



**Classroom Storm Surge Model**

**Materials:**

* Utility tub with lid
* Foam/wood wedge, roughly width of tub
* Epoxy clay
* Spray or acrylic paint (green, blue, tan)
* Marsh grass (aquarium mats)
* Green sponges (preferably no scrubber)
* Wave Generator (dustpan)
* Mini houses (lightweight and waterproof)
* Water jug to fill the model

**Estimated cost: $150-200**

**How to build:**

1. CREATING THE SLOPE
   1. Trim your foam or wooden wedge to fit comfortably within your tub, with the downward slope pointed toward the middle of the container. If you are carving the slope yourself, a smooth, even, and somewhat shallow slope is ideal.
   2. Prepare the epoxy clay according to package directions. Ensure that the product will not undergo shrinkage, and will become waterproof when dry.
   3. Coat all sides and bottom of the slope in clay, and shape as desired. You can do this inside of the tub and attach the two pieces, or leave them separate. If you choose to let the clay cure inside of the tub for a smoother appearance, we recommend leaving a gap on the sides of the slope, as the flexible sides of the tub may shift and cause cracking or crumbling in the dried clay.
2. PAINTING
   1. Using a waterproof paint of your preference, color most of the slope green, painting the transition zone to the tub tan (for sand), and paint the base of the remainder of the tub blue for the water. Spray paint is ideal for smoothly transitioning between colors. NOTE: If you are keeping the slope separate from the tub, do not paint together or it may peel when you remove it. Paint both pieces separately, or separate while wet.
   2. (Optional ideas) You can use the blue to paint waves on the side of the tub. This is also a good way to mark the ideal water line. Additionally, you could paint different lines of defense, such as barrier islands, levees, highways, coastal ridges, etc.
3. FINISHING TOUCHES
   1. Attach grass mats to form one piece roughly the width of the tub.
   2. Trim the edges of the sponges to form irregular shapes, keeping the bulk of the sponge intact.
   3. If using, add moss to tops of sponges. This can be done with needle and thread, hot glue, etc.
   4. If using, attach additional plants (such as string of pearls) to grass mats with hot glue.

**How to use:**

1. (SETUP) First, fill the tub with water until it is partway up the slope. It should be full enough to knock the houses down when no “wetlands” are present, but not so full that it knocks the homes over with all of the props present. This may take some trial and error, but you can mark the ideal height after figuring it out.
2. (SETUP) Place all props (mats, sponges, houses) into the tub. The grass is at the base of the slope, partially submerged. The sponges come next, resting where the water meets the land. Finally, the houses are placed partway up the slope.
3. (DEMONSTRATION) Use the dustpan to simulate storm surge by creating waves, beginning at the side opposite the houses. Add or remove the marsh grass to show the difference in impact.





