

Spread Evaluation 2008

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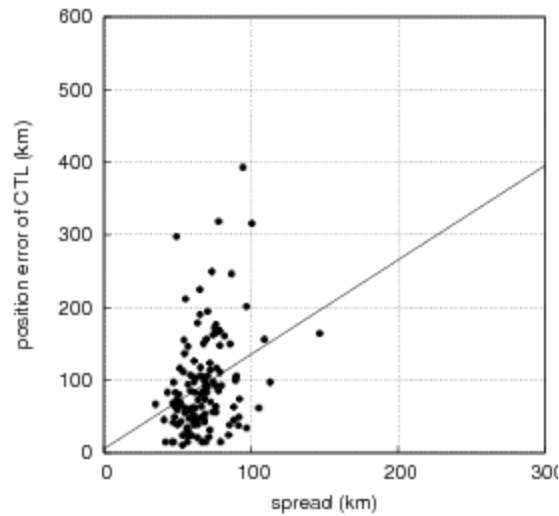
What I did

I evaluated the spread of typhoon track prediction using TIGGE data from ECMWF, UKMO and NCEP.

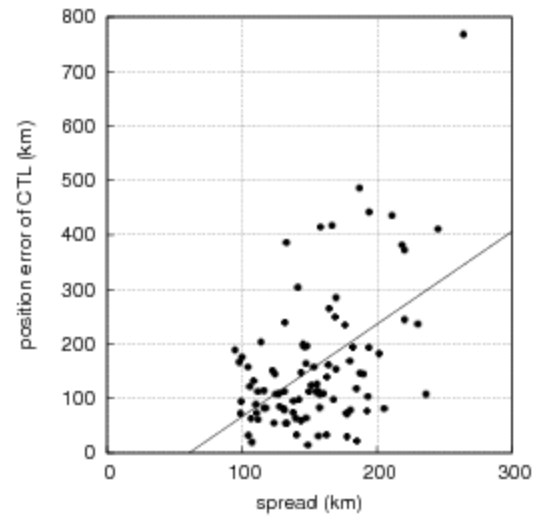
1. Download PSEA data of 2008
2. Track all TCs (tropical storm or more) in 2008 by using the track algorithm of JMA, which tracks the minimum PSEA
3. Plot figures showing a relationship between spread and position error of control forecast at each forecast time: 24, 48, 72, 96 and 120h
4. Plot figures showing a relationship between position errors of any two centers at each forecast time
5. Plot figures showing a relationship between spreads of any two centers at each forecast time

ECMWF 2008

ECMWF 2008 FT=024 ($r = 0.32$)

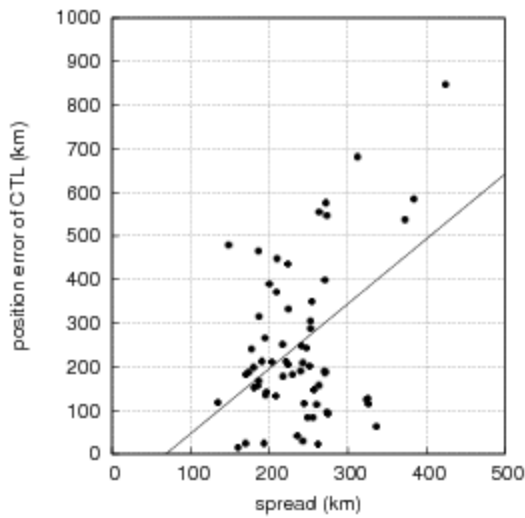


ECMWF 2008 FT=048 ($r = 0.50$)

