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Corrigendum to "HESS Opinions: The complementary merits of competing modelling philosophies in hydrology" published in Hydrol. Earth Syst. Sci., 21, 3953–3973, 2017

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Our recent paper on complementary merits of competing modelling philosophies in hydrology (Hrachowitz and Clark, 2017) received some criticism from model developers with respect to our subjective classification of model complexity. This corrigendum provides an update of Fig. 1 from Hrachowitz and Clark (2017), modifying the relative positions of a few models that were not fully consistent with respect to other models. Note that the modifications to Fig. 1 do not affect any of the interpretations and conclusions in Hrachowitz and Clark (2017).

We would like to strongly reiterate here that this figure has a purely *indicative*, *schematic* and also somewhat *subjective* character. The intention of this figure is to convey our understanding that the way models are frequently referred to (e.g. lumped vs. distributed or conceptual vs. physically based) is inherently incomplete and does not fully capture the differences among models. With this schematic figure we try to strike a balance between giving the reader a direct link to real-world magnitudes while attempting to avoid readers interpreting the axes as detailed and accurate magnitudes (which in this case they are not).

References

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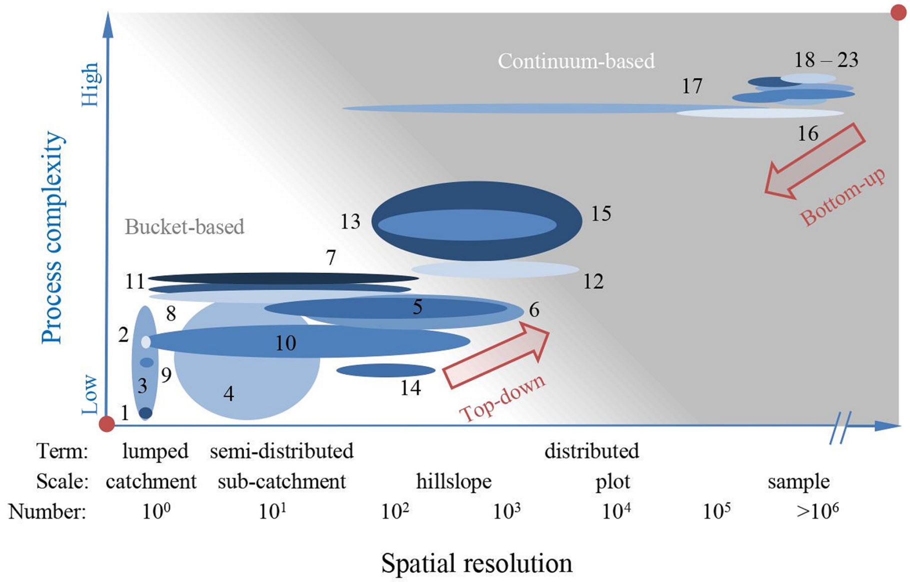

Figure 1. Conceptual sketch of approximate positions (blue ovals) of a selection of frequent applications of catchment-scale models on the spatial resolution–process complexity continuum. However, note that any of these models can, in principle, be implemented at any spatial resolution. The spatial-resolution axis schematically indicates approximate ranges of numbers and associated scales of individual spatial units (e.g. grid cells) within the model domain (e.g. catchment) for frequent applications of the individual models. The process complexity axis indicates level of resolution into individual processes/processes within one spatial unit. The increasingly grey shaded area indicates the transition from bucket-based (white) to continuum-based models. The red dots indicate the two endpoints along the resolution–complexity continuum. Models: 1: unit hydrograph (Sherman, 1932); 2: HBV (Bergström, 1976); 3: SUPERFLEX (Fenicia et al., 2011); 4: FLEX-Topo (Gharari et al., 2014); 5: mhM (Samaniego et al., 2010); 6: mhM-topo (Nijzink et al., 2016); 7: SWAT (Arnold et al., 1998); 8: NWS-Sacramento (Burnash, 1995); 9: GR4J (Perrin et al., 2003); 10: HYPE (Lindström et al., 2010); 11: VIC (Liang et al., 1994); 12: TOPMODEL (Beven and Kirkby, 1979); 13: CRHM (Pomeroy et al., 2007); 14: TACD (Uhlenbrook et al., 2004); 15: WASIM-ETH (Schulla and Kasper, 1998); 16: DHSVM (Wigmosta et al., 1994); 17: MIKE-SHE (Refsgaard and Storm, 1996); 18: PARFLOW (Kollet and Maxwell, 2008); 19: CATFLOW (Zehe et al., 2001); 20: HYDRUS-3D (Šimunek et al., 2008); 21: CATHY (Camporese et al., 2010); 22: HydroGeoSphere (Jones et al., 2006); 23: PIHM (Qu and Duffy, 2007).