

Teaching About Climate Change with Tartans

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Landscape and Culture Exhibition: Expedition Art of the Scottish Hebrides

Chashama Space for Artists
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Abstract

An exhibition of paintings from an Art and Archaeology research expedition in the Outer Hebrides of Scotland may seem to be unlikely teaching moment. Yet that collection of images, and the ideas behind them form the core of a novel approach that uses tartan design to teach about the climate crisis. Young people are anxious about climate change and young environmental activists like Greta Thunberg are giving presence and voice to their concerns. Yet what can teachers do to help their students to understand climate data, to personalize it and to make it real? June Julian has developed a method that uses tartan design to visualize climate data.

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In her 2019 exhibit, *Landscape and Culture: Expedition Art of the Scottish Hebrides*, held at Chashama Space for Artists in New York City, June Julian intersperses ten small, delicate watercolor paintings of idyllic remote beaches with five larger enigmatic ones. But don't be fooled by the ruse of the picturesque. Beneath the paintings' poetic presence lies a catastrophic reality. They set the scene and climate change delivers the punch.

Uninhabited vast stretches of white sugar sands and transparent turquoise water flash under a momentary fissure in the dark windswept cloud in some. Others will jolt you out of a sweet hypnotic reverie with fragmenting family tartans that are characteristic of their depopulating ancestral islands.

Humans have lived on the shores of these remote isles of the Outer Hebrides located off of the mainland of Scotland, for thousands of years. Just like us, they loved to build their communities on waterfront property, close to maritime resources for food, transport, and quality of life. The ruins of Neolithic and Bronze age structures crumble into the rising tides there. What washes out are fragments of very early pottery, bone, pins, Viking knives, swords, iron ship fittings, the flotsam and jetsam of their everyday lives.

The gallery wall text described how the artist participated in a recent Art and Archaeology project that received two successive Explorers Club Flag Expedition Awards. With her work, she is following in the revered tradition of Archaeology Expedition Art made famous by iconic practitioners like Carl Akeley at the American Museum of Natural History. Before the advent of photography, artists were standard participants in Archaeological fieldwork, and contributed copious documentation of the physical research environment and of the artifacts that were found. It further described that the distinctive patterns of Scottish tartans are coded family

identifiers. They are fraying and disintegrating in some of the art works to signify the depopulation of the ancestral lands due to socio economic and climate impacts.

This Art and Archeology research is a bellwether for the effects of climate change on coastal cultural heritage worldwide. (Julian, MacLennan 2017). Rising seas, more frequent storms, and intense rainfall disrupt archeological evidence and contemporary lives. The Northern latitudes provide prophetic indicators of future threats to shoreline cities like New York.

In the exhibit, the *New York City Tartan* painting, the city's official tartan, whose colors in the officially registered design symbolically depict Central Park, the rivers, the city's energy, and the fallen Twin Towers, seems to be disassembling in places. Under a pastiche of Michelangelo's image of *The Creation* where divine power is conveyed by the touching of hands, and illuminated by the glow of the city lights and the Empire State Building, something may be amiss.

The *Landscape and Culture* exhibit is a cautionary tale. At the same time both beguiling and unsettling, the back story is water and lots of it. The seas are eating everything.

Young people are anxious about Climate Change and young environmental activists like Greta Thunberg are giving presence and voice to their concerns. Yet what can teachers do to help their students to understand climate data, to personalize it and to make it real?

Based on the concept that the traditional Scottish tartan elements of colored bands carry meaning, June Julian has developed a method that uses tartan design to visualize climate data. She inserts the data from her expedition reports from each of her two years of fieldwork into two separate vertical and horizontal bar graphs and overlaps them to form a tartan.

The final tartan data visualization of all the research data is quite extensive and large in format. To clearly demonstrate the method that she used, the examples below show erosion data for only one site per project year.

Color = Erosion Type

Light Blue = Sea Erosion

Green = Intertidal

Grey = Wind Erosion

Red = Gone Completely

Bar Length = Amount of Erosion

X = 2015 site 1

Y = 2017 site 1

Figure 1 shows the vertical Excel template that she used for the 2015 research sites, and Figure 2 shows the horizontal Excel template for the 2017 research sites. She copied these templates so she could then easily adjust the length and height of the bars to reflect the erosion data for each of the 47 archaeology sites in the study. Figure 3 is an example of how the archaeology research data looks for only two example sites, one overlapping the other to form a tartan. Students can research climate change subject matter of their choice and enter the data into Excel spreadsheets to make their own bar graph charts. Then they can assign colors and widths to the bars, and finally layer their graphs to create their distinctive tartan design. Like traditional Scottish tartans that tell the story of people and place, the ones that the students create can visually communicate the story of their changing world.

