TITLE: Data presented in the Paper "Behavioral self-organization underlies the resilience of a coastal ecosystem” by De Paoli et al (PNAS 2017).

CREATOR: Hélène de Paoli and Johan van de Koppel

CONTRIBUTORS: Hélène de Paoli, Tjisse van der Heide, Aniek van den Berg, Brian R. Silliman, Peter M.J. Herman, and Johan van de Koppel

YEAR AND DATE CREATED: 2017, April 11

DESCRIPTION: This dataset contains the experimental data that is published in the paper “Behavioral self-organization underlies the resilience of a coastal ecosystem”, with the above contributors as authors, published in the Proceedings of the National Academy of Science of the USA. The data was obtained during the Waddensleutels and Mosselwad projects. The current dataset contains the raw data and R scripts for analysis and fort he figures in that manuscript.

SUBJECT: Mussels, Mussel beds, Restoration, Spatial patterns

TEMPORAL COVERAGE: 2012-2013

SPATIAL COVERAGE: The experiments were conducted on mussel beds situated at land-bound intertidal flats to the south of Schiermonnikoog, the Netherlands (location: 53.455, 6.147 DD)

IDENTIFIER: DOI here

LANGUAGE: English

LINK TO PUBLICATION: Not available yet.

**Figure 3 AB raw data.csv**

Header explanation

Name : A plot code

Plot : Plot number

Block : Block number in the randomized block design

Block2 : Block number in the randomized block design, increasing along the two seasons.

Treat : Treatment code

Band : Treatment name: “Band” or “No Band”

Cluster : Treatment name: “Cluster” or “No Cluster”

Cover : The measured cover of the mussels on the plots, in percent relative to starting cover at day =0

Month : Results obtained from the June or October experiments

Day : Day from the start of the experiment

**Figure 3 CD raw data.csv**

Header explanation

Name : A plot code

Plot : Plot number

Block : Block number in the randomized block design

Block2 : Block number in the randomized block design, increasing along the two seasons.

Treat : Treatment code

Band : Treatment name: “Band” or “No Band”

Cluster : Treatment name: “Cluster” or “No Cluster”

Month : Results obtained from the June or October experiments

Day : Day from the start of the experiment

Period : The first 5 day (period 1), or the remained of the time (period 2)

Cover : The measured cover of the mussels on the plots, in percent relative to starting cover at day =0

LinDecrease : Decrease in Cover per day, for the first and second period

**Figure 4A Raw Data.csv**

Header explanation

Location : Mesocosm (1) or Field (2)

Bands : Treatment: placed in Bands (2) or No Bands (1)

Cluster : Treatment: placed in Clusters (2) or No Cluster (1)

Cluster size : Number of mussels in a cluster

**Figure 4B Raw Data.csv**

Header explanation

Location : Mesocosm (1) or Field (2)

Bands : Treatment: placed in Bands (2) or No Bands (1)

Clusters : Treatment: placed in Clusters (2) or No Cluster (1)

Loose\_Mussels: Percentage of mussels not in a clump

**Figure 5 Raw Data.csv**

Location : Mesocosm (1) or Field (2)

Substrate : Substrate under the plots, being Stone (1) or Sand (2)

Bands : Treatment: placed in Bands (2) or No Bands (1)

Clusters : Treatment: placed in Clusters (2) or No Cluster (1)

Speed : in cm per 180 min (duration of the experiment). Converted to mm per minute in figure 5.