2015 Winner: Emma Bode

Populus Tremuloides
Winning Entry for the 2015 Science as Art Contest

Emma Bode, Environmental Sciences (RES), won the College’s “Science as Art” contest this fall. Bode classified and edited the Gallatin County soils GIS data in ArcMap to create the image of an Aspen tree.

The connection between science and art in the geospatial sciences is overwhelmingly apparent to me. Stuart Challenger’s GIS courses stress the importance of good design. Taking this experience a step further, I created a purely aesthetic interpretation of spatial data. I created this piece using soils data for the Gallatin Valley. Soil data is an ideal data set for artistic manipulation because it is made of many small polygons that are each unique, much like a child’s Color By Number worksheet. In order to differentiate classes of polygons, I selected and exported them as new shapefiles. I created several shapefiles for the leaves, three shapefiles for the trunk, and one for the roots. I then manipulated the colors of each shapefile to produce the desired image.

—Emma Bode

2016 Winner: Emma Bode

Montana Vasculature

Artist’s statement: Water is life! Just as we depend on our veins and arteries to transport nutrients in our bodies, Montanans depend on streams and rivers to support our crops, cities, and ecosystems. This piece was created in ArcGIS with the National Hydrography Dataset. The NHL represents the national drainage network with features such as rivers, streams, ponds, lakes, creeks, canals, ditches, and storm sewers. This dataset is typically used in general reference maps and for scientific analysis, exploring causes and effects relationships in discharge rates, water quality, and fish population. Through cartographic selection and abstraction of the features attributes, I generated an aesthetic interpretation of Montana’s hydrology. I chose to depict the streams and rivers extending beyond Montana’s border because water is subject to topography, not political delineations.