

Sample ID	Surface erosion rate <sup>a,b</sup> (m Myr <sup>-1</sup> )	Apparent burial signal <sup>c,d</sup> (kyr)	Surface erosion rate accounted for burial <sup>c,d</sup> (m Myr <sup>-1</sup> )
FINKE catchment			
PIO	7.46 ± 0.25	266 <sup>+152</sup> <sub>-88</sub>	6.45 <sup>+0.80</sup> <sub>-0.60</sub>
FIN1	8.41 ± 0.32	340 <sup>+100</sup> <sub>-113</sub>	7.02 <sup>+1.33</sup> <sub>-0.53</sub>
FIN2	7.14 ± 0.23	607 <sup>+152</sup> <sub>-91</sub>	5.12 <sup>+0.60</sup> <sub>-0.50</sub>
B123s	10.96 ± 1.19	—	—
ELL	7.69 ± 0.31	465 <sup>+154</sup> <sub>-103</sub>	5.97 <sup>+0.91</sup> <sub>-0.65</sub>
FIN3	6.31 ± 0.21	475 <sup>+152</sup> <sub>-94</sub>	4.85 <sup>+0.58</sup> <sub>-0.47</sub>
PAL	5.47 ± 0.17	399 <sup>+139</sup> <sub>-96</sub>	4.37 <sup>+0.54</sup> <sub>-0.37</sub>
FIN4	5.54 ± 0.18	566 <sup>+135</sup> <sub>-95</sub>	4.03 <sup>+0.51</sup> <sub>-0.39</sub>
HUG	5.27 ± 0.17	685 <sup>+149</sup> <sub>-94</sub>	3.59 <sup>+0.45</sup> <sub>-0.34</sub>
FIN5	5.45 ± 0.17	743 <sup>+139</sup> <sub>-89</sub>	3.59 <sup>+0.40</sup> <sub>-0.32</sub>
S05/04	5.52 ± 0.18	505 <sup>+200</sup> <sub>-126</sub>	4.18 <sup>+0.64</sup> <sub>-0.48</sub>
MACUMBA catchment			
COO	1.28 ± 0.04	568 <sup>+170</sup> <sub>-101</sub>	0.87 <sup>+0.13</sup> <sub>-0.11</sub>
ALB3	1.59 ± 0.05	471 <sup>+153</sup> <sub>-101</sub>	1.17 <sup>+0.18</sup> <sub>-0.12</sub>
ALB2	1.66 ± 0.05	638 <sup>+140</sup> <sub>-86</sub>	1.10 <sup>+0.14</sup> <sub>-0.11</sub>
ALB1	1.95 ± 0.06	625 <sup>+185</sup> <sub>-107</sub>	1.32 <sup>+0.18</sup> <sub>-0.15</sub>
MAC	1.42 ± 0.04	1115 <sup>+242</sup> <sub>-126</sub>	0.66 <sup>+0.13</sup> <sub>-0.11</sub>
NEALES catchment			
PEA-BR2	4.41 ± 0.15	28 <sup>+115</sup> <sub>-14</sub>	4.34 <sup>+0.20</sup> <sub>-0.37</sub>
PEA-BR4	1.23 ± 0.04	0 <sup>+69</sup> <sub>-0</sub>	1.22 <sup>+0.05</sup> <sub>-0.07</sub>
PEA1	0.60 ± 0.02	532 <sup>+144</sup> <sub>-85</sub>	0.38 <sup>+0.06</sup> <sub>-0.05</sub>
PEA2	0.33 ± 0.02	295 <sup>+117</sup> <sub>-82</sub>	0.24 <sup>+0.05</sup> <sub>-0.04</sub>
PEA4	0.31 ± 0.01	454 <sup>+116</sup> <sub>-76</sub>	0.18 <sup>+0.04</sup> <sub>-0.03</sub>
PEA5	0.50 ± 0.02	592 <sup>+150</sup> <sub>-84</sub>	0.28 <sup>+0.05</sup> <sub>-0.05</sub>
NEA1	2.07 ± 0.07	719 <sup>+240</sup> <sub>-137</sub>	1.32 <sup>+0.24</sup> <sub>-0.19</sub>
PEA6	0.52 ± 0.02	650 <sup>+143</sup> <sub>-80</sub>	0.28 <sup>+0.05</sup> <sub>-0.04</sub>
NEA2	3.55 ± 0.10	526 <sup>+203</sup> <sub>-127</sub>	2.61 <sup>+0.40</sup> <sub>-0.31</sub>
NIL	6.11 ± 0.26	30 <sup>+5</sup> <sub>-10</sub>	6.16 <sup>+0.31</sup> <sub>-0.21</sub>
PEA7	1.46 ± 0.05	758 <sup>+159</sup> <sub>-94</sub>	0.88 <sup>+0.12</sup> <sub>-0.10</sub>
NEA3	1.79 ± 0.05	934 <sup>+161</sup> <sub>-89</sub>	0.98 <sup>+0.12</sup> <sub>-0.11</sub>
NEA4	9.07 ± 0.25	188 <sup>+123</sup> <sub>-63</sub>	8.13 <sup>+0.82</sup> <sub>-0.62</sub>
PEA8	3.04 ± 0.09	542 <sup>+137</sup> <sub>-89</sub>	2.20 <sup>+0.26</sup> <sub>-0.20</sub>
NEA5	3.11 ± 0.09	633 <sup>+134</sup> <sub>-87</sub>	2.13 <sup>+0.24</sup> <sub>-0.19</sub>