Anomalous Climatic Pattern Analysis Using Sea Level Anomaly Data in Korean Peninsula

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Abstract: The Ocean is heat carrier and storage in the climate system that regulates the climate by continuously transporting heat between the ocean and the atmosphere, from low latitudes to high latitudes. The height of sea level has been on the rise in recent years, and its rising rate is accelerating. Therefore, continuous research is needed in relation to the abnormal weather. In this study, we tried to investigate the abnormal weather phenomenon around the Korean peninsula by using self - organizing map technique by using sea level data. The sea level anomaly data from AVISO was used from January 1, 1993 to December 31, 2016. To examine the pattern of sea level anomaly, we applied the self - organizing map technique of 3 x 3 map. Node 7 of frequency was 15.6%, which is the highest rate. Nodes 7 and 8 were frequent pattern in Korean peninsula from February to May. Since late 2010, the node 4 pattern has been showed. Node 1 and 2 appeared in the summer of the Korean peninsula in the early 90s, the nodes 3 and 6 patterns frequently appeared in recent. This study will be useful for analyzing the sea level pattern when the abnormal weather near the Korean Peninsula occurred.

Keywords: Sea level, Abnormal weather, Self-Organizing Map