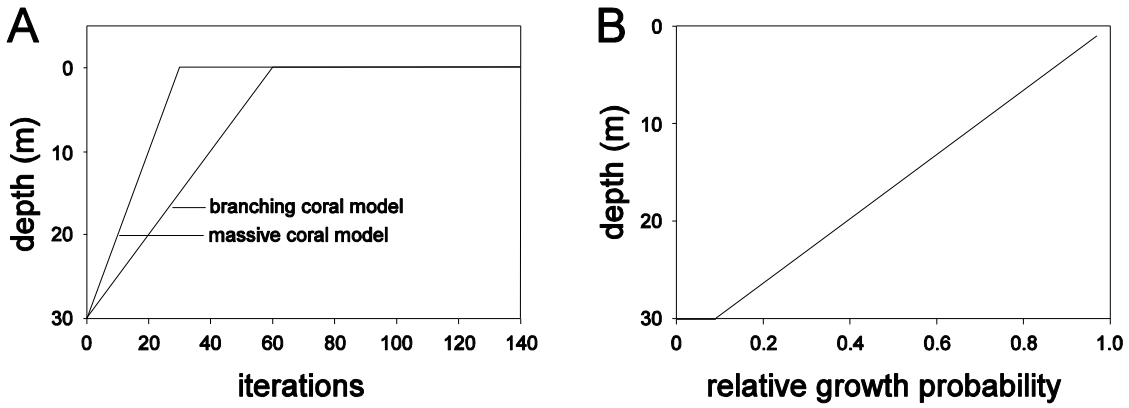
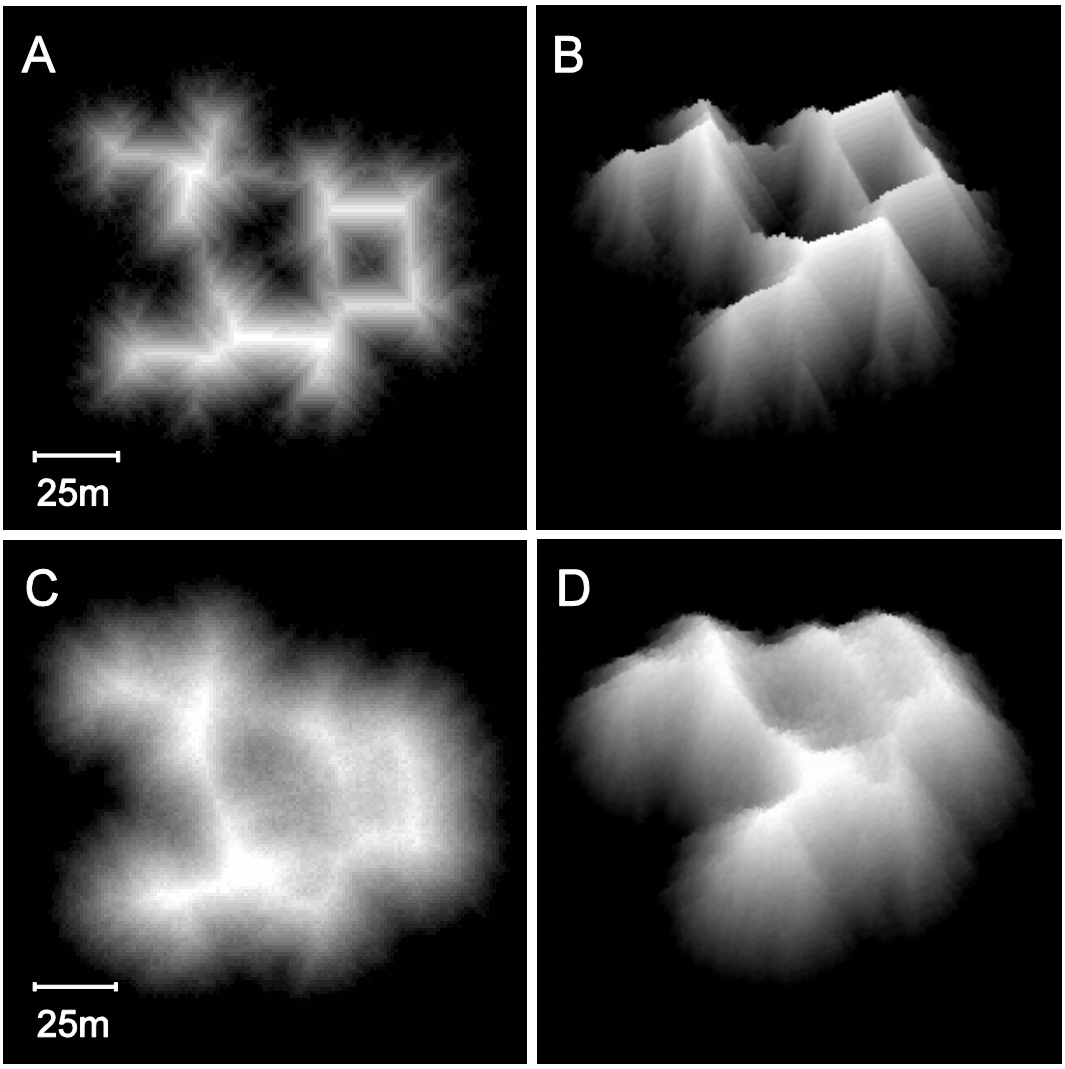
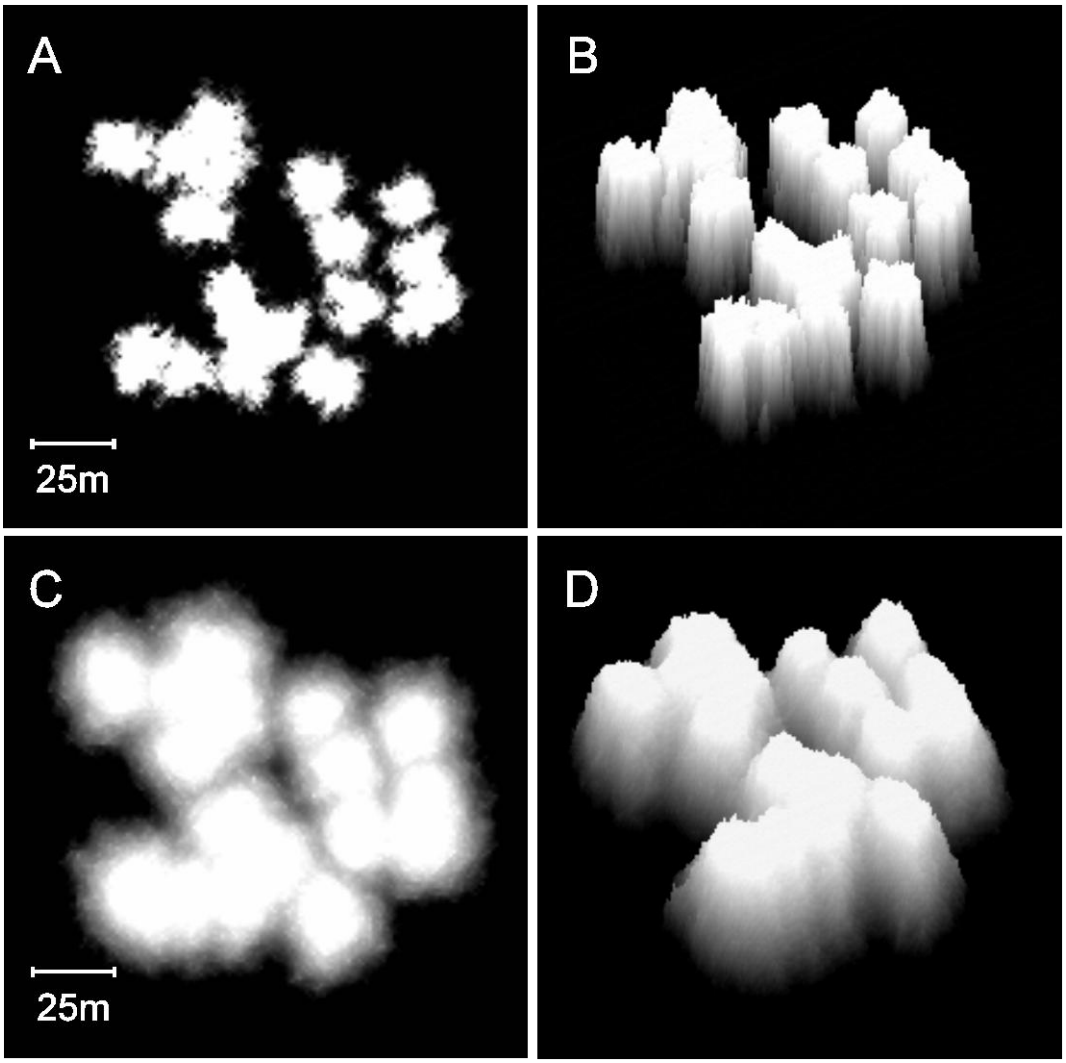
Supplemental Figure S3: Sea level rise and depth-dependent growth



A) Simulated sea level curves applied to the massive and branching coral models. In both models sea level rises over the substrate in 1m steps to a depth of 30m then remains stable. The duration of sea level rise is 30 iterations in the massive coral model and 60 iterations in the branching coral model, nominally representing 3000 years in each case. **B**) Relationship between depth and growth rate applied to the massive and branching coral models. Both the neighbour and vertical growth probabilities decrease linearly to 10% of their surface value at 30m.



Plan view (**A**) and oblique view (**B**) of model branching coral reefs after 150 iterations of the model incorporating sea level rise and reduction of reef growth rate with depth. The blocky appearance of these reefs is a consequence of being forced to their maximum slope. Almost all corals are 2m above their downslope neighbours, whereas corals on reefs created with the standard branching coral model (**C** and **D**) are either 0, 1, or 2m above their downslope neighbours.



Plan view (**A**) and oblique view (**B**) of model massive coral reefs after 100 iterations of the model incorporating sea level rise and reduction of reef growth rate with depth. Reef walls in this model slope at 85°, compared to the 65° slopes of the standard massive coral model (**C** and **D**).