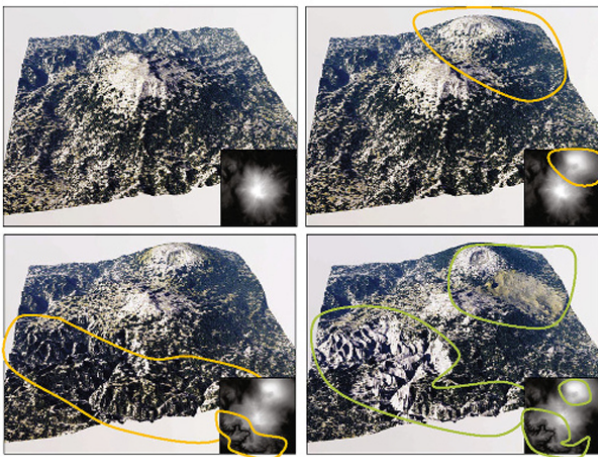


Coherent multi-layer landscape synthesis

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We present an efficient method for generating coherent multi-layer landscapes. We use a dictionary built from exemplars to synthesize high-resolution fully featured terrains from input low-resolution elevation data. Our example-based method consists in analyzing real-world terrain examples and learning the procedural rules directly from these inputs. We take into account not only the elevation of the terrain, but also additional layers such as the slope, orientation, drainage area, the density and distribution of vegetation, and the soil type. By increasing the variety of terrain exemplars, our method allows the user to

synthesize and control different types of landscapes and biomes, such as temperate or rain forests, arid deserts and mountains.