



*The Arno River Basin Authority*

## **Land Data Management**

The Arno River Basin Authority mainly carries out knowledge activities which include collecting, processing, storing and broadcasting data. These activities are pivotal especially taking into consideration the increasingly complex environmental, economic, and social aspects that Public Institutions have to manage. The River Basin Authority data are available on the web without any authentication need, in accordance with the most recent legislation.

Data are linked to metadata forms that describe the data characteristics and their use limits.

The website (<http://www.adbarno.it/gds/>) displays useful links for information download, or direct online browsing of the Basin Plan maps.

## **The Arno River Basin Authority**

Our staff, always increasing in number, has 33 people who come from a diverse range of backgrounds and have a wide variety of skills among which geological, engineering, agronomic, forestry, information technology, legal administrative and communication. The General Director is Dr. Phd Gaia Checcucci

## **Location**

Our headquarters are located in the centre of Florence in the Montauti Niccolini Palace. The historical Palace is located in Via de' Servi n. 15, only a few steps away from the Duomo Square and the S.S Annunziata Square



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### **CONTACT INFORMATION**

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## **The Arno River Basin Authority**

The Arno River Basin Authority carries out planning and programming activities as regards to soil protection and water resources management in the Arno River Basin. The main output of this activities is the Basin Plan that includes an:

- Hydraulic Hazard Plan: The plan outlines structural and non- structural actions for flood risk reduction in the river basin area.
- Hydrogeological Management Plan: The objective of this plan is to outline a programming and planning framework that aims at reducing damage deriving from hydro-geological hazard taking into consideration the present and future expectations in terms of economic, social and cultural development.
- Water Balance Plan: It is a technical plan for the management of water resources.
- Water Quality Plan: It is an abstract that details the actions that need to be undertaken to reach quality objectives and to protect surface waters and groundwaters.

Extractions Plan: It is a plan that manages the extraction of inert material from the river bed, floodplain areas, overbanks and natural flooding areas.

## **Ongoing Research activities**

### **Geological Data Base with scale (1:25.000)**

The database contains the most detailed and updated geological data and homogeneous information at Basin scale.

### **Landslide Geographic Database**

The plan contains data about the areas interested by landsliding phenomena. The database is made and updated with the help of traditional methods supported by advanced technologies such as radar remote sensing. This study is part of the SLAM Project funded by ESA.

### **Surface Waters System**

It is an integrated information system that describes surface waters in terms of: physiographic information, surface water network, cross section geometry. It was implemented for the Basin in accordance with the homogenous standards of the Region of Tuscany.

### **Data Bank of the Bilancino Lake Area and its morpho-sedimentary environments.**

It is a data integrated system. It combines geological data and soil erosion morpho dynamic and morphologic analysis useful for the information on sediment production, transport and accumulation.

### **Remote sensing subsidence control**

Sensing technology is used for subsidence control in sensitive areas of the Arno Basin. The system is developed with the data of the ERS, Envisat and Radarsat satellites.

### **River Modelling**

Hydrologic and hydraulic modelling is used to identify the areas at high hydraulic hazard and evaluate the effects of the planned structural actions regarding hydraulic risk. The model uses mono and bi-dimensional unsteady flow patterns.

### **Climatic Change**

The effects of climate change result in a progressive flow capacity reduction on an yearly basis. The phenomenon is particularly serious in the Winter months and is due to three main causes: decrease in rain volumes, decrease in the number of rainy days connected with the increase in concentrated and flash phenomena and lastly with temperature's increase. The Arno River Basin Authority is strongly committed to this aspect both in terms of research and planning activities.

### **Real Time Flood Prediction System**

The system is based on the integration of meteorological, pluviometric and hydrometric data. The system provides, well in advance, flood forecasts and properly supports Civil Protection decision making. At present the System developed by the Arno River Basin Authority is also used by the Region of Tuscany.

## **The District and the River**

The River Basin Management Plan can be defined as a strategic planning tool. It was drafted and published at the



end of 2009 in accordance with Directive 2000/60/EC.

The River Basin Management Plan is a great opportunity for this generation, for people and organizations to play their part in bettering the quality of the water environment.

The Arno River Basin Authority together with Regions, Local Administrations, Associations, environmental stakeholders and single citizens, coordinated and drafted the River Basin District Management Plan.

*The Plan describes how we will contribute to better the quality of water resources both surface and groundwater in the coming 20 years.*

The Plan refers to the Hydrographic District, a territorial unit determined at European Level that groups River Basins on the basis of similar characteristics. The Northern Apennines River Basin District groups a series of River Basins that have the same geological and physical characteristics.

In March 2009 the website <http://www.adbarno.it/gps> was published to allow the presentation of outputs and show the work in progress and, at the same time, receive feedback from stakeholders.