

SOM & FFN

This is a part of the documentation from the Breakout Group on Machine Learning at the MPI-M Annual Retreat 2019. We share two examples of Machine Learning in Geoscience: self-organizing maps (SOMs) to cluster data, and feed-forward networks (FFNs) to reconstruct mapped fields from sparse data.

Here

is the link to the presentation and [here](#) is the link to a zip folder containing the sample code and data for Matlab.

The first sample code uses SOMs with sea surface temperature (SST) and sea surface salinity (SSS) data to cluster the global ocean. The second sample code uses an FFN to reconstruct sparse measurements of dissolved inorganic carbon (DIC) in the tropical Atlantic, using better-constrained fields of SST and SSS as predictor data. The folder contains all the necessary data and functions to run in Matlab. The Deep Learning Toolbox needed (preinstalled on MPI-M PCs).

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