

# Supporting Information for ”Downscaling CESM2 in CLM5 to Hindcast Pre-Industrial Equilibrium Line Altitudes for Tropical Mountain Glaciers”

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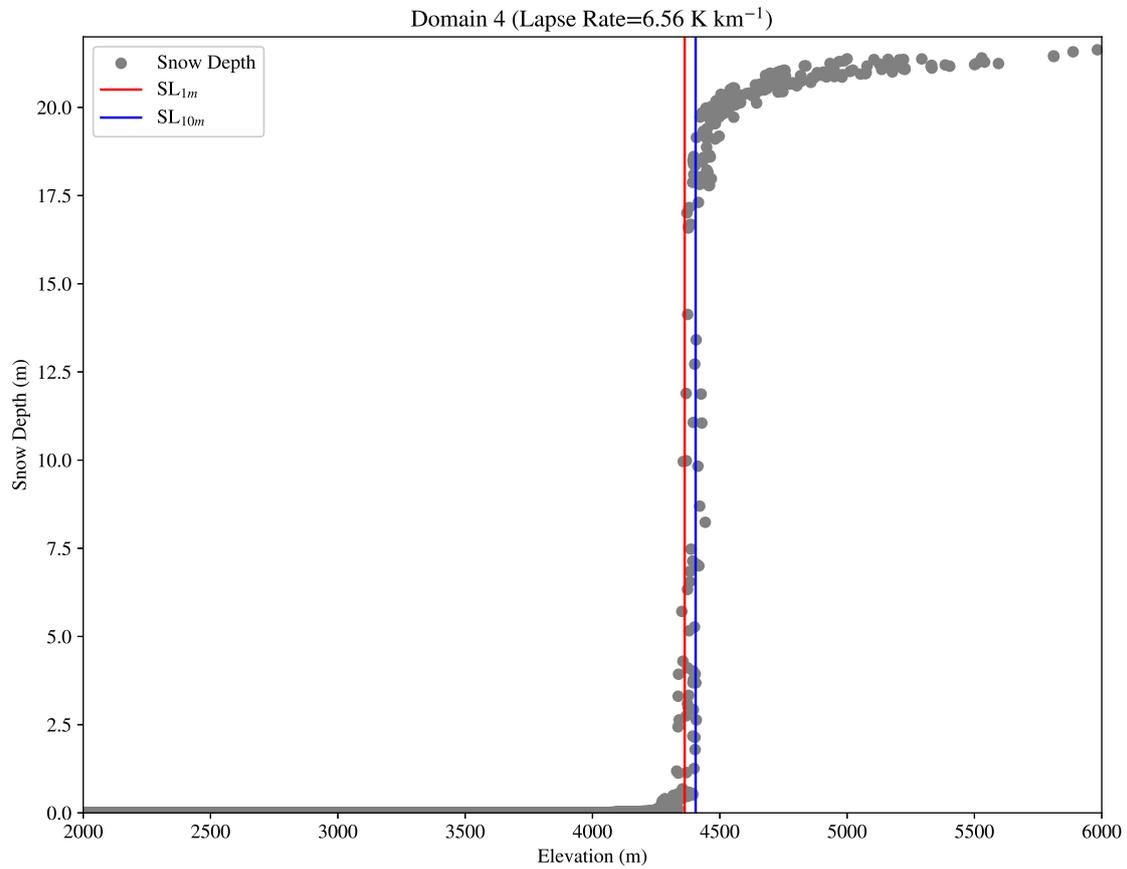
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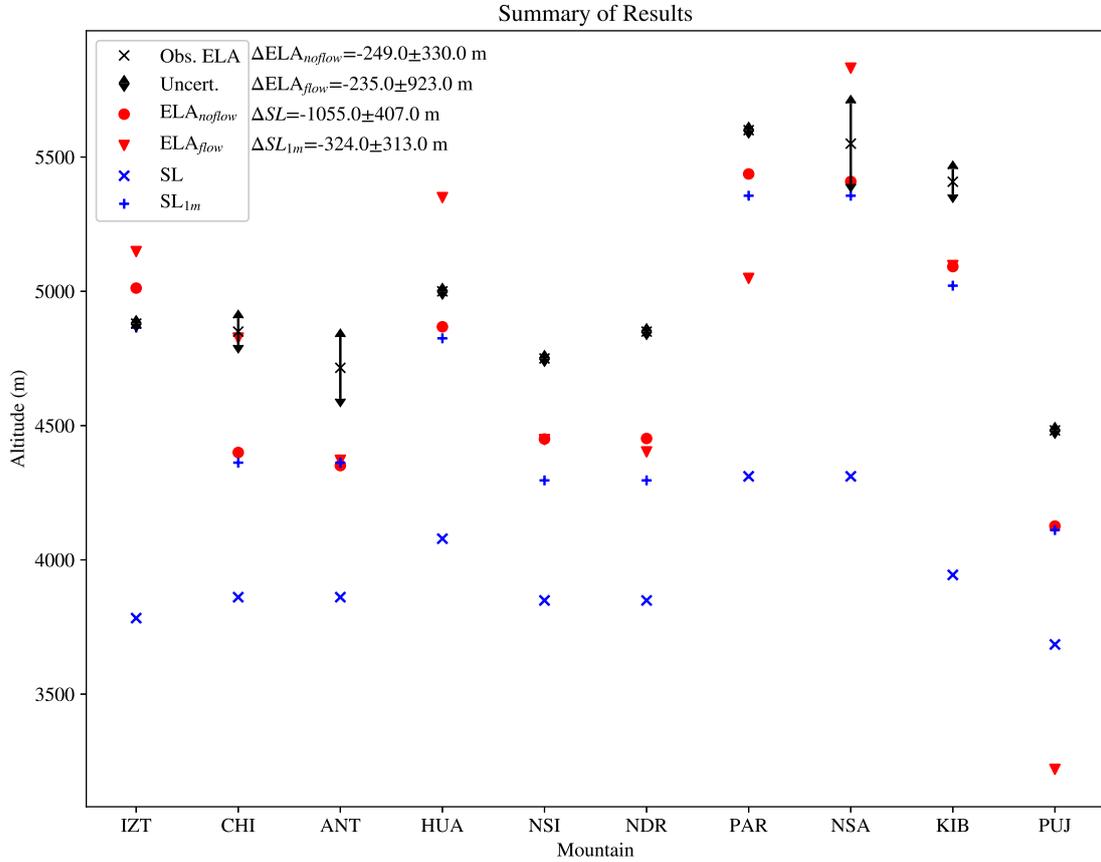
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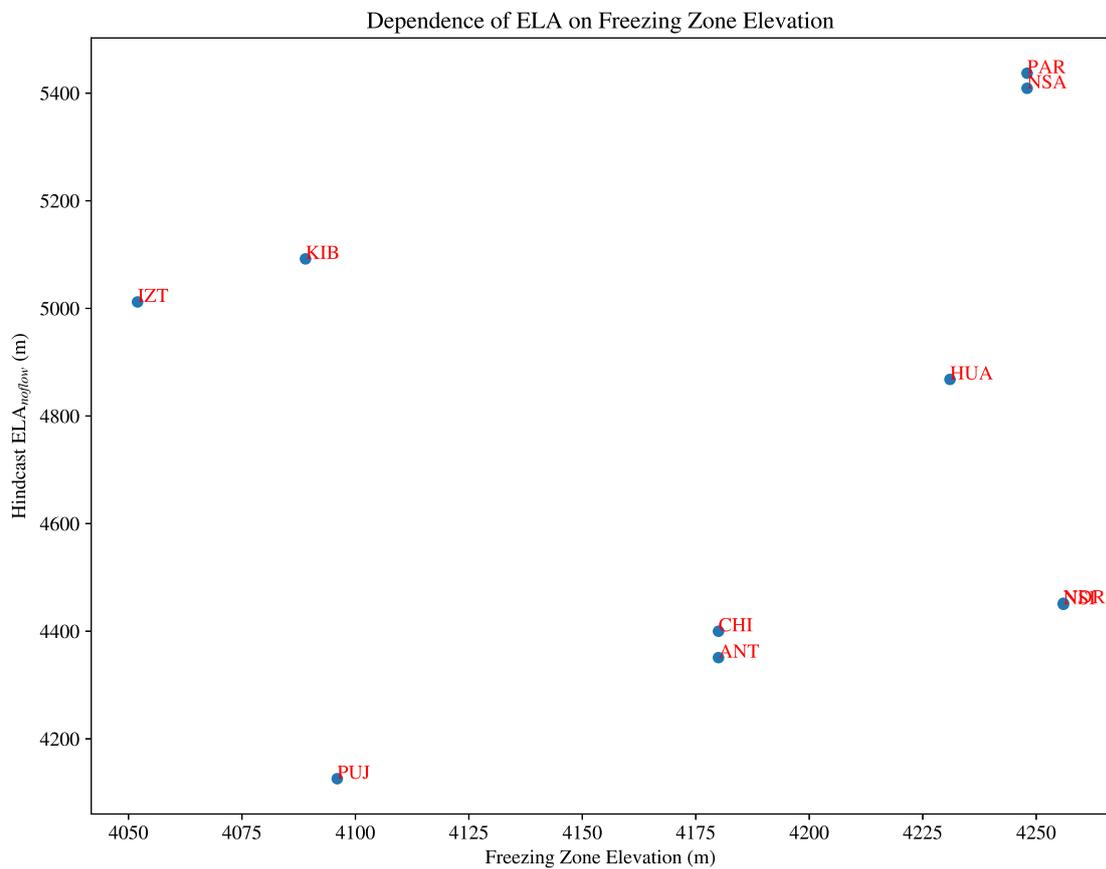
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**Figure S1.** Snow depth over glaciers in the standard hindcast simulation (modified downscaling of downward longwave radiation and free atmosphere tropospheric lapse rate) for domain 4. Snow depth-based ELA criteria are indicated with vertical lines.



**Figure S2.** Comparison of different ELA estimates (m) with observed ELA (m) and their uncertainties (m) for mountains with both observed and simulated ELA. Mountain names on the x-axis are abbreviated and in the same order as Table 2. The estimated mean bias and  $2\sigma$  uncertainty in each metric is listed next to the legend.



**Figure S3.**  $ELA_{noflow}$  (m) vs. freezing zone elevation (m) for each mountain with observed and simulated ELA. The abbreviations used are given in Table 2