

**UNIVERSITY OF BOLOGNA**  
**Climate change adaptation**

**Exercise – Computation of the probability distribution for the Po River at Pontelagoscuro**

At the river cross section of the Po River at Pontelagoscuro mean daily river flows were observed since Jan 1st, 1920 up to Dec 31st, 2009. Data, expressed in cubic meters per second, are reported in the text file “po-pontelagoscuro.txt”. Data observed on Feb 29th of leap years have been removed.

The student is kindly requested to:

- 1) Estimate probability density distribution with R for the overall observation period and two different time periods obtained by splitting the observation period in 2 windows of equal length.
- 2) Estimate the cumulative probability distribution for the same time windows.
- 3) Plot the obtained distributions in graphs.