**Supplementary Data S3**

**Table 2.**  Synthesis of the results: chronology, mean grain size, standard deviation and percentage of modes for the Maximum Flood Events (MFE) and Sandstorm Events (SSE) in the core Mh1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Climatic stage** |  |  |  | **Percentage of modes** |
| **Age** | **Mean grain size** | **Standard deviation** | **Bimodal GSD** | **Trimodal GSD** | **Polymodal GSD** |
| **Year AD** | **Year BP** | **C1** | **C2** | **C1** | **C2** | **C3** | **C1** | **C2** | **C3** | **C4** |
| **Present** | MFE11 | ~2003 | ~10 | ~4.5 | ~1.8 |  |  |  |  |  | 3% | 10% | 30% | 57% |
| MFE10 | ~1969 | ~70 | ~4 | ~1.8 |  |  |  |  |  | 4% | 7% | 24% | 65% |
| MFE9 | ~1920 | ~160 | ~4 | ~2 |  |  |  |  |  | 4% | 7-11% | 20-28% | 61-65% |
| **LIA** | MFE8 | ~1800 | ~240 | ~3.7 | ~1.6 |  |  | 7% | 26% | 67% |  |  |  |  |
| MFE7 | ~1550 | ~450 | ~4 | ~1.6 |  |  |  |  |  | 3% | 6% | 22% | 69% |
| SSE6 | ~1450 | ~520 | ~3.2 | ~1.2 | 4% | 96% |  |  |  |  |  |  |  |
| **MWP** | MFE6 | ~1130 | ~830 | ~4 | ~1.8 |  |  |  |  |  | 3% | 10% | 22-27% | 60-65% |
| SSE5 | ~1200 | ~730 | ~2.5 | ~1.5 |  |  | 5-8% | 24-25% | 68-71% |  |  |  |  |
| SSE4 | ~1020 | ~925 | ~3.2 | ~1.2 |  |  | 5% | 0-22% | 73-96% |  |  |  |  |
| **DA** | MFE5 | ~930 | ~1025 | ~4.2 | ~2 |  |  |  |  |  | 3% | 8-10% | 24-25% | 63-64% |
| MFE4 | ~800 | ~1150 | ~4.2 | ~2 |  |  |  |  |  | 3% | 5-10% | 21-25% | 66-67% |
| MFE3 | ~680 | ~1280 | ~4 | ~1.8 |  |  |  |  |  | 3% | 6-11% | 20-25% | 63-68% |
| **RWP** | MFE2 | ~450 | ~1500 | ~4.5 | ~2.4 |  |  |  |  |  | 3-4% | 8-14% | 14-20% | 63-74% |
| MFE1 | ~80 | ~1840 | ~4.5 | ~2.3 |  |  |  |  |  | 3-4% | 15-22% | 22-29% | 45-64% |
| SSE3 | ~230 | ~1720 | ~3 | ~1.2 | 5% | 95% |  |  |  | 3% | 8% | 18% | 71% |
| SSE2 |  | ~1960 | ~3.5 | ~1.2 | 7-8% | 92-93% |  |  |  |  |  |  |  |
| SSE1 |  | ~2100 | ~1.5 | ~1.2 |  |  | 2-4% | 25-34% | 64-71% |  |  |  |  |