TP : An Introduction to Extreme Value Theory

by

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1. Download and install the following packages :

   — *evir*

   — *ismev*

   — *fExtremes*

2. For each dataset in the following list :

   — *dowjones*

   — *glass*

   — *portpirie*

3. Give a complete study :

   — Descriptives statistics.

   — Choice of the modelisation : GEV or GPD.

   — Choice of the blocks or choice of the threshold.

   — Estimation of the parameters using the MLE or the PWM.

   — Maximum domain of attraction.

   — Return level plot and interpretation.

   — Estimation of a return level corresponding to a return period of 100 years and 1000 years or estimation of the endpoint.

   — A small conclusion.

- Each data set depicts a different situation.