Generalized Stages of Cave Development

1. Oxygen-rich meteoric water migrates downward.
2. Uplift of the rock and downward erosion in the basin causes a gradient to form and allows mixing of oxygenated water and basinal water.
3. The two waters mix along fractures and in structurally high areas, forming sulfuric acid that dissolves limestone.
4. As the water table lowers, aggressive dissolution occurs at water table and creates large rooms.
5. Dissolution enlarges the fractures, well below the water table, forming steeply-ascending cave passages.
6. Surface erosion intersects cave and allows rapid oxygen exchange with water table.
7. Fresh water forms calcite speleothems and dissolves gypsum.
8. Roof collapse in old part of the cave.
9. The water table drops and becomes stable at a lower level, creating another large, horizontal passage deeper in the limestone.
10. Fresh water forms calcite speleothems and dissolves gypsum.
11. Roof collapse in old part of the cave.
12. Cave development causes the water table drops, and H2S no longer migrates into limestone near the cave.