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**Josh Hallam\*** (hallamjw@wfu.edu), **Jeremy Martin** and **Bruce Sagan**. *Increasing Spanning Forests in Graphs and Simplicial Complexes*.

Let  $T$  be a tree with vertices labeled by distinct integers. We say  $T$  is *increasing* if the labels along any path from the smallest vertex to any other vertex are increasing. Now suppose  $G$  is a graph with vertex set  $\{1, 2, \dots, n\}$ . An *increasing spanning forest* of  $G$  is a spanning forest such that each connected component is increasing. We will discuss some properties of the generating function for the increasing spanning forests including connections with the chromatic polynomial of the graph. We will also discuss the generalization of this work to simplicial complexes and multigraphs. (Received September 23, 2017)