

The Effect of Three Autumn Storms on a Foredune

Joshua K. DeVries, Nichole DeVries, Jonathan D. Gorter, Jacob Santucci, John T. Spykman

Abstract

Storms contribute to the shape of a beach-dune system, but few studies describe specific effects of storms on a foredune environment. Our team studied the changes that two autumn storms caused to a foredune. The data collected came from on-site anemometers, a wind vane, erosion pins, sand samples for grain size analysis, GPS data entry, photographs, observations, and storm data from the National Weather Service, National Oceanic, and Atmospheric Administration. Our field research took place in a three week period, beginning October 24 and ending November 6, 2013. We recorded three storms, each with high wind speeds and wave heights causing erosion and deposition on the foredune and beach area.

Discussion

Results

Introduction

Autumn storms pose a potential threat to the health of coastal Michigan foredunes. Research predicts more intense autumn storms in the future [1]. The study focused on erosion and deposition in an area influenced by waves, precipitation, and wind caused by storms.

Objectives

1. Analyze storm characteristics
2. Monitor effects of wave run-up on beach and foredune
3. Map erosion and deposition on the foredune

Conclusions

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References

- [1] Angel, James R., Scott A. Isard. "The Effect of Three Autumn Storms on a Foredune." *Journal of Coastal Research* 11: 61-71.
- [2] NOAA. "National Oceanic and Atmospheric Administration." <http://www.noaa.gov>