Figure S1. Glacial lakes with a high PFV greater than 20 million m³. Light blue and light green polygons denote targets and other lakes, respectively. Steep lakefront area is shaded depending on steepness. The two digits before and after 'PFV' denote its rank and volume (million m³), respectively.
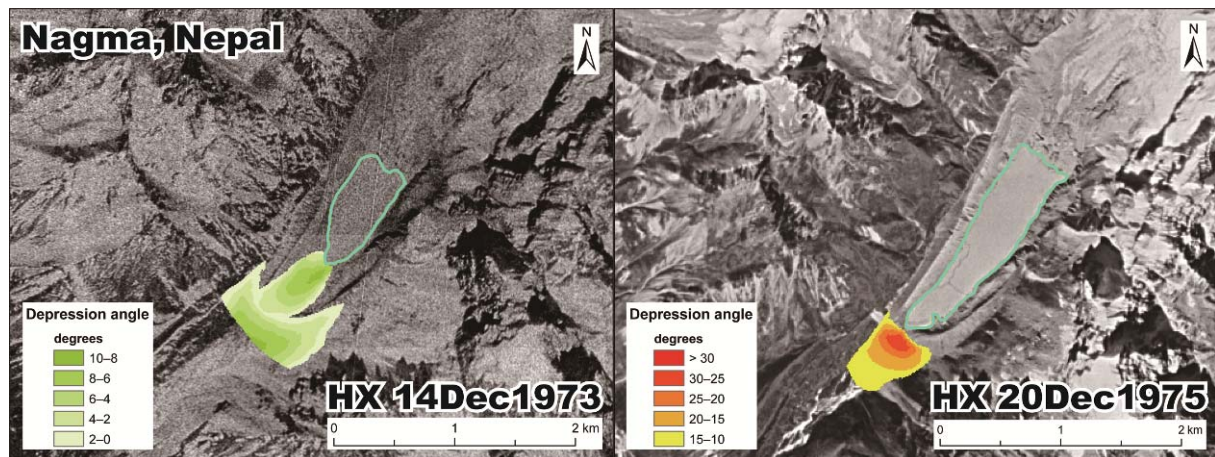
Figure S2. Evolution of steep lakefront area associated with downstream lake expansion of the Nagma Pokhari, Nepal between December 1973 (left) and December 1975 (right). Both images and digital elevation models are based on Hexagon KH-9 imagery.

Table S1. Potential flood volume (PFV) of potentially dangerous glacial lakes.

