0.1 Model Resolutions

The following series of images depicts the loss of "resolution" as grid cells are larger, subdivision is less distributed (images transition from highly distributed to lumped).

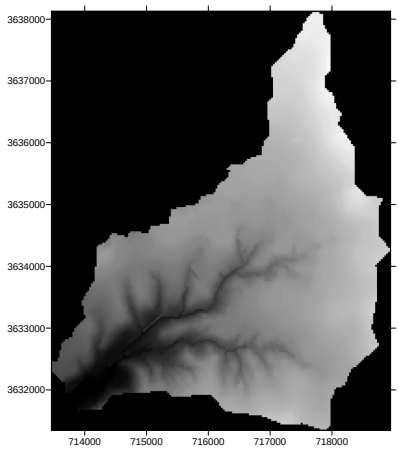

Figure 1: 30 Meter DEM model used as base model. Other models re-sampled from this model.

1 Selected Hydrographs

Each of the above resolutions was supplied the same rainfall – the DTRM parameters are used in a convolution model to simulate the output hydrographs. No volume check at this point, just working out the computational process.

Missing curves in the PDF rendering. But story is interesting. In THIS example the 30M is most faithful to the observed suggesting "subdivision" is good – however, the most "lumped" case outperforms an intermediate case, that one might have concluded should have been "more" accurate. Thus, assuming these results are correct (naturally hedging and need to re-check the computations for mistakes), there is some "sweet" spot where there is some improvement over a lumped model, but it (the "sweet" spot) is hardly arbirary.

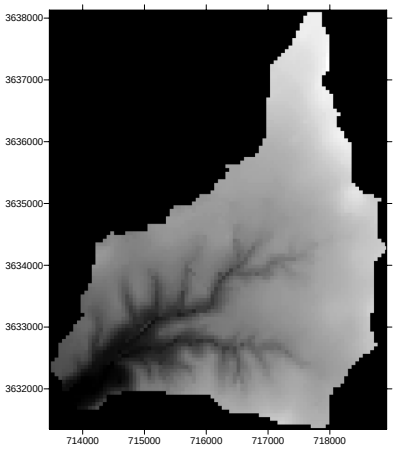

Figure 2: 60 Meter DEM model

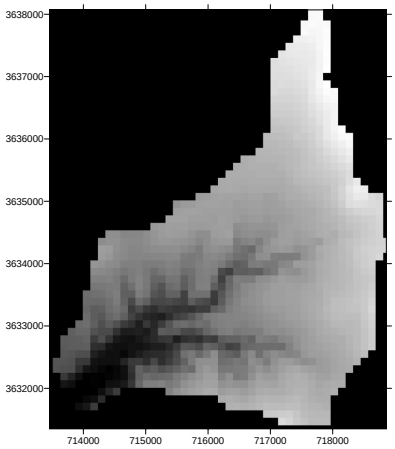

Figure 3: 120 Meter DEM model used as base model.

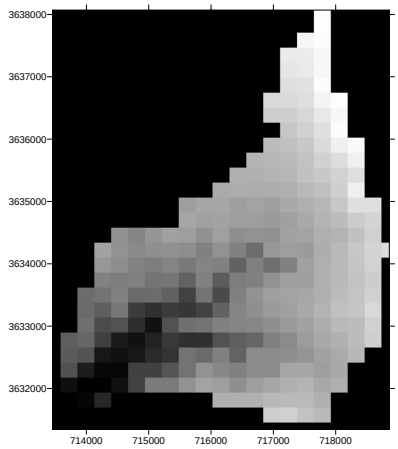

Figure 4: 240 Meter DEM model used as base model.

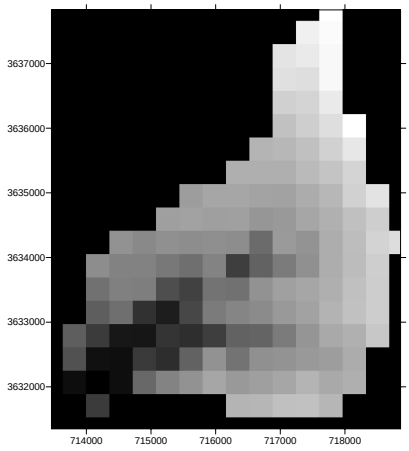

Figure 5: 480 Meter DEM model used as base model.

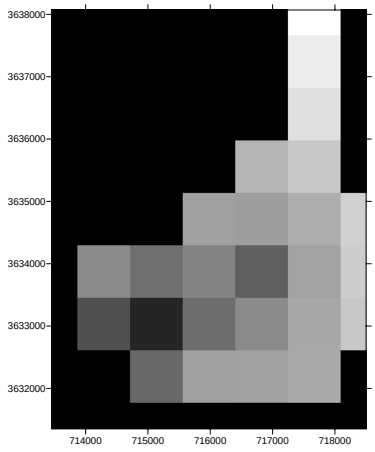

Figure 6: 840 Meter DEM model used as base model.

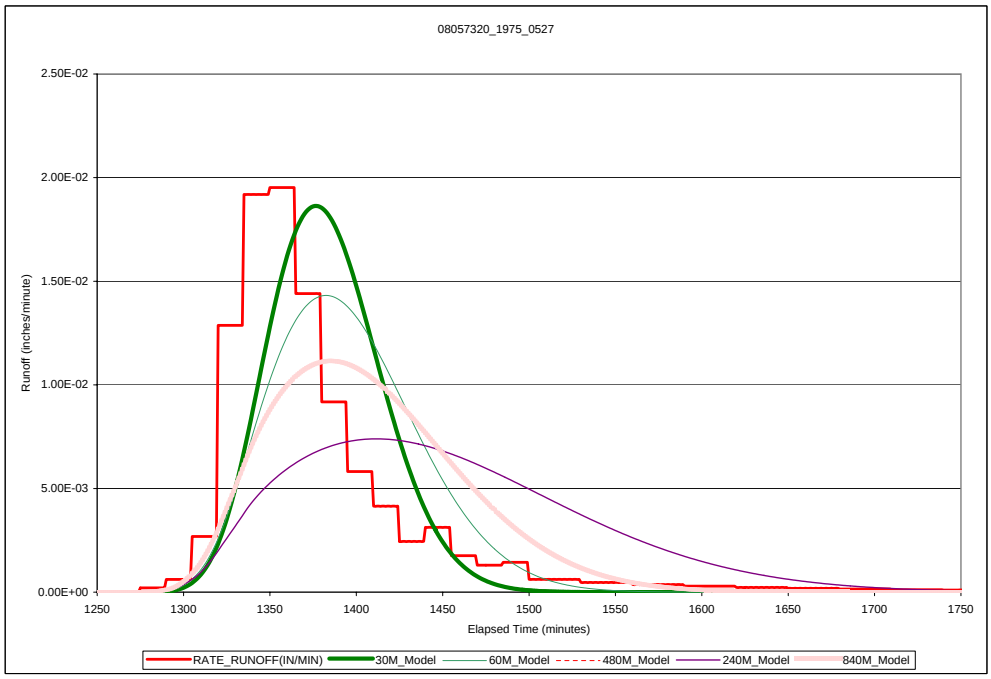

Figure 7: Observed and various simulated hydrographs