



Tropical cyclone forecast service

Coastal regions of China are impacted by tropical cyclones in the western North Pacific, which can cause significant damage to life and property. Hundreds of millions of people are affected in China every year with almost half of all societal and economic losses resulting from tropical cyclones. The heavily populated south China coast, which includes the Pearl River Delta (PRD) - now the largest megacity cluster in the world with a population exceeding 50 million - is particularly affected. Cities around the Yangtze River Delta including Shanghai are also affected, and the combination of typhoons, rainfall and river flooding can be catastrophic. There have therefore been considerable efforts over recent decades to try and improve seasonal predictions of tropical cyclones in the western North Pacific. The ability to predict the number of landfalling tropical cyclones in a particular region, during a season or period of years, could help provide hazard information to support decision-making on those timescales, and has the potential to minimise loss and damage, thus bringing great societal benefit.

CSSP China has been developing seasonal forecasts to help predict tropical cyclone landfall risk along the coasts of Eastern and Southern China. At the Met Office, the seasonal forecasting system, GloSea5, has shown high skill for predictions of tropical cyclone landfall risk in East Asia. In May 2019 the first trial forecast of Summer (June-August) tropical cyclone landfall risk for East Asia was issued to Chinese partners. The forecast provides an indication of whether the number of tropical cyclones that would make landfall along the eastern coast of China is above or below average for the upcoming summer season.