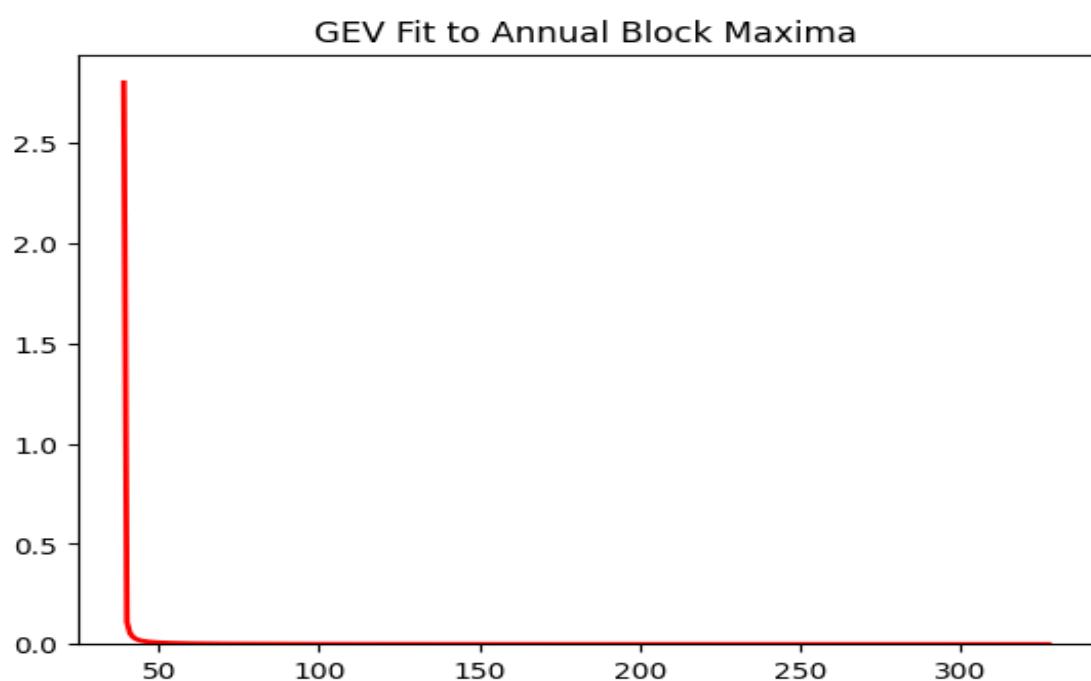
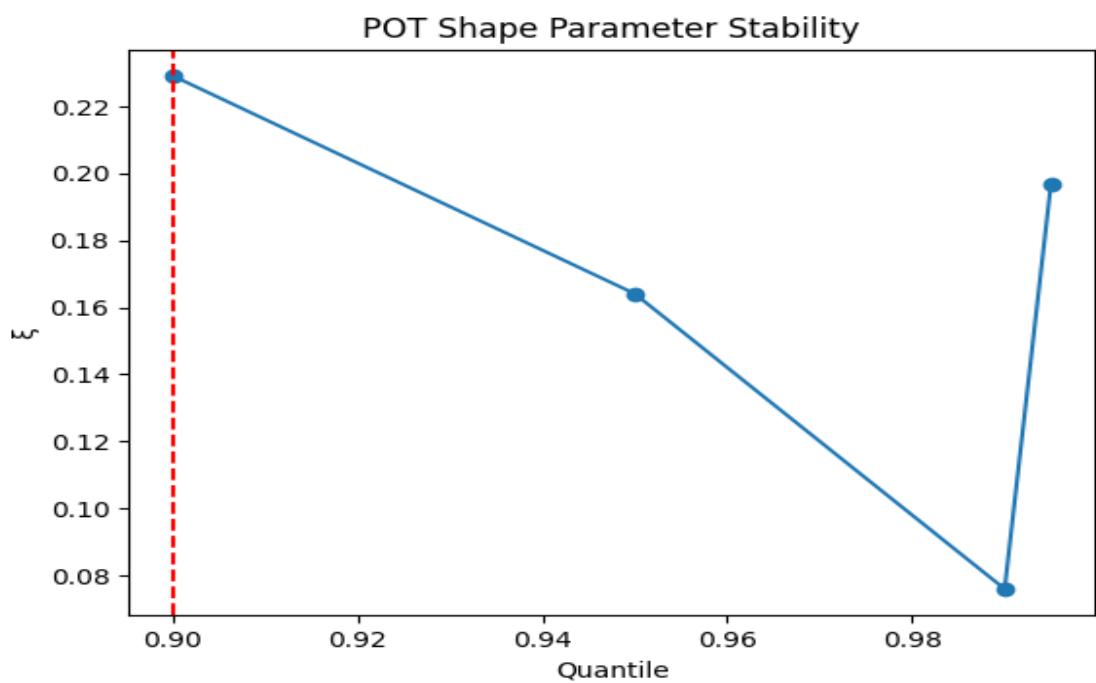
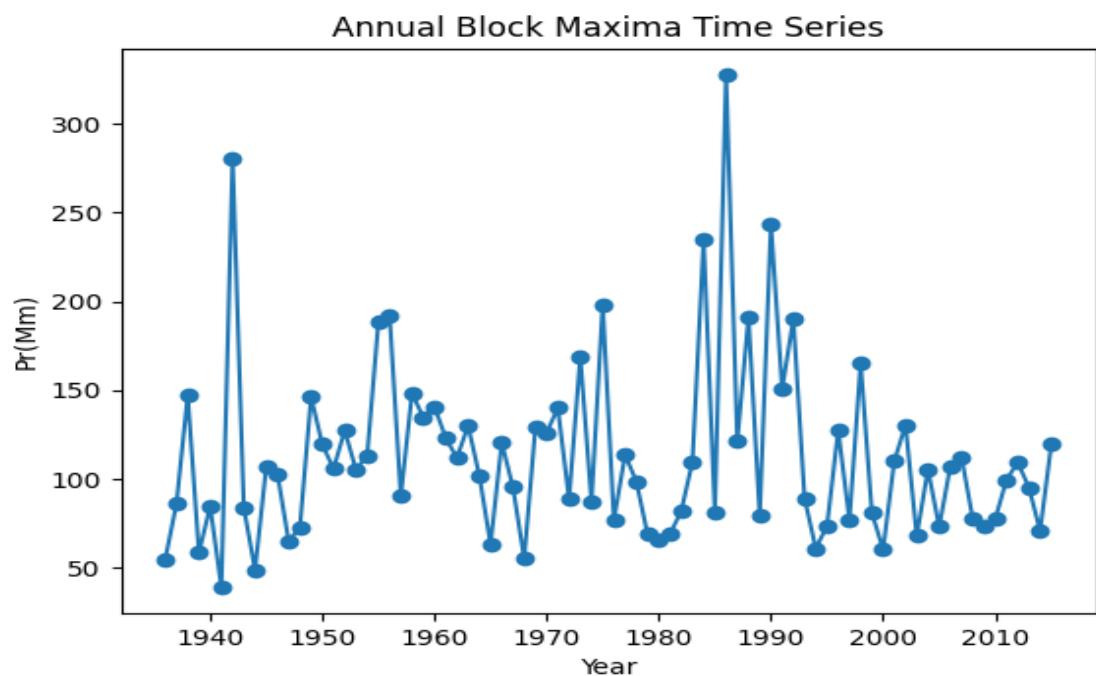
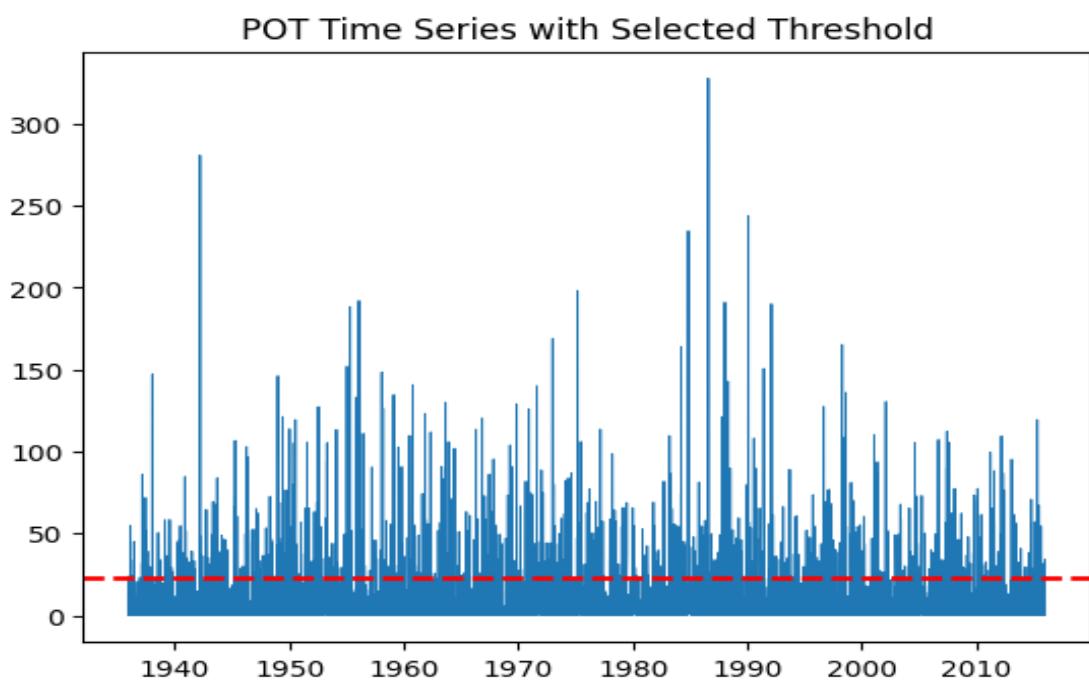
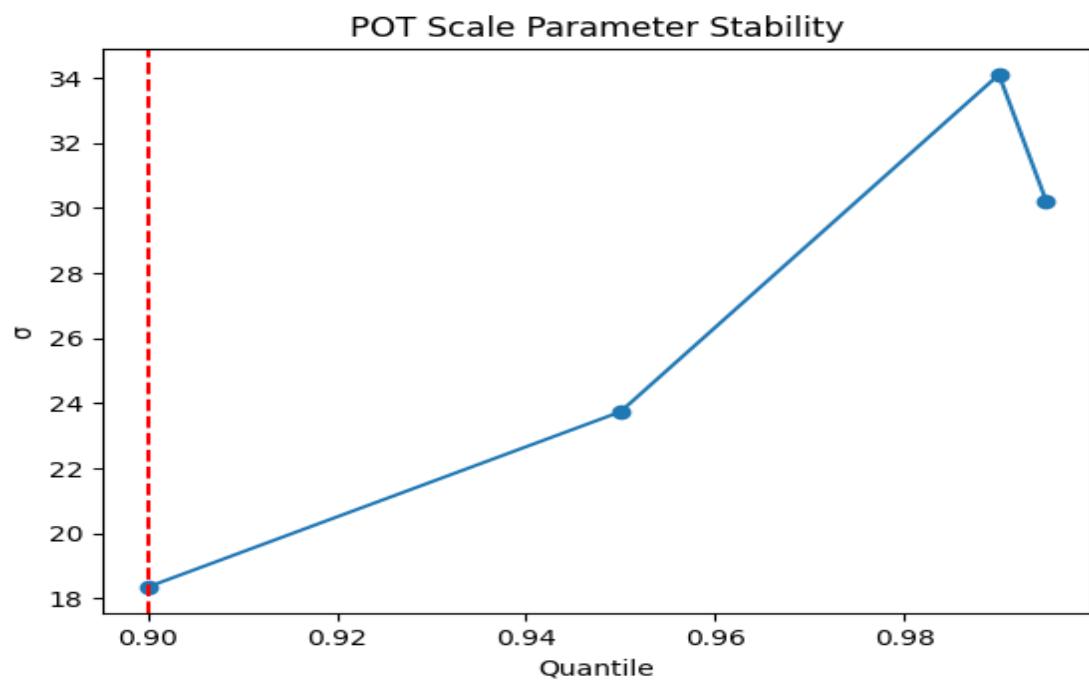


