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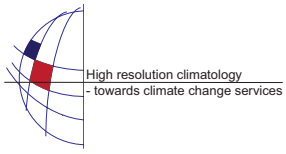

Comparison of a regional tropical cyclone hindcast for Southeast Asia and western North Pacific with satellite- and reanalyses- based products

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The regional model COSMO-CLM abilities to dynamically downscale details of typhoons were taken under investigation. For this purpose derivation and comparison of typhoon statistics between different products has been made for the last decade. The study is considering mainly intensity, critical wind radius, life time and tracking methodologies.

Numerous studies concerning tropical cyclone climatology use ‘Best Track’ data which refers to the estimation of tropical cyclone location, maximum sustained wind and central pressure. Unfortunately data sets provided by various meteorological agencies are showing significant discrepancies. Therefore intercomparison is extended by satellite- , reanalyses, and merged two of a kind - based products:

• Blended Sea Winds (NOAA’s National Climatic Data Center),
• Blended Surface Winds (IFREMER/CERSAT - French ERS Processing and Archiving Facility),
• ERA-Interim (European Centre for Medium–Range Weather Forecasts Reanalysis),
• NCEP/NCAR reanalysis (National Centers for Environmental Prediction - National Center for Atmospheric Research)

The methodology for typhoon events derivation is based on an automated lagrangean algorithm detecting and following individual cyclonic features. Alternative approaches assume that ’best track’ data is providing the most accurate estimation of typhoon locations. Under this assumption comparison of statistics between different wind products on the locations provided by best track data was made.

The comparison of modelled data with other products reveals small discrepancies in storm numbers and track locations beeing caused by unique for every product technique of derivation. These were also the reasons for differences between compared statistics. The satellite products concerning maximum intensity indicate strong agreement with regional model data. Analysed typhoon events simulated by the regional model are more representative for the satellite products than for best track data, concerning above-mentioned terms of statistics.