



What are the essential Teleconnections?

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Teleconnections are links between strongly correlated temporal fluctuations of meteorological parameters at far distant regions. Since the number of teleconnections in gridded datasets is large in general, it is desirable to identify the essential teleconnections and to build clusters of associated teleconnections. A conclusive solution to this problem is presented. Although the concept is discussed in the context of atmospheric low-frequency variability, it is applicable to any space-time dataset. It can be generalized to higher-order and time-lagged correlations.

Several essential teleconnections are presented, that were not presented until now. It is proposed, that novel, advantageous teleconnection indices can be defined on the basis of the clusters of associated teleconnections.