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Pilot Arno Water Accounts



Deliverable: D2.1 Repository of data sets

Authors: Bernardo MAZZANTI – ARBA

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1 Introduction

The data sharing activity of the PAWA project has been implemented through the creation of a specific data repository platform. Data are collected and stored on this repository, only after a preliminary validation.

The repository is structured in main sub-directories organized on the basis of the datasets categories (hydrologic data, geographical data, water uses data) and taking into consideration, to a certain extent, the three test areas. ISPRA has created a dedicated private, password-protected FTP area on its hardware system (accessible at <ftp.isprambiente.it>) where the project team could upload, update data and perform all downloads necessary to the data processing activities detailed in the project working plan.

The Arno River Basin Authority technical staff has performed the data upload and management in conformity with [Deliverable 1.1 Catalogue of data sources and tools](#). Datasets were uploaded on the FTP area on a regular basis since the activities' kick-off date and until the end of June 2014. At the beginning of July incomplete data will be updated, in coherence with [Deliverable 2.2 Assessment of data availability](#).

2 Repository Organization

The repository structure is described in [Figure 1](#).

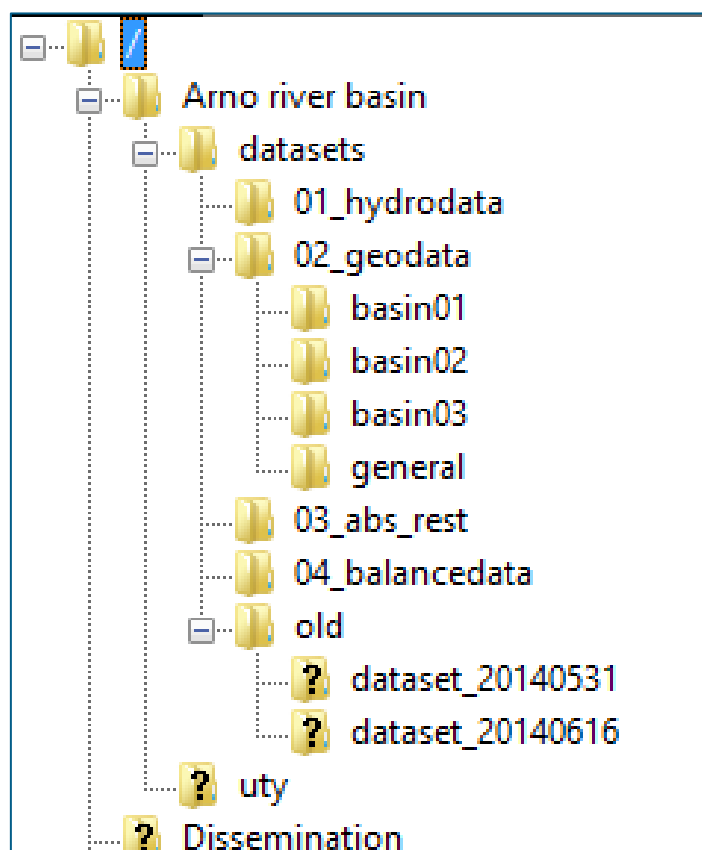


Figure 1 - Hierarchical structure of the sub-directories available in the FTP repository.

Main data directory:

/Arno river basin/datasets

- Subdir **/Arno river basin/datasets/01_hydrodata**
Data related to hydrometeorology. Location of hydrometeorological gauges, daily and monthly values.
- Subdir **/Arno river basin/datasets/02_geodata**
Data related to geographical, morphological and geological information.
- Subdir **/Arno river basin/datasets/03_abs_rest**
Data related to water anthropic use: abstractions and returns.
- Subdir **/Arno river basin/datasets/04_balancedata**
Data extracted from water balance models, both for surface water and for aquifers.
- Subdir **/Arno river basin/datasets/old**
Datasets older versions, for internal use. Useful for keeping track of past activity.

3 List of uploaded data

Here follows a list of the uploaded datasets, with a short data description. The same information is reported in an extended format in the metadata catalogue.

Subdir /Arno river basin/datasets/01_hydrodata

- daf_dayf.zip: data of daily precipitation amounts over the defined basins . Data calculated from rain gauges time series according to the Voronoy/Thiessen polygons method.
- daf_month.zip: data of monthly precipitation amounts over the defined basins. Data calculated for aggregation from daily time series.
- dhy_location.zip: geographical location of hydrometric gauges.
- dpi_location.zip: geographical location of rain gauges.
- dpi_timeseries.zip: data of daily precipitation amounts in the rain gauges located inside the selected basins/areas.
- dqu_daily.zip: daily discharge data in the river stage gauges located in the selected basins
- dqu_month.zip: daily discharge data in the river stage gauges located in the selected basins
- dra_location.zip: geographical location of radiometric gauges.
- dra_timeseries.zip: daily radiation data in the radiometric gauges located in the selected basins
- dte_location.zip: geographical location of thermometric gauges
- dte_timeseries.zip: daily temperature data in the thermometric gauges located in the selected basins
- dum_location.zip: geographical location of hygrometers
- dum_timeseries.zip: daily humidity data recorded by hygrometers located in the selected basins
- dvs_location.zip: geographical location of anemometers
- dvs_timeseries.zip: daily wind velocity data recorded by anemometers located in the selected basins
- pet_ret_month.zip: potential and real evapotranspiration estimates. Monthly temporal scale.