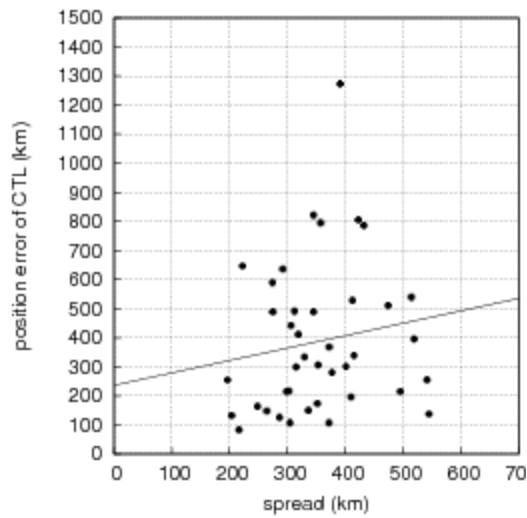


ECMWF •
 $1.70 \cdot x + -103.41$ —

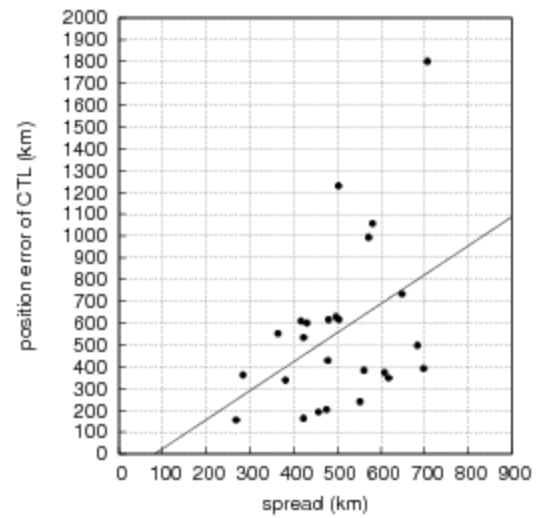
ECMWF 2008 FT=072 ($r = 0.43$)



ECMWF 2008 FT=096 ($r = 0.15$)

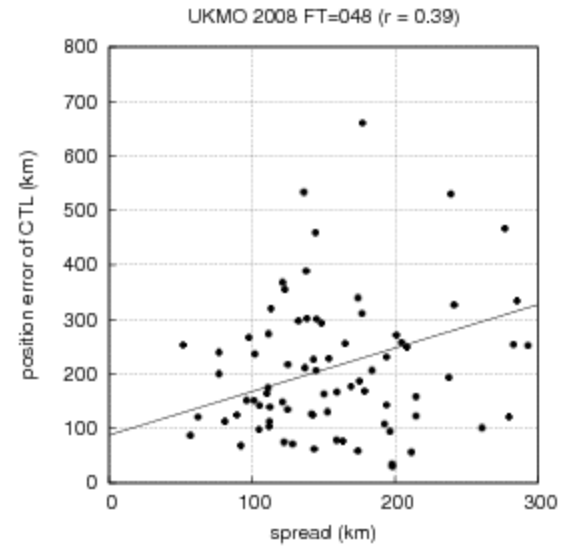
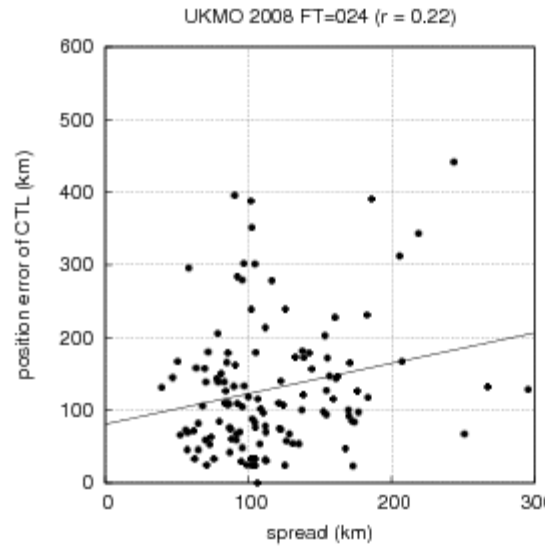


ECMWF 2008 FT=120 ($r = 0.42$)

