

VARIABILITY OF LONG TERM ESTIMATES OF HYDRO POWER GENERATION ON A EUROPEAN SCALE

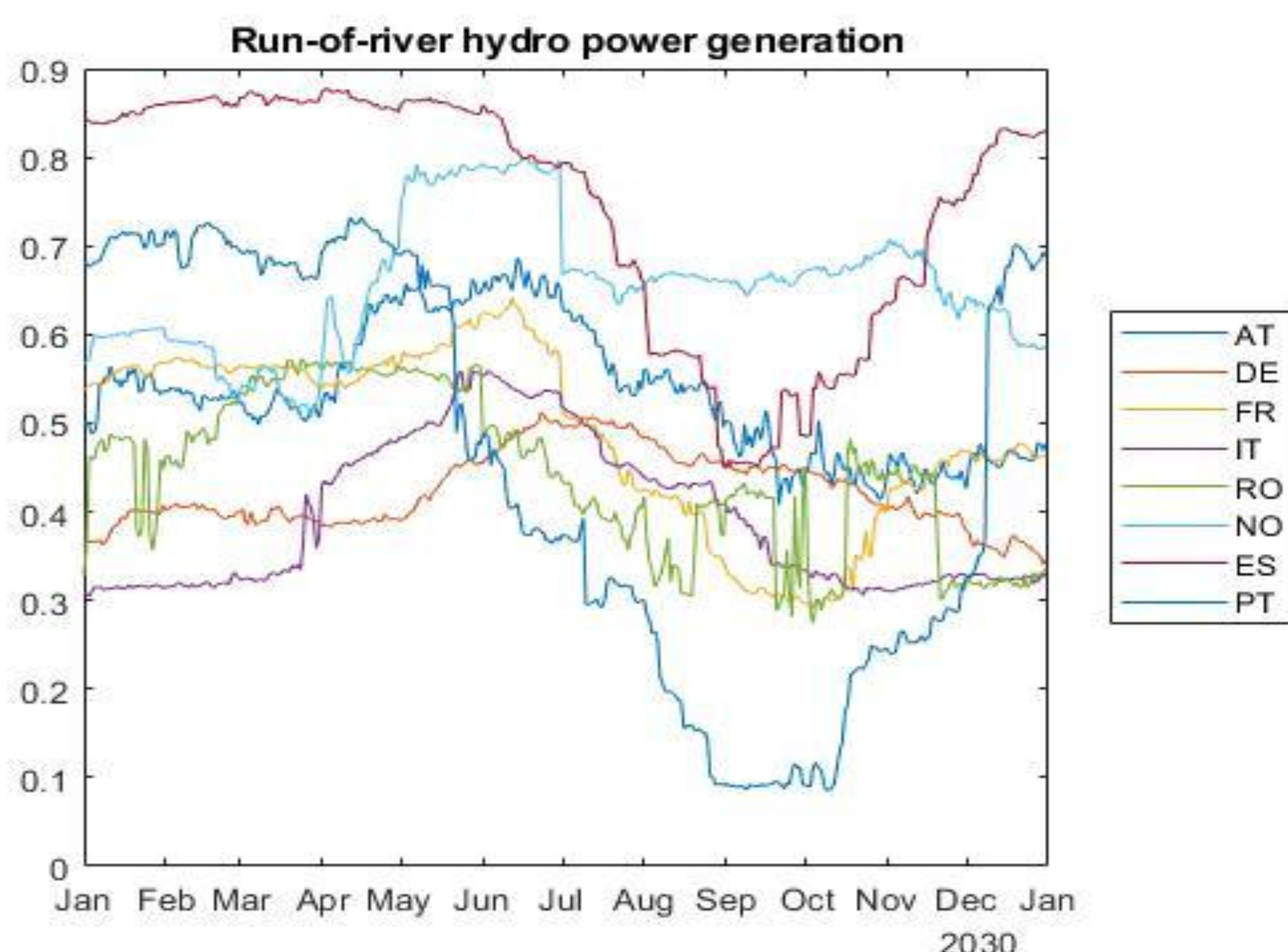
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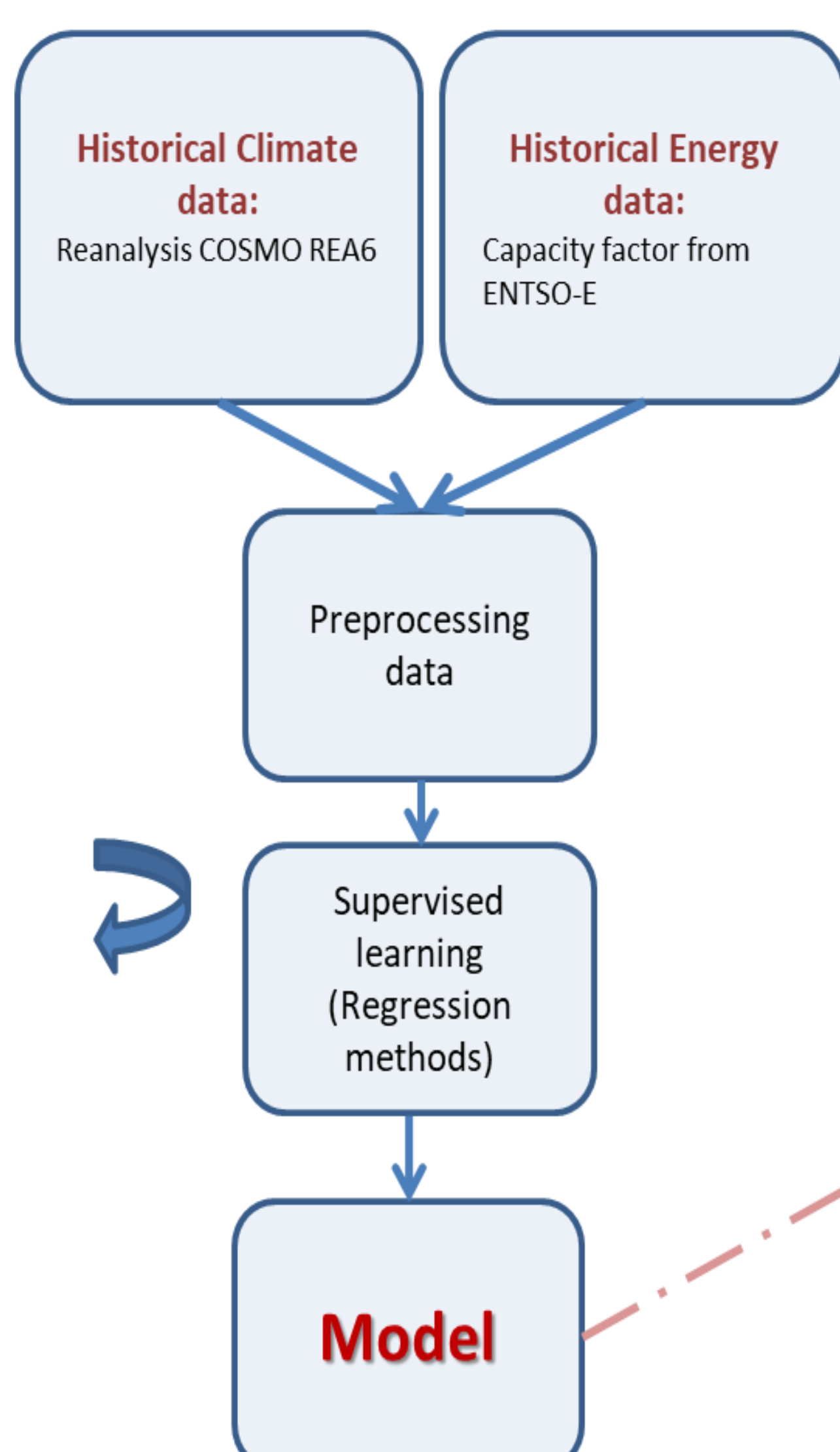
- Hydropower is the world's most dominant (86%) source of renewable electrical energy.
- It strictly depends on the geography and weather peculiarity of locations where power plants are settled.
- We use machine learning techniques for producing long term estimates of hydro power capacity factors for all European countries based on future climate scenarios.

