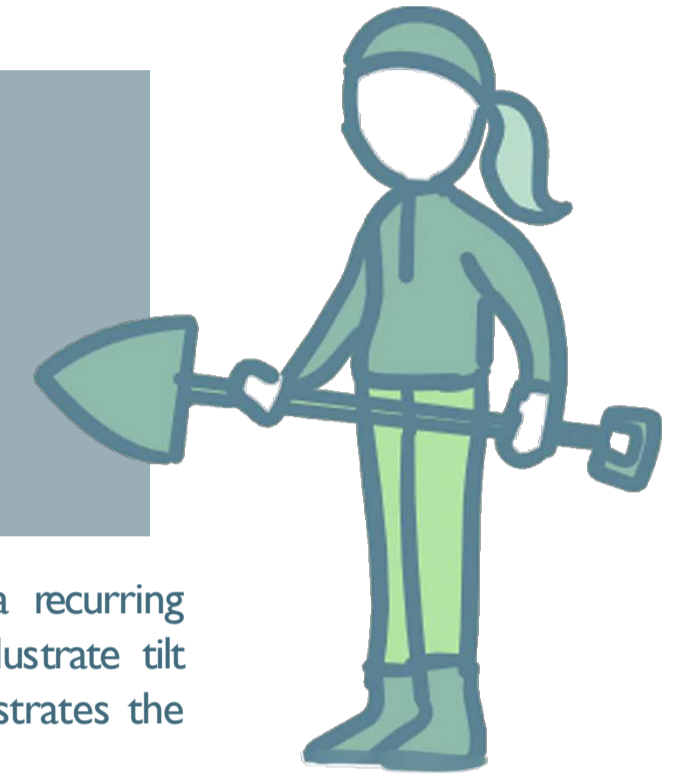
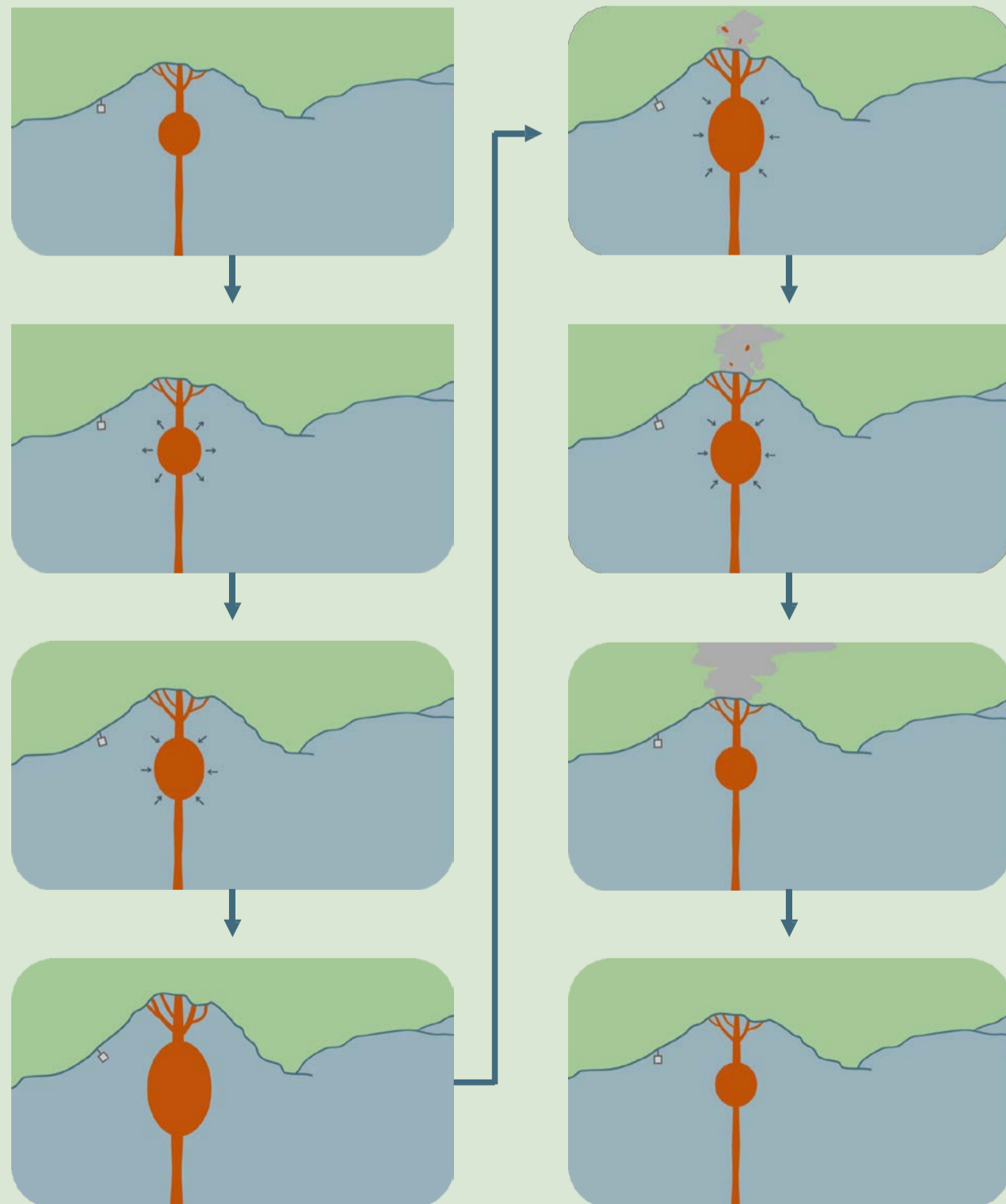


Animating Volcanic Processes

Clare Nelson, Wyatt Württenberger, and Dr. Jeffrey B. Johnson

Since October 2019, Clare Nelson and Wyatt Württenberger, two illustration students at Boise State, have been working with geoscience professor Dr. Jeffrey Johnson to create graphical animated representations of the processes that take place below the surface of volcanoes. Specifically, this first collaborative story has "cartoonized" Guatemala's Santiaguito volcano and illustrated the way its surface deforms as its magma chamber expands. This cross-section view of the volcano demonstrates the purpose of a tiltmeter, a device which detects changes in the volcano's slope throughout its eruption cycle.



Meet Pele, named after the Hawaiian deity of volcanoes and fire, who will be a recurring character throughout this series of animated shorts. Here, she is helping to illustrate tilt caused by pressure in the volcano's magma chamber. This sequence also demonstrates the movement of a tiltmeter, but on a highly exaggerated scale.



To the left is a still frame from drone footage taken at Santiaguito by Dr. Jeffrey Johnson and his team, and below is the cartoonized version of the scene. The image in the bottom right helps to describe the sensitivity of a tiltmeter by imagining a scenario in which one end of Central Park is lifted by the width of a dime. A tiltmeter can detect even this very small change in slope.



The main purpose of this project is to simplify these volcanic landscapes into graphics that are easy to read, and to turn complicated processes into more approachable content.