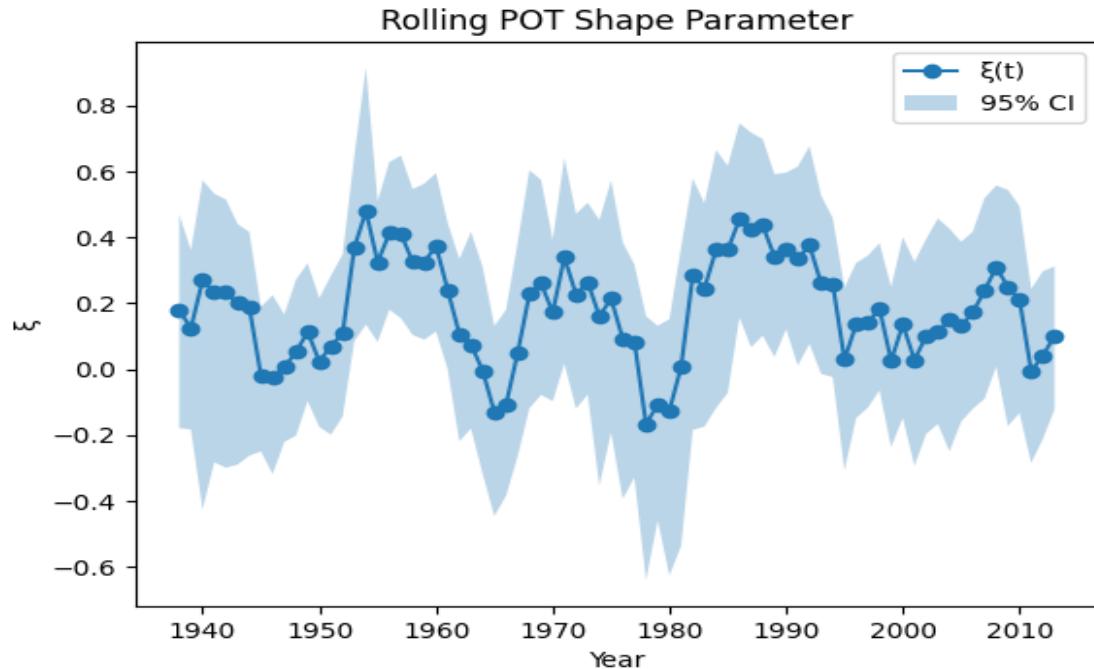
Extreme Value Analysis – Pr(Mm)

Metric	Value
Distribution	Generalized Extreme Value (GEV)
GEV Type	Fréchet-type (heavy-tailed)
Number of Blocks	80
Observations per Block	140
μ (location)	39.986
σ (scale)	3.048
ξ (shape)	3.418









Return Period (yrs)	Return Level
50	551965.84
100	6000999.01

Interpretation: The GEV distribution fitted to annual block maxima indicates a **Fréchet-type (heavy-tailed)** behavior. Optimal POT threshold $q=0.90$ based on minimum bootstrap uncertainty. Rolling POT shows no significant trend in $\xi(t)$ (slope=0.0000). Mann-Kendall $p=0.907$, Pettitt $p=1.348$. Return levels for [50, 100] yrs calculated.