Estimated capacity factor of run-of-river hydro power generation over 2030.

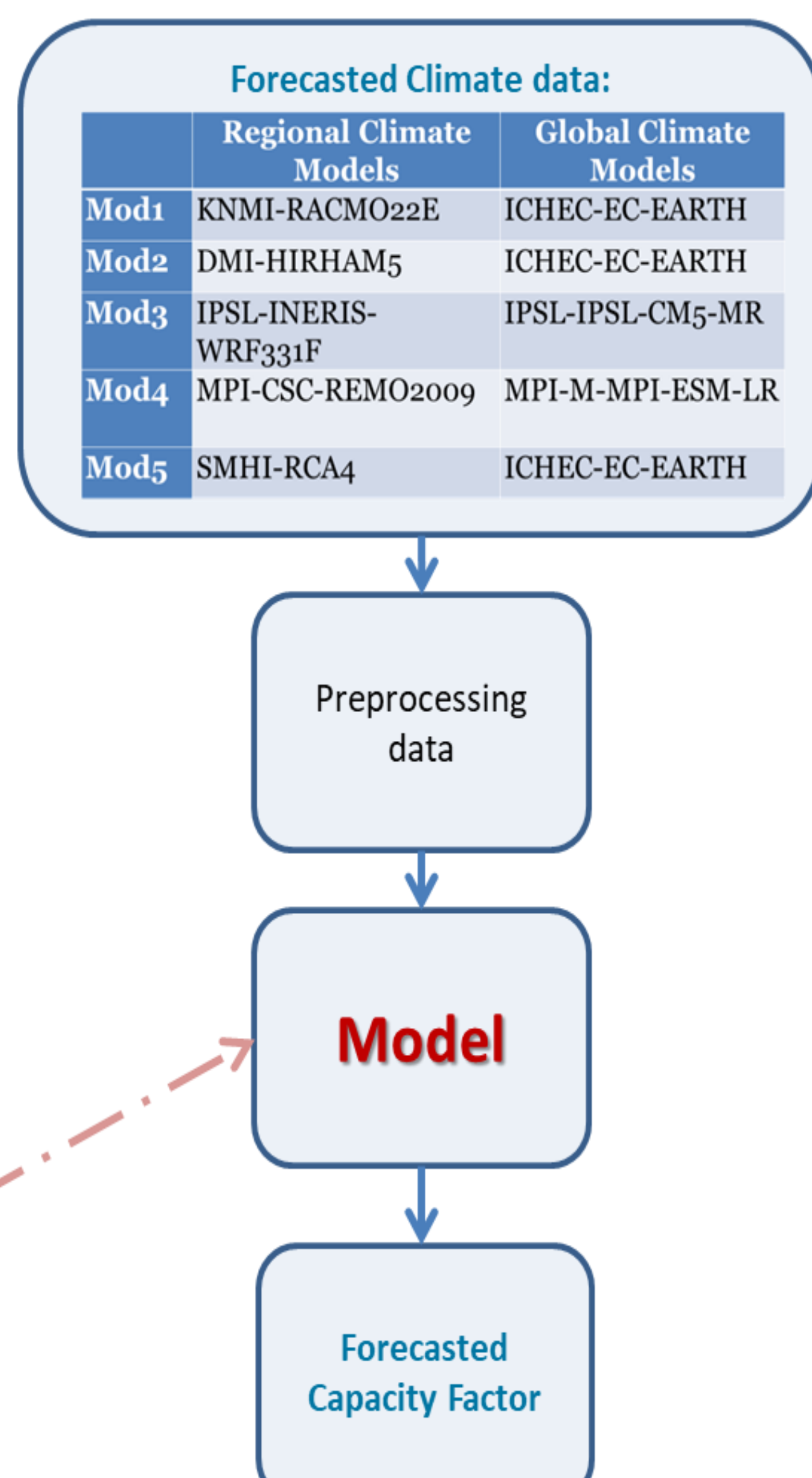


METHODOLOGY

Training

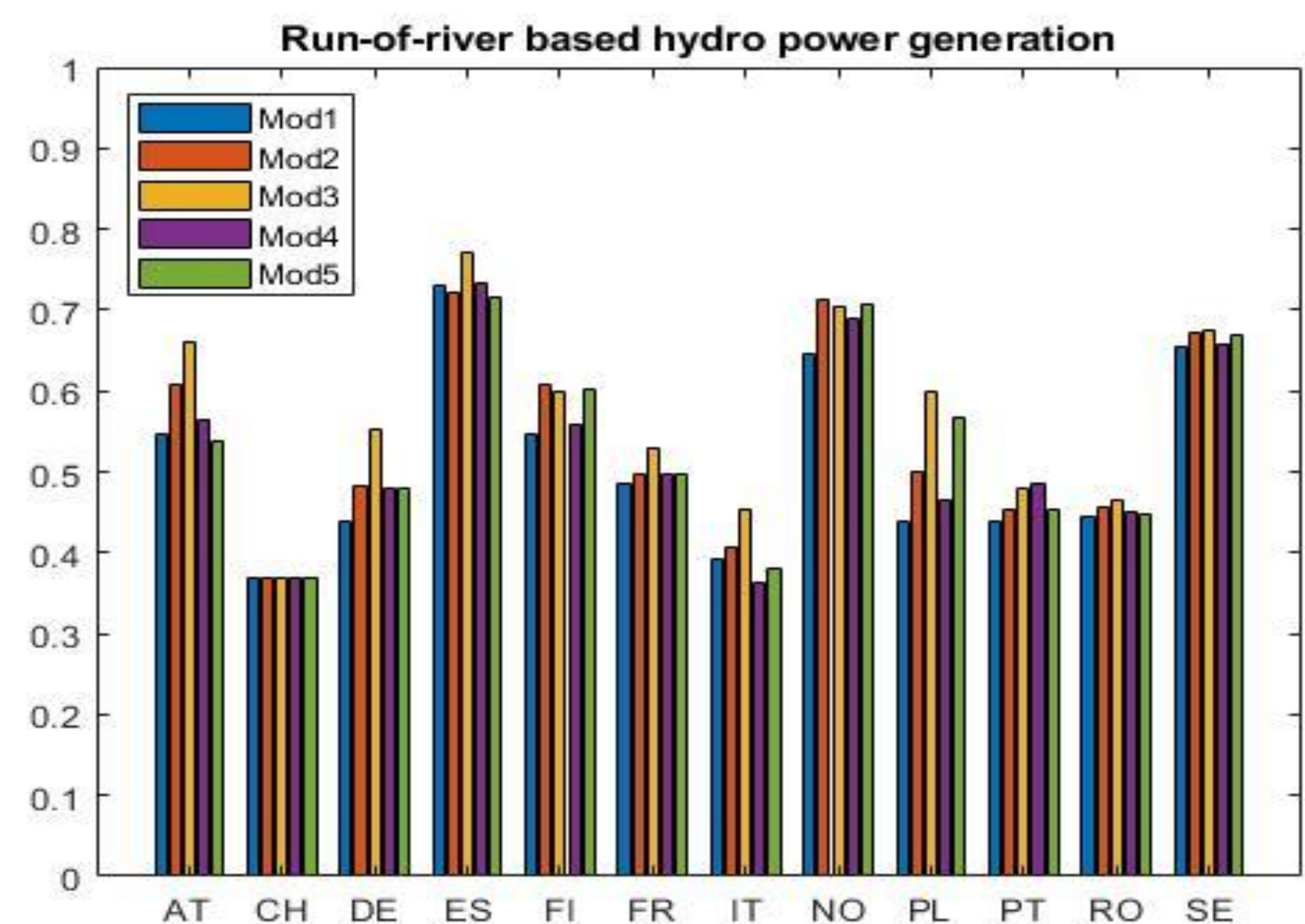


Prediction

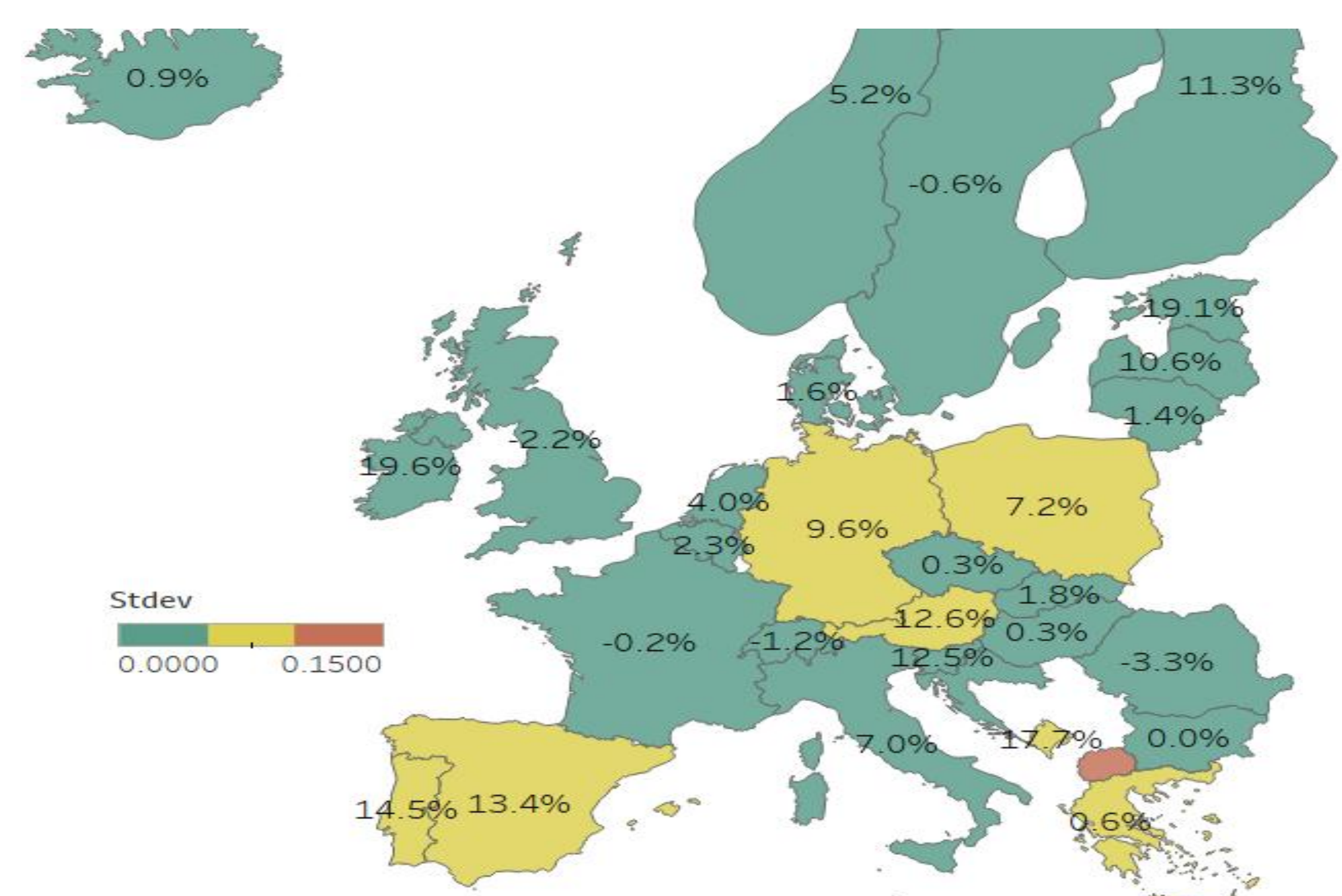


RESULTS

Annual mean of HP generation obtained by considering the five climate models over the year 2050.



Anomalies in the run-of-river HP generation for the year 2050 (winter period DJF).



Variability of capacity factor over 20 years around 2050 for Portugal.