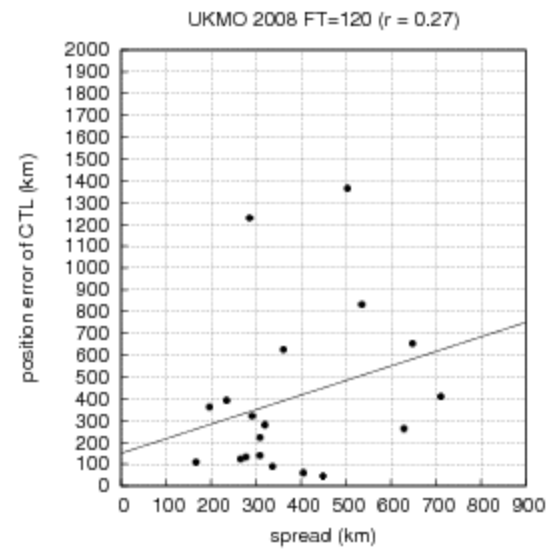
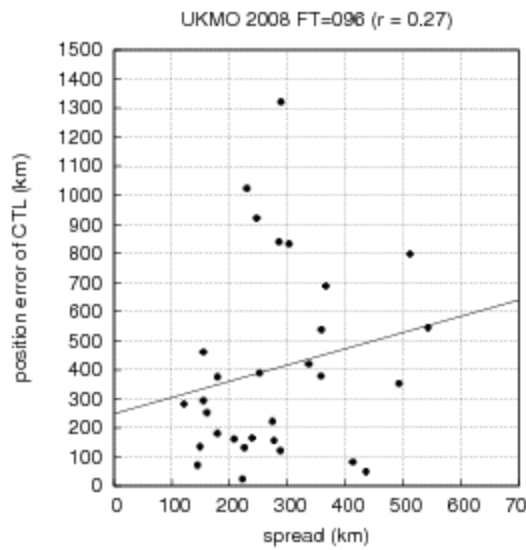
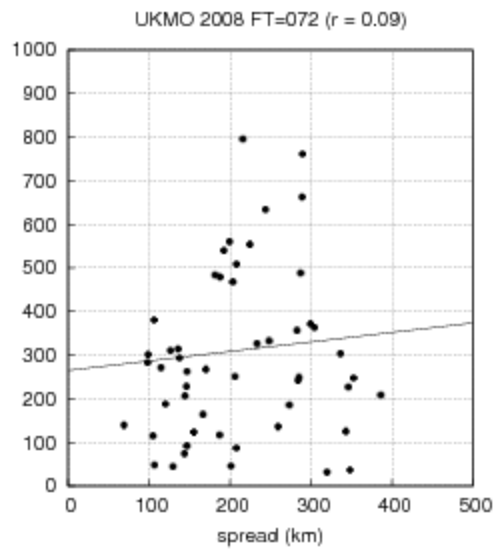


ECMWF •
 $1.33 \cdot x + -108.87$ —

UKMO 2008

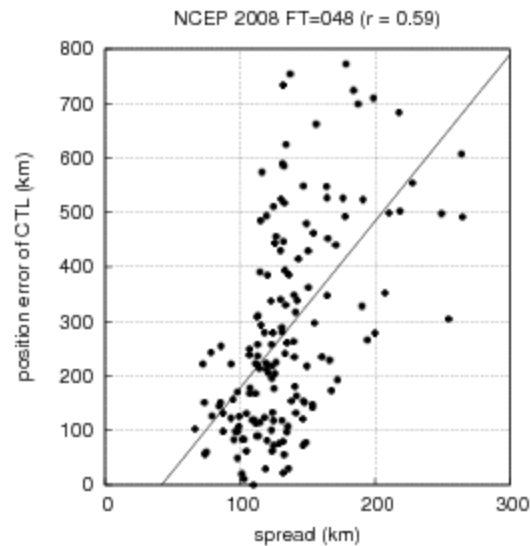
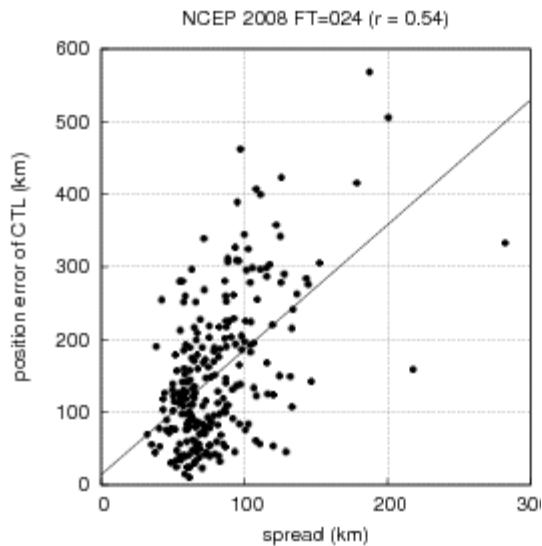