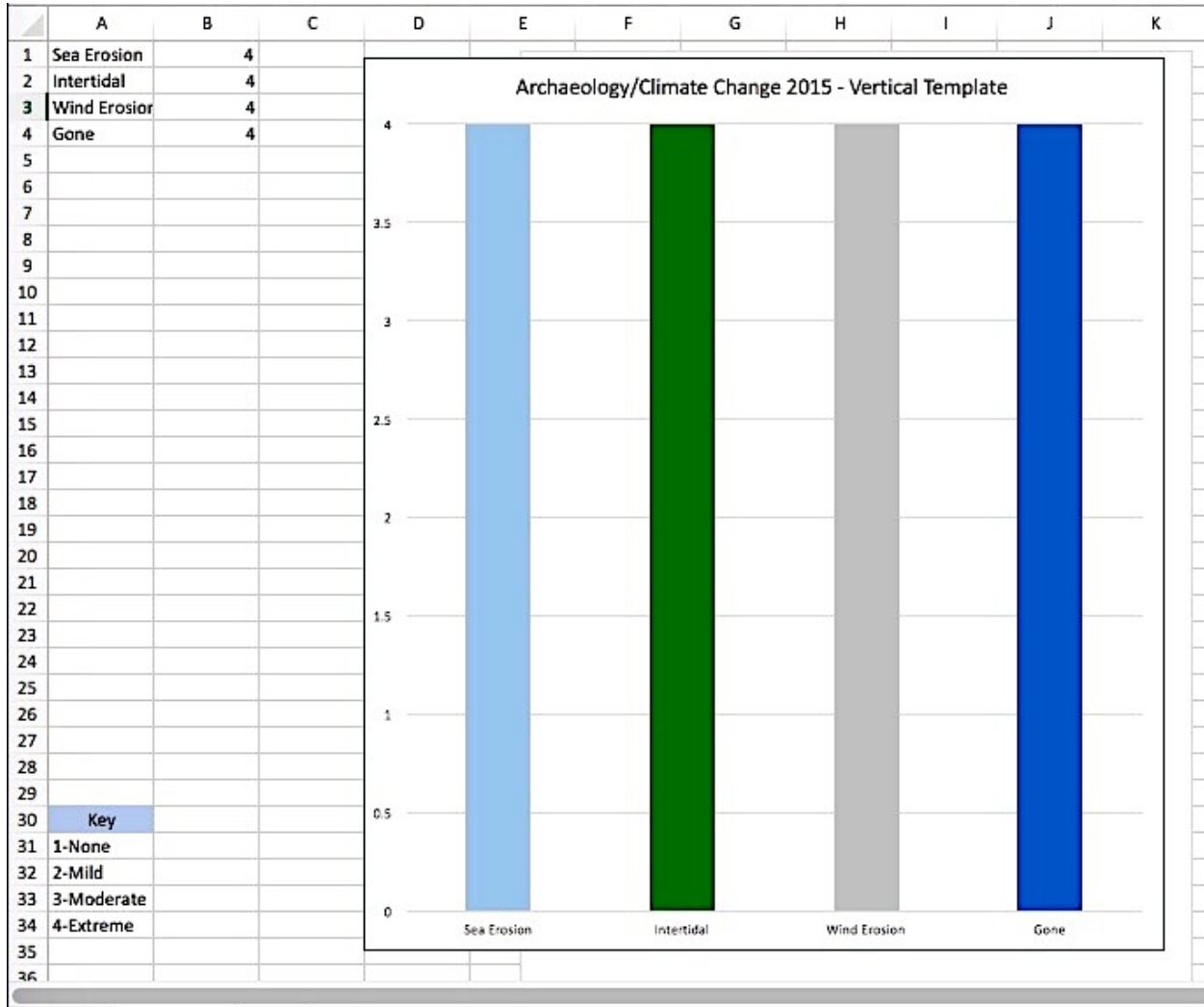


Figure 1

©June Julian, Archaeology/Climate Change Expedition 2015 – Vertical Site Template