| ID[*] | Lake | PFV (million m$^3$) | Longitude (°) | Latitude (°) | Country |
|---|---|---|---|---|---|
| Gka_gl 38 | unnamed | 0 | 83.674 | 29.046 | Nepal |
| Gka_gl 67 | unnamed | 0 | 83.684 | 29.201 | Nepal |
| Gmar_gl 70 | Thulagi | 0.6 | 84.485 | 28.488 | Nepal |
| Gbu_gl 9 | unnamed | 0 | 84.630 | 28.597 | Nepal |
| Kta_gl 26 | Rolpa | 89.6 | 86.477 | 27.861 | Nepal |
| Kdh_gl 28 | Lumding | 5.2 | 86.615 | 27.779 | Nepal |
| Kdh_gl 55 | Dig | 0 | 86.584 | 27.875 | Nepal |
| Kdh_gl 350 | Imja | 0 | 86.923 | 27.899 | Nepal |
| Kdh_gl 399 | Tam/Sabai | 0.4 | 86.845 | 27.743 | Nepal |
| Kdh_gl 422 | Dudh | 12.1 | 86.859 | 27.688 | Nepal |
| Kdh_gl 442 | unnamed | 6.4 | 86.911 | 27.794 | Nepal |
| Kdh_gl 444 | unnamed | not glacial lake | 86.943 | 27.797 | Nepal |
| Kdh_gl 449 | Hunku | 0 | 86.935 | 27.837 | Nepal |
| Kdh_gl 459 | East Hungu 1 | 0 | 86.966 | 27.799 | Nepal |
| Kdh_gl 462 | East Hungu 2 | 2.6 | 86.974 | 27.805 | Nepal |
| Kdh_gl 464 | unnamed | 32.1 | 86.957 | 27.783 | Nepal |
| Kdh_gl 466 | West Chamjang | 4.8 | 86.956 | 27.754 | Nepal |
| N/A | Lower Barun | 0 | 87.096 | 27.797 | Nepal |
| Ktr_gl 146 | unnamed | 5.6 | 87.749 | 27.815 | Nepal |
| Ktr_gl 192 | Nagma | 0 | 87.867 | 27.870 | Nepal |
| | | | | | |
| Mo_gl 200 | Kab | 1.3 | 89.580 | 28.069 | Bhutan |
| Mo_gl 201 | unnamed | 1.6 | 89.602 | 28.115 | Bhutan |
| Mo_gl 202 | unnamed | 0.8 | 89.611 | 28.125 | Bhutan |
| Mo_gl 234 | Setang Burgi | 8.9 | 89.848 | 28.172 | Bhutan |
| Mo_gl 235 | unnamed | 5.2 | 89.841 | 28.144 | Bhutan |
| Pho_gl 84 | unnamed | 0 | 89.931 | 27.942 | Bhutan |
| Pho_gl 148 | unnamed | 33.7 | 89.931 | 27.973 | Bhutan |
| Pho_gl 163 | unnamed | 0 | 89.899 | 28.105 | Bhutan |
| Pho_gl 164 | Tarina | 2.7 | 89.910 | 28.113 | Bhutan |
| Pho_gl 209 | Raphstreng | 0 | 90.246 | 28.105 | Bhutan |
| Pho_gl 210 | Lugge | 0 | 90.296 | 28.094 | Bhutan |
| Pho_gl 211 | unnamed | 2.6 | 90.326 | 28.087 | Bhutan |
| Pho_gl 313 | unnamed | 0 | 90.130 | 27.988 | Bhutan |
| Mang_gl 99 | unnamed | 0 | 90.276 | 27.907 | Bhutan |
| Mang_gl 106 | Metatshota | 0 | 90.290 | 27.891 | Bhutan |
| Mang_gl 270 | unnamed | 8.3 | 90.332 | 27.970 | Bhutan |
| Mang_gl 285 | unnamed | 0 | 90.328 | 28.006 | Bhutan |
| Mang_gl 307 | unnamed | 0 | 90.364 | 28.039 | Bhutan |
| Mang_gl 310 | unnamed | 0 | 90.382 | 27.981 | Bhutan |
| Mang_gl 385 | unnamed | 0 | 90.438 | 27.985 | Bhutan |
| Cham_gl 198 | unnamed | 27.7 | 90.535 | 27.941 | Bhutan |
| Cham_gl 232 | unnamed | 2.5 | 90.508 | 27.973 | Bhutan |
| Cham_gl 383 | Chubda | 0 | 90.709 | 28.024 | Bhutan |
| Kuri_gl 172 | unnamed | not glacial lake | 91.300 | 27.930 | Bhutan |

[*]International Centre for Integrated Mountain Development (Mool et al., 2001a, 2001b).

