Metadata Rivas et al. Wind Tunnel

Table 1. Metadata for wind tunnel experiments conducted at USDA-ARS facility.

Title of dataset	Use of the United States Department of Agriculture-Agricultural Research Service's wind tunnel.
URL of dataset	N/A
Abstract	To test wind entrainment of diapausing stages by saltation-sandblasting, aeolian transport was simulated in a laboratory, suction-type wind tunnel at the USDA-ARS Big Spring Field Station. Two experiments were designed to test dispersal of propagules of seven metazoan taxa: five crustaceans (Artemia salina, Daphnia magna, Eulimnadia texana, Streptocephalus sp., and Triops longicaudatus) and two rotifers (Brachionus calyciflorus and Brachionus plicatilis).
Keywords	Wind tunnel, invertebrate dispersal, dust generation
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Organization associated with the data	USDA-ARS Big Spring
Usage Rights	Publicly available and free to use
Geographic region	N/A
Geographic coverage	Simulated dispersal of the wind tunnel in three sections which theoretically represent downwind transport distances tens, hundreds, and thousands of meters.
Temporal coverage - Begin date	N/A
Temporal coverage - End date	N/A
General study design	To test wind entrainment of diapausing stages by saltation-sandblasting, aeolian transport was simulated in a laboratory, suction-type wind tunnel at the USDA-ARS Big Spring Field Station. Two experiments involved testing dispersal of propagules of seven metazoan taxa: five crustaceans (Artemia salina, Daphnia magna, Eulimnadia texana, Streptocephalus sp., and Triops longicaudatus) and two rotifers (Brachionus calyciflorus and Brachionus plicatilis). In a second experiment we attempted to quantify dispersal by coating the propagules with a fluorescent solution; and included a mixed propagule treatment.
Methods description	In both experiments, propagules were mixed with heat-sterilized Pullman clay loam, typical of playa edges in west Texas. Sediment and propagules were then dispersed through three section of the wind tunnel system.

Laboratory, field, or other analytical methods	The sediment-propagule mixture then was moistened with distilled water and air-dried; this formed polygonal crusts that simulate dried playa surfaces. Released sand grains bombarded the crusted soil, abrading its surface, and releasing dust. The maximum wind velocity was 10m/s with particles flowing through an isokinetic horizontal intake opening. Material was collected from (1) an initial transfer section for coarse sediment immediately downwind from the intake, (2) a pan subtending a settling chamber for finer saltation and coarser suspension-sized sediment, and (3) a final section where glass fiber filters captured suspension-sized sediment. The three sections theoretically represent downwind transport distances tens, hundreds, and thousands of meters, respectively. Successful transport was determined by monitoring propagule hatching during rehydration experiments. Sieved, wind tunnel sediments were divided into subsamples: three from the transfer section, five from the pan subtending section, and one from the filter section. About 2.0 g of sediment were rehydrated (3–5 replicates) with 75 mL of MBL media (except: A. salina – Artificial seawater 5 ppm; B. plicatilis – BPM/2, pH 8.0). Filter section samples were subdivided in two: one rehydrated, one archived.
Quality control	Soil was heat sterilized prior to the incorporation of propagules. Wind tunnel system was thoroughly cleaned after each run. In addition, samples of the abrader sand was rehydrated yielding no micrometazoans.
Additional information	N/A

Table 2. Description of the variables (i.e., columns) in EACH dataset in sufficient detail for another user to understand and use the data. If there are 10 variables (i.e., columns) in the dataset, then there should be 10 rows in this column that describe each column.

Column name	Definition	Units
The name of the variable in the dataset	*A detailed definition of the variable*	*Units the variable is measured in*
N/A	N/A	N/A