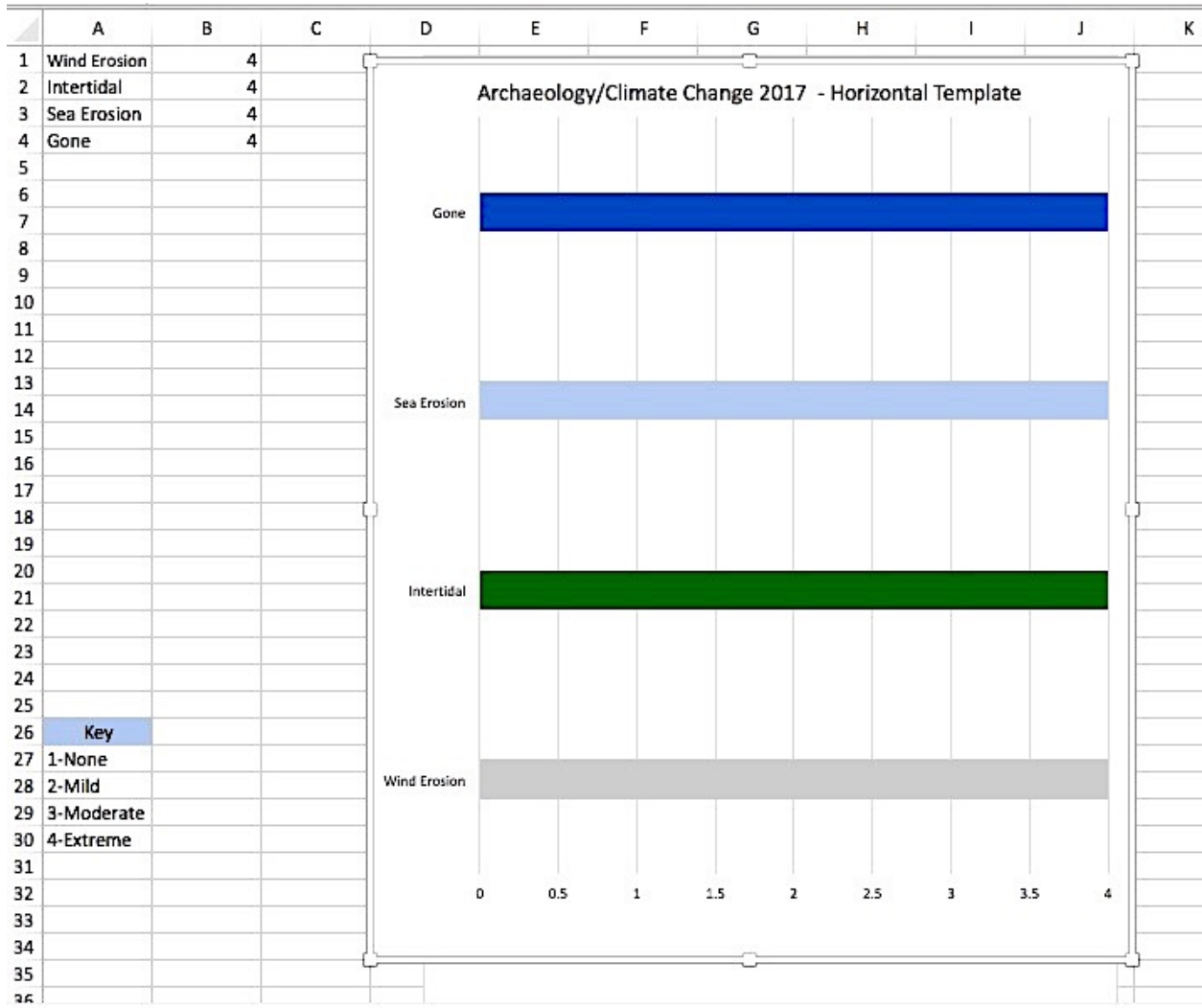


Figure 2

©June Julian, Archaeology/Climate Change Expedition 2017 - Horizontal Site Template