Table S2. Glacial lakes with high potential flood volume

| Rank | PFV (million m³) | Area (km²) | LON (°) | LAT (°) | Z (m a.s.l.) | SLA (km²) | MD (m) | Hp (m) | Dm (m) | Year of image |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 89.6 | 1.477 | 86.477 | 27.862 | 4496 | 0.449 | 15 | 107 | 61 | 2007 |
| 2 | 48.4 | 0.903 | 94.965 | 29.546 | 4232 | 0.291 | 181 | 86 | 54 | 2007 |
| 3 | 42.1 | 3.619 | 85.841 | 28.319 | 5049 | 0.068 | 15 | 12 | 76 | 2005 |
| 4 | 36.8 | 0.853 | 87.771 | 27.927 | 4884 | 0.228 | 15 | 43 | 53 | 2001 |
| 5 | 34.0 | 0.681 | 91.553 | 27.834 | 4472 | 0.312 | 593 | 172 | 50 | 2007 |
| 6 | 33.7 | 0.676 | 89.931 | 27.973 | 5035 | 0.568 | 255 | 162 | 50 | 2006 |
| 7 | 32.1 | 0.650 | 86.957 | 27.783 | 5162 | 0.858 | 394 | 147 | 49 | 2005 |
| 8 | 31.5 | 0.788 | 87.592 | 28.23 | 5373 | 0.236 | 631 | 40 | 52 | 2007 |
| 9 | 31.2 | 0.635 | 81.78 | 30.128 | 4988 | 1.275 | 15 | 202 | 49 | 2000 |
| 10 | 30.8 | 1.135 | 85.51 | 28.624 | 5077 | 0.479 | 15 | 27 | 57 | 2008 |
| 11 | 30.5 | 0.756 | 90.268 | 28.106 | 4415 | 0.154 | 188 | 40 | 51 | 2001 |
| 12 | 27.7 | 0.578 | 90.536 | 27.94 | 4986 | 0.419 | 318 | 178 | 48 | 2008 |
| 13 | 25.5 | 0.540 | 86.515 | 28.045 | 5194 | 0.692 | 150 | 83 | 47 | 2008 |
| 14 | 24.3 | 5.236 | 85.61 | 28.533 | 5316 | 0.016 | 242 | 5 | 83 | 2003 |
| 15 | 22.3 | 0.486 | 88.288 | 28.018 | 5215 | 0.193 | 106 | 64 | 46 | 2007 |
| 16 | 22.3 | 0.485 | 87.641 | 28.094 | 5131 | 0.231 | 108 | 53 | 46 | 2007 |
| 17 | 22.0 | 0.480 | 90.223 | 28.929 | 5054 | 0.370 | 15 | 84 | 46 | 2008 |
| 18 | 21.2 | 0.670 | 88.546 | 27.993 | 5139 | 0.228 | 329 | 32 | 50 | 2001 |
| 19 | 19.4 | 0.434 | 86.929 | 27.85 | 5350 | 0.701 | 45 | 121 | 45 | 2008 |
| 20 | 18.8 | 0.424 | 90.996 | 27.896 | 4334 | 0.800 | 192 | 282 | 44 | 2007 |
| 21 | 18.6 | 0.419 | 89.227 | 27.809 | 5106 | 0.595 | 162 | 114 | 44 | 2005 |
| 22 | 18.4 | 0.417 | 80.785 | 30.401 | 5062 | 0.208 | 363 | 120 | 44 | 2006 |
| 23 | 17.6 | 0.402 | 91.269 | 27.932 | 4689 | 0.673 | 15 | 241 | 44 | 2007 |
| 24 | 16.8 | 1.052 | 88.714 | 28.007 | 5206 | 0.100 | 201 | 16 | 56 | 2000 |
| 25 | 16.1 | 0.375 | 82.415 | 29.754 | 4632 | 0.199 | 391 | 152 | 43 | 2009 |
| 26 | 16.1 | 0.375 | 91.597 | 28.027 | 4764 | 0.266 | 30 | 61 | 43 | 2007 |
| 27 | 15.8 | 0.771 | 87.931 | 27.951 | 5054 | 0.067 | 477 | 20 | 52 | 2007 |
| 28 | 15.8 | 0.368 | 94.891 | 29.375 | 4395 | 0.857 | 150 | 264 | 43 | 2007 |
| 29 | 15.7 | 0.366 | 90.952 | 28.05 | 4593 | 0.444 | 300 | 115 | 43 | 2005 |
| 30 | 14.4 | 0.342 | 86.621 | 27.79 | 5108 | 1.477 | 15 | 233 | 42 | 2008 |
| 31 | 14.1 | 0.337 | 85.473 | 28.643 | 5083 | 0.532 | 124 | 83 | 42 | 2007 |
| 32 | 13.9 | 0.631 | 85.606 | 28.564 | 5325 | 0.112 | 240 | 22 | 49 | 2001 |
| 33 | 13.6 | 0.576 | 88.617 | 27.976 | 4929 | 0.124 | 135 | 24 | 48 | 2001 |
| 34 | 13.6 | 0.327 | 90.606 | 28.087 | 5146 | 0.128 | 759 | 54 | 42 | 2008 |
| 35 | 13.1 | 0.317 | 82.207 | 29.929 | 4506 | 0.966 | 255 | 448 | 41 | 2005 |
| 36 | 12.4 | 0.331 | 88.085 | 27.533 | 4821 | 0.095 | 15 | 37 | 42 | 2007 |
| 37 | 12.3 | 0.302 | 89.598 | 28.187 | 4847 | 0.445 | 150 | 67 | 41 | 2002 |
| 38 | 12.1 | 0.298 | 86.859 | 27.688 | 4716 | 0.612 | 255 | 197 | 41 | 2005 |
| 39 | 12.1 | 0.297 | 90.648 | 28.301 | 5423 | 0.411 | 105 | 61 | 41 | 2008 |
| 40 | 12.0 | 0.296 | 85.851 | 28.213 | 4334 | 0.179 | 15 | 67 | 41 | 2005 |
| 41 | 11.8 | 0.336 | 86.918 | 27.833 | 5314 | 0.117 | 361 | 35 | 42 | 2005 |
| 42 | 11.1 | 0.571 | 86.158 | 28.304 | 5275 | 0.122 | 109 | 19 | 48 | 2000 |
| 43 | 11.1 | 0.278 | 86.644 | 27.778 | 5104 | 0.889 | 75 | 262 | 40 | 2008 |
| 44 | 11.1 | 0.277 | 82.508 | 29.963 | 5036 | 0.427 | 135 | 61 | 40 | 2009 |
| 45 | 10.7 | 0.316 | 90.598 | 28.05 | 4933 | 0.224 | 165 | 34 | 41 | 2008 |
| 46 | 10.7 | 0.269 | 91.534 | 27.898 | 4394 | 0.941 | 45 | 181 | 40 | 2007 |
| 47 | 10.6 | 0.758 | 88.067 | 27.934 | 5498 | 0.033 | 291 | 14 | 51 | 2007 |
| 48 | 10.5 | 0.267 | 86.315 | 28.195 | 5215 | 0.264 | 106 | 48 | 40 | 2000 |
| 49 | 10.3 | 0.262 | 88.049 | 27.545 | 4969 | 0.145 | 42 | 57 | 39 | 2007 |

Table S3.  Number of Himalayan glacial lakes categorized by potential flood volume (PDF) resulted from different threshold depression angles (TDA).

| PFV (million m$^3$) | TDA 8° | TDA 9° | TDA 10° | TDA 11° | TDA 12° |
|---|---|---|---|---|---|
| 0 | 602 | 710 | 794 | 895 | 999 |
| < 1 | 1106 | 1043 | 1002 | 959 | 892 |
| 1–5 | 421 | 391 | 370 | 329 | 308 |
| 5–10 | 73 | 73 | 61 | 53 | 41 |
| 10–20 | 45 | 37 | 31 | 25 | 21 |
| > 20 | 29 | 22 | 18 | 15 | 15 |
| Total | 2276 | | | | |

**Supplement**

**Fujita et al., "Potential flood volume of Himalayan glacial lakes"**

**Sample image of Google Earth**

If our manuscript is accepted, we want to provide a set of files for readers to access our results on Google Earth. We are unsure whether the journal allows us to place such kind of supplemental materials but this is much more user friendly supplement than dataset by excel sheet though we of course provide the dataset. For initial submission, we just provide a sample image of this supplement as below. We appreciate the editorial consideration.