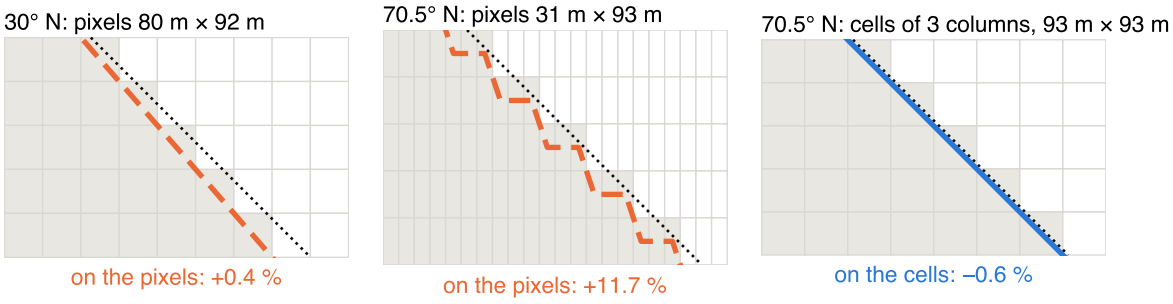
(a) A boundary at 45° on the ground (dotted), traced on pixels and on cells of merged columns



Cells of k columns: a cell is in the catchment when any of its k pixels is; cells start at global columns that are multiples of k.

Any latitude: $a = dy/dx$ at the catchment's middle row, $k_0 = \max(1, \lfloor a \rfloor)$, $w = \min(1, \max(0, a - k_0))$;

$P = (1 - w)\,P(k_0) + w\,P(k_0 + 1)$, where $P(k)$ is the same trace and weights on cells of k columns

(b) Ellipses of known perimeter on the 3″ grid (median, 10th–90th percentiles)

