Logic Tree Branches Scoring System

**S1**
NMS of the NAF sections in the central zone
- If max > 50%: True $S1 = 0$
- If average > 40%: True $S1 = 0$
- If average < 20%: True $S1 = 1$
- False $S1 = 2 - \frac{1}{20} \times \text{average}$

**S2**
Fit to catalogue
- For 40 Monte Carlo samples in the catalogue uncertainties
- $S2 = \text{average of } S_{\text{fit}}_i$

**S3**
Fit to paleo
- For each site
  - Modelled participation rate
  - Paleo earthquake rate with uncertainties represented as a 2D Gaussian distribution
  - $S_{\text{fit}}_i = \text{maximum value of the crossing between the participation rate and the 2D Gaussian}$
- $S3 = \text{average of } S_{\text{fit}}_i$

**S4**
RSQSim analysis
- $MFD_{GR} \rightarrow s_{mfd} = 0.2$
- $MFD_{TS} \rightarrow s_{mfd} = 0.8$
- Set 1 $\rightarrow s_{set} = 0.7$
- Set 2 $\rightarrow s_{set} = 0.3$
- $S4 = s_{mfd} \times s_{set}$

Weight of the branch $= \frac{S1 \times S2 \times S3 \times S4}{\text{sum branches of the logic tree}}$