientation 15):** The support to, and grouping of, protection work owners, State support for capacity building in the "management of aquatic environments and prevention of floods" (So-called GEMAPI) for City Councils and EPCI with own tax systems.

**The PGRI promotes the development of inter-basin and cross border cooperation spaces (Orientation 16),** to develop mutual information and coordination in the management of interconnected rivers: between local authorities with Voies Navigables de France, and with Belgian and Dutch managing authorities.

The objectives, orientations and provisions make-up part C of the Artois- Picardie PGRI.

**On territories with high risks, specific measures and first milestones for the local translation of the PGRI**

All of the provisions of the PGRI are applicable to all the Artois- Picardie basin, and including to future local strategies for the management of flood risks (so-called SLGRI). However, the PGRI targets local strategies in two sections:

- In part C of the PGRI, 21 provisions out of 40 specifically mention local strategies and propose concrete actions on these territories. Local strategies shall select those that are relevant in view of the challenges and priorities identified locally.
- Part D of the PGRI is dedicated to local strategies. This presents, for each of the basin's strategies, the first elements for an audit and a diagnosis, and pre-identified priorities in terms of flood risk prevention.

The 9 scopes for local strategies and related objectives were decided on 12 December 2014 by the *Préfet coordonnateur* of the Artois-Picardie basin. The strategies are currently being developed and will be decided by *Préfets de département* in late 2016.

**LOCAL STRATEGIES**

**SUMMARY MAP OF THE ARTOIS-PICARDIE BASIN**

- Local strategy scope
- Local strategies (municipalities)
- Territory with a significant risk of flooding (TRI)
- *Département*



The Artois-Picardie flood risk management plan was developed under the steering of:



DREAL (Regional agency for environment, development and housing) - Nord-Pas-de-Calais  
DREAL - Artois Picardie basin.

With the collaboration from or participation of:

