Advanced EVT Analysis – Pr(Mm)

- Recommended distribution: GEV (Annual Maxima).
- GEV fitted to annual maxima indicates Fréchet-type (heavy-tailed) distribution.
- Optimal POT threshold q=0.90 (u=23.40) with bootstrap uncertainty 56.2%.
- Rolling POT shows approximately stationary trend in $\xi(t)$ (slope=0.0000), classified as weak. Regression: $\xi(t) = 0.0000*Year + 0.1342$.
- Mann-Kendall p=0.907, Pettitt p=1.348.
- Return Levels for 10 periods calculated using non-stationary parameters.
- QQ/PP plots show goodness-of-fit for both GEV and POT.

Rolling POT ξ(t)

POT ξ Stability

POT σ Stability

GEV Histogram

GEV QQ Plot

GEV PP Plot

POT QQ Plot

POT PP Plot

Return Levels (GEV (Annual Maxima))