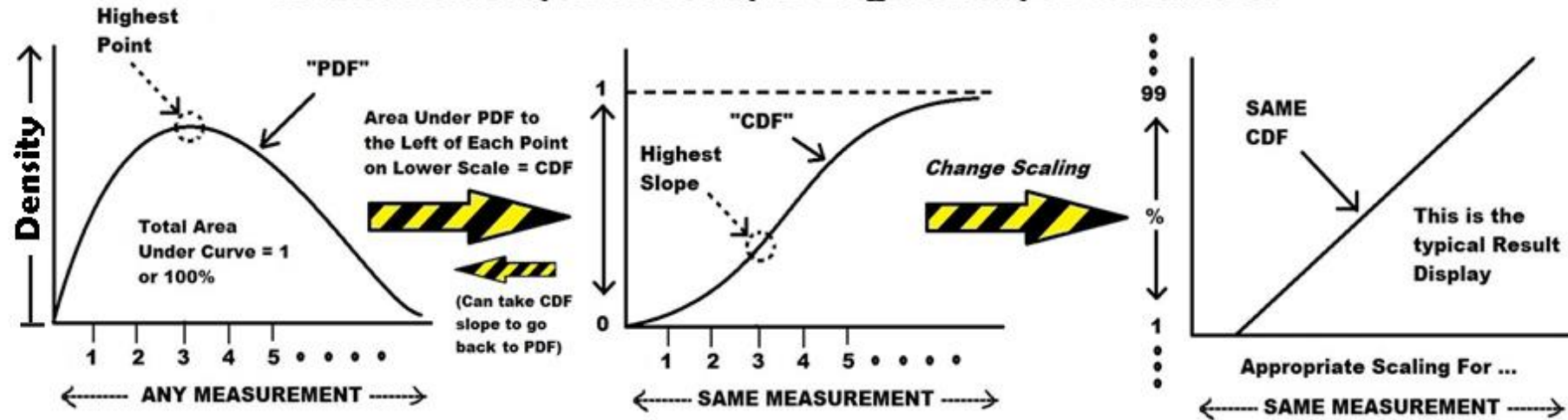


# Different Ways of Viewing Any Probability Distribution Model

... like Weibull, or Normal, or Lognormal, or Gumbel ...



\* Highest Slope for CDF occurs at same measurement value as Highest Point for PDF

- \* CDF: Cumulative Distribution Function
- \* HDF: Hazard Distribution Function ... OR ... Rate
- \* PDF: Probability Density Function
- \* RDF: Reliability Distribution Function

$$\text{"HDF"} = \frac{\text{PDF}}{1 - \text{CDF}} = \frac{\text{PDF}}{\text{"RDF"}} = \text{HAZARD RATE} = \text{INSTANTANEOUS OCCURRENCE RATE} = \underline{\text{CONDITIONAL PROBABILITY}}$$

*NOTE: Can also get this from Crow-AMSAA trend analysis*

*NOTE: Can add HDF's together for series system analysis even with different models used for each component.*

- NOTES:** (1) Other CONDITIONAL PROBABILITY methods include Bayesian, and Remaining Life, and Negative t0 (prior damage) 3P Weibull.  
 (2) "ACH" (Aggregate Cumulative Hazard) is also useful for evaluating how well model matches actual data.