

First-Year Research in Earth Sciences: Dunes

Conference Presentation: Grevengoed, Lincoln Garret, Sarah DeGraaf, Hans P. Leisman, Megan McNamara, and Sam Sukaria (2015). “The Interactions Between Blowout Features and Sand Transport.” Annual Meeting of the Michigan Academy of Science, Arts, and Letters, Saginaw Valley State University (University Center, MI), 4 March 2016; poster.

Abstract: Sand transport shapes blowout characteristics and, in turn, blowout characteristics control wind and sand transport patterns. To better understand blowout interactions we studied three neighboring blowouts on a large parabolic dune in Hoffmaster State Park. Blowout characteristics were measured with field observation, stadia rod surveys, GPS, and aerial photos. Wind speed and direction were measured with anemometers on the foredune and at the entrance and crest of the largest blowout. At the crest of each blowout, sand transport was measured with sand traps. Results revealed a sequence of blowouts comprised of a saucer blowout, a grassy depression, a second saucer blowout, and a large trough blowout. Each blowout contained a mostly bare deflation area surrounded by small shrubs and grasses. Each blowout in the sequence increased in height and had its central axis shifted more towards the south. There was a greater amount of sand transport on the trough blowout than at either of the saucer blowouts. These results should spur future investigations of the dynamics of connected blowouts.