Typhoons

Development of a prototype typhoon seasonal landfall forecast - Capable of influencing Chinese user decisions.

Benjamin Harrison, Met Office
ICRC-CORDEX-2019
D7 – Climate Services
Tropical cyclone landfall and the WPSH

Landfall frequency depends on the strength of the western Pacific subtropical high (WPSH)

Enhanced WPSH
• TCs track further westward and landfall along the coasts of east China, Korea and Japan are generally reduced

Weakened WPSH
• TCs can recurve and landfall risk across East Asia in increased.

Significant relationship between ERA-Interim WPSH index and observed TC activity for JJA 1979-2016:
• TC days $r = -0.68$
• TC frequency East Asia $r = -0.58$

850 hPa GPH and cyclone tracks for the 4 most enhanced and weakened WPSH years in ERA-Interim (JJA 1979-2016).
Science to Services:

Research  
Jo Camp et al. February 2019

Prototype Forecast  
Issued May 2019

User Engagement Visit  
Shenzhen & Beijing, June 2019

What did we learn?  

What next?
Co-production of a prototype typhoon seasonal forecast

We are looking for Chinese users to help us develop this prototype:

- real-world decisions
- useful regions
- adapted metrics
- style of presentation
- timing