- pet_ret_temp_bas01.xls: potential and real evapotranspiration estimates. Monthly temporal scale. Basin 01 (Chiana)
- pet_ret_temp_bas02.xls: potential and real evapotranspiration estimates. Monthly temporal scale. Basin 02 (Bisenzio)
- pet_ret_temp_bas03.xls: potential and real evapotranspiration estimates. Monthly temporal scale. Basin 03 (Pisa)

Subdir **/Arno river basin/datasets/02_geodata/basin01**

- basin_01_chiana.zip: areal extension of basin 01 (Chiana). SHP format
- basin_01_chiana.kmz: areal extension of basin 01 (Chiana). KMZ format
- corso_canale_mestro_chiana.zip: Chiana basin main channel
- dtm_chiana.zip: digital elevation model of basin 01 (Chiana)
- lag_time_bas01.zip: lag time for river network in basin 01 (according to Nash IUH)
- pedopaesaggi_basin01.zip: soil properties in basin 01
- slope_chiana.zip: raster of slope values in basin 01
- soil_use_basin01.zip: soil use distribution according to CORINE LC legend in basin 01

Subdir **/Arno river basin/datasets/02_geodata/basin02**

- basin02_bisenzio.kmz: areal extension of basin 02 (Bisenzio). KMZ format
- basin02_bisenzio.zip: areal extension of basin 02 (Bisenzio). SHP format
- corso_bisenzio.zip: Bisenzio basin main channel
- dtm_bisenzio.zip: digital elevation model of basin 02 (Bisenzio)
- pedopaesaggi_basin02.zip: soil properties in basin 02
- perimeter_gw_02_prato.zip: areal extension of Prato aquifer
- slope_bisenzio.zip: raster of slope values in basin 02
- soil_use_basin02.zip: soil use distribution according to CORINE LC legend in basin 02
- subbasin_gauge_223.zip: areal extension of Bisenzio sub-basin closed at the river stage Gauge of San Piero a Ponti (discharge values available)

Subdir **/Arno river basin/datasets/02_geodata/basin03**

- basin03_pisa.kmz: areal extension of area 03 (Pisa aquifer). KMZ format
- basin03_pisa.zip: areal extension of area 03 (Pisa aquifer). SHP format

Subdir **/Arno river basin/datasets/02_geodata/general**

- gwb.zip: areal extension of groundwater bodies of RBMP of Northern Apennines District
- lwb.zip: areal extension of lakes and reservoirs of RBMP of Northern Apennines District
- rwb.zip: network of river water bodies of RBMP of Northern Apennines District
- twb.zip: areal extension of transitional water bodies of RBMP of Northern Apennines District

/Arno river basin/datasets/03_abs_rest

- 01_abs_sw_agr_bas01.xls: water abstraction from surface water bodies values for agricultural uses in basin 01
- 01_abs_sw_agr_bas02.xls: water abstraction from surface water bodies values for agricultural uses in basin 02

- 02_abs_sw_ind_bas01.xls: water abstraction from surface water bodies values for industrial uses in basin 01
- 02_abs_sw_ind_bas02.xls: water abstraction from surface water bodies values for industrial uses in basin 02
- 03_abs_sw_ws_bas01.xls: water abstraction from surface water bodies values for water supply in basin 01
- 03_abs_sw_ws_bas02.xls: water abstraction from surface water bodies values for water supply in basin 02
- 04_abs_sw_hh_bas01.xls: water abstraction from surface water bodies values for households in basin 01
- 04_abs_sw_hh_bas02.xls: water abstraction from surface water bodies values for households in basin 02
- abs_01_sw_ag_bas01_serie.zip: water abstraction from surface water bodies values for agricultural uses in basin 01. Single point series.
- abs_01_sw_ag_bas02_serie.zip: water abstraction from surface water bodies values for agricultural uses in basin 02. Single point series.
- abs_02_sw_in_bas01_serie.zip: water abstraction from surface water bodies values for industrial uses in basin 01. Single point series.
- abs_02_sw_in_bas02_serie.zip: water abstraction from surface water bodies values for industrial uses in basin 02. Single point series.
- abs_03_sw_ws_bas01_serie.zip: water abstraction from surface water bodies values for water supply in basin 01. Single point series.
- abs_03_sw_ws_bas02_serie.zip: water abstraction from surface water bodies values for water supply in basin 02. Single point series.
- abs_04_sw_hh_bas01_serie.zip: water abstraction from surface water bodies values for households in basin 01. Single point series.
- abs_04_sw_hh_bas02_serie.zip: water abstraction from surface water bodies values for households in basin 02. Single point series.
- abstraction_gw_prato_bas02.xls: water abstraction from groundwaterbodies values for Prato aquifers (basin 02)
- rest_sw_bas01.xls: restitution amount for basin 01.
- rest_sw_bas02.xls: restitution amount for basin 02.
- rest_sw_bas03.xls: restitution amount for basin 03.

/Arno river basin/datasets/04_balancedata

- gw_balance_prato_bas02.xls: modeled values for water balance components. Prato aquifer, monthly scale.
- gw_bas01_bas03.xls: modeled values for water balance components. Chiana aquifer Pisa aquifer, Long Term Average.
- precipitation_to_sewerage.xls: portion of precipitation amount directly drained from sewerage
- reused_water.xls: reused water for industrial uses (basin 02)
- urban_surface.xls: percentage of urban surface in basin 01, basin 02, area 03
- ws_leakages.xls: leakages of water supply system. Basin 01, basin 02, area 03.