UKMO
 $0.80 \cdot x + 87.88$

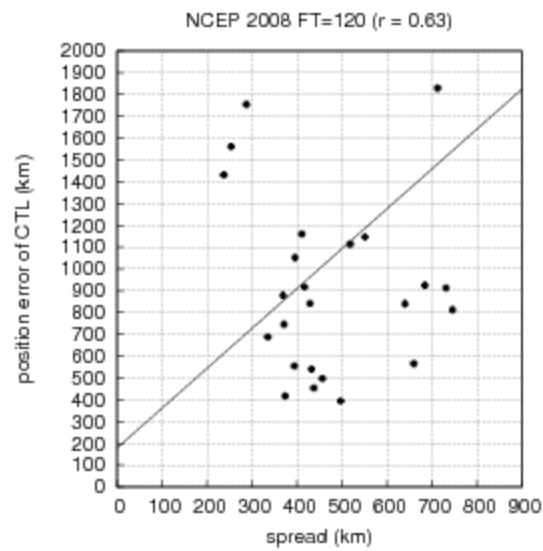
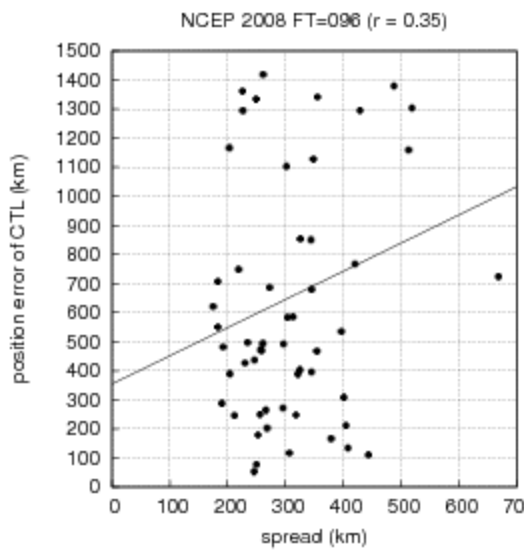
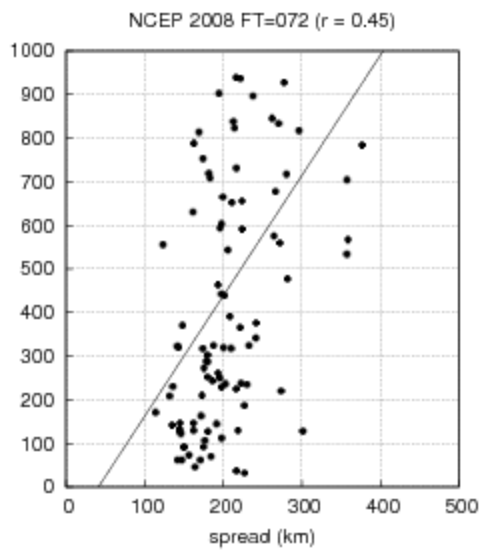


UKMO
 $0.67 \cdot x + 149.78$

NCEP 2008

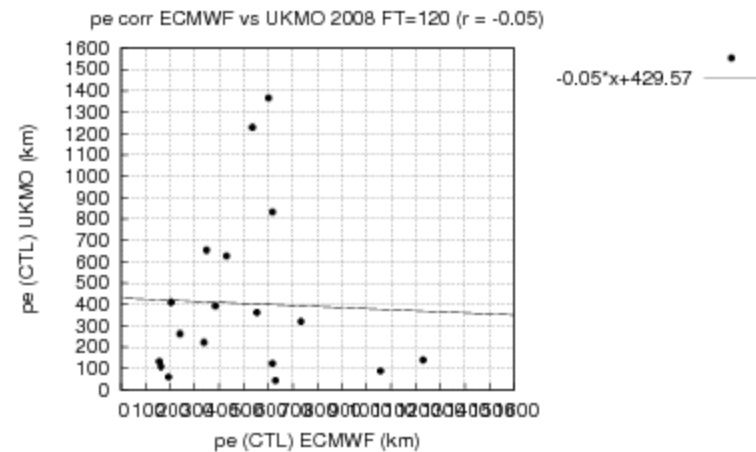
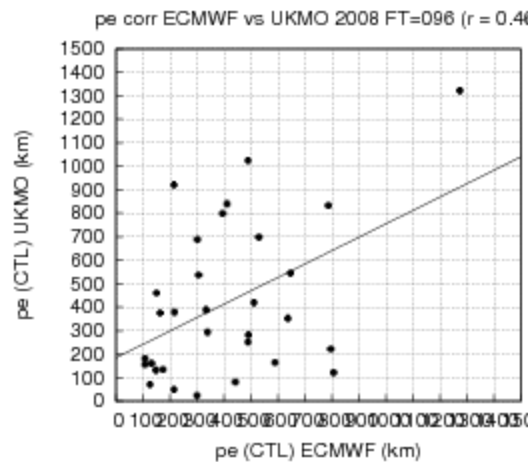
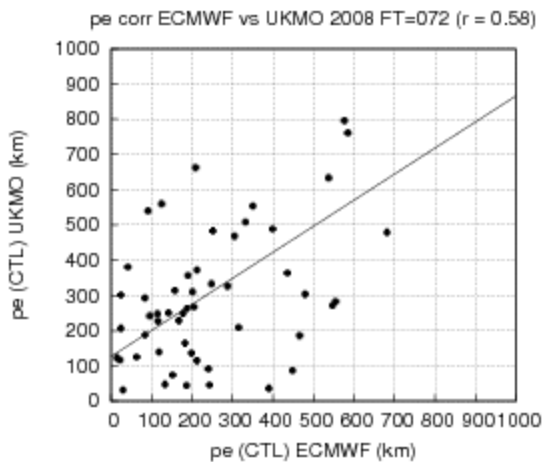
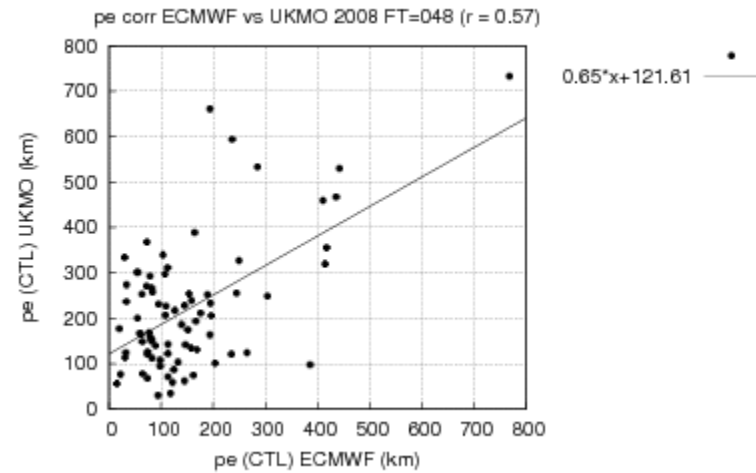
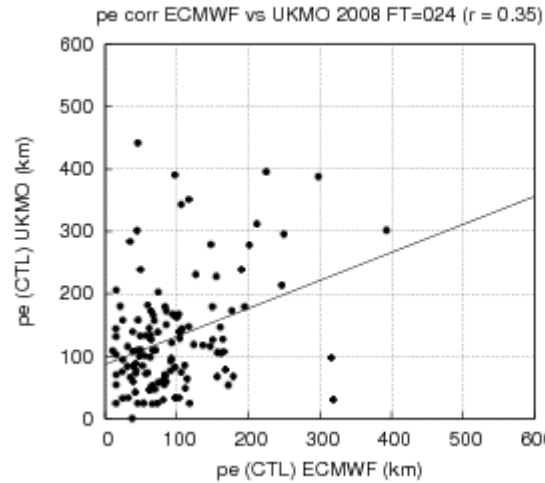


NCEP
 $3.06 \cdot x - 128.41$

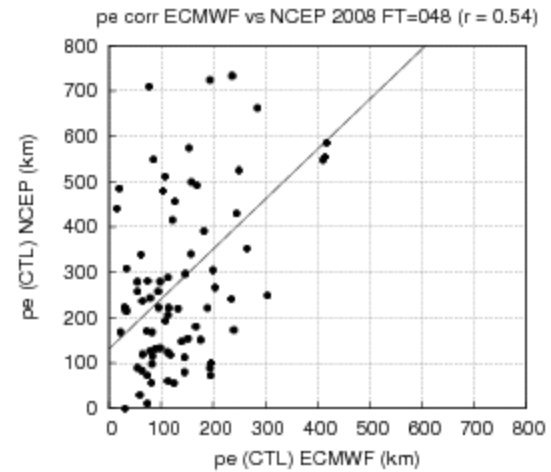
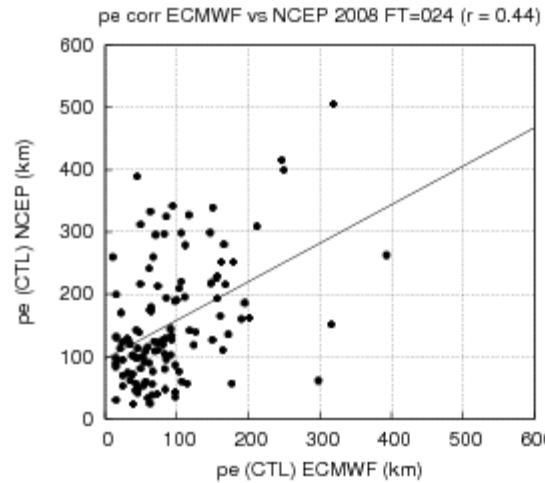


NCEP
 $1.83 \cdot x + 178.25$

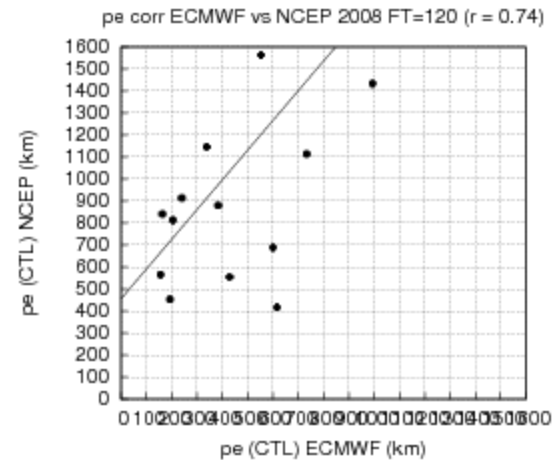
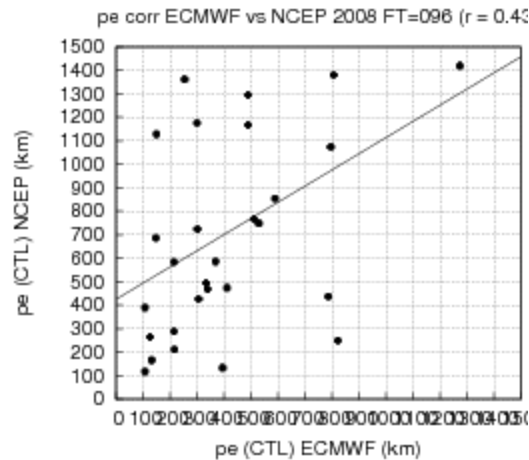
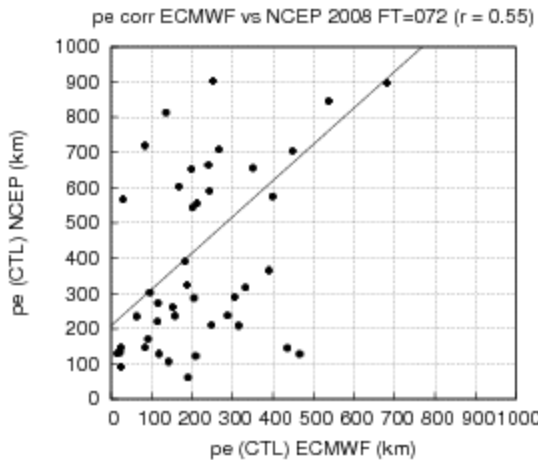
Position Error Correlation; ECMWF vs UKMO 2008



Position Error Correlation; ECMWF vs NCEP 2008

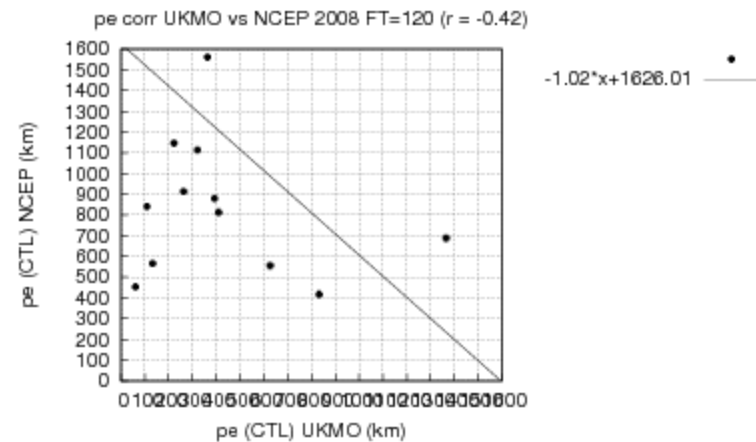