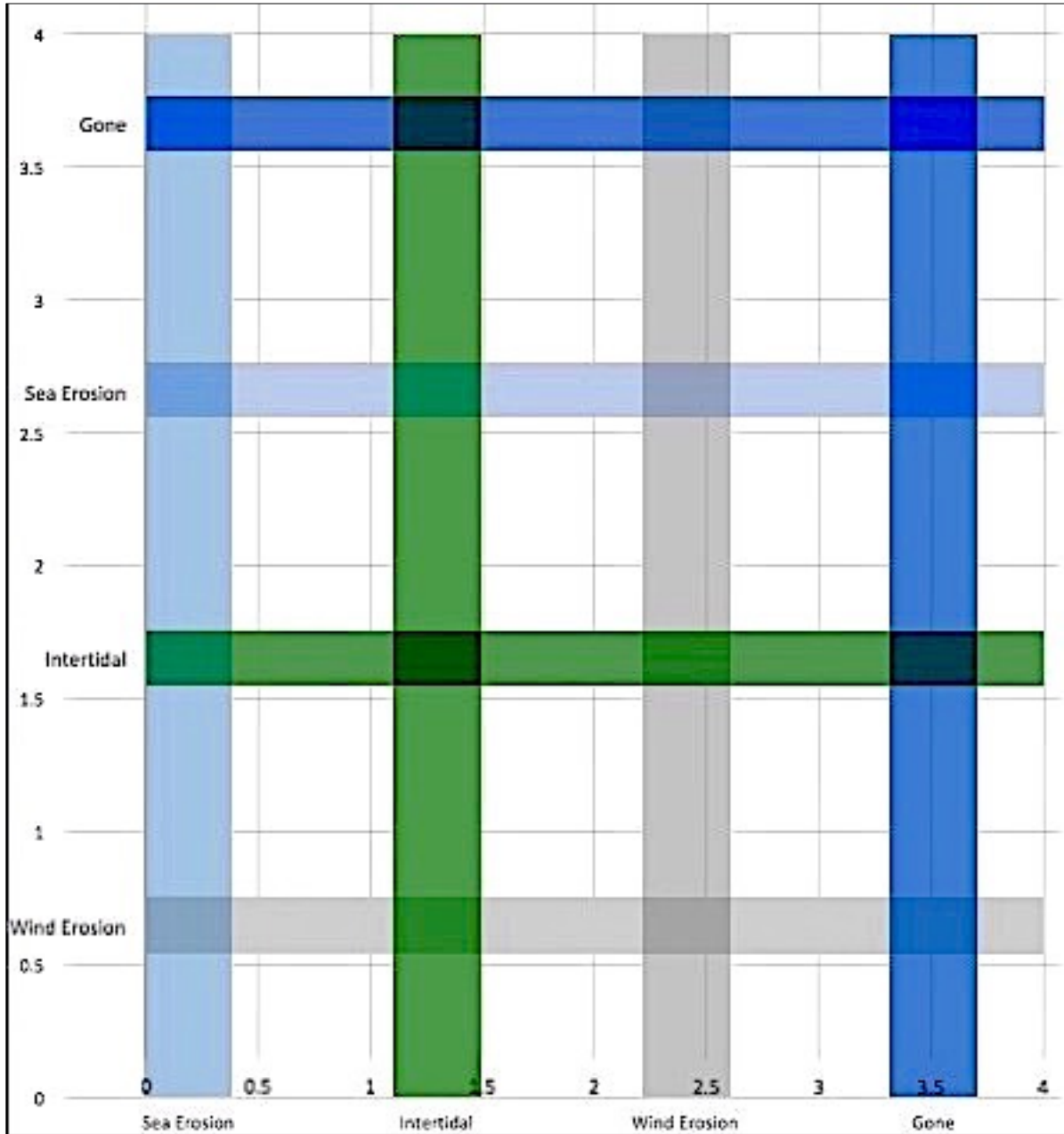


Figure 3

©June Julian, Archaeology/Climate Change Expedition 2015 & 2017 – Excel Tartan for Two Sites



©June Julian, *Sea Pinks, Vallay*, Watercolor, 9 inches X 12 inches, 2015



©June Julian, *Hougharry, North Uist UK*, Watercolor 22 inches X 30 inches, 2017



©June Julian, *NYC Tartan*, 22 inches X 30 inches, Watercolor 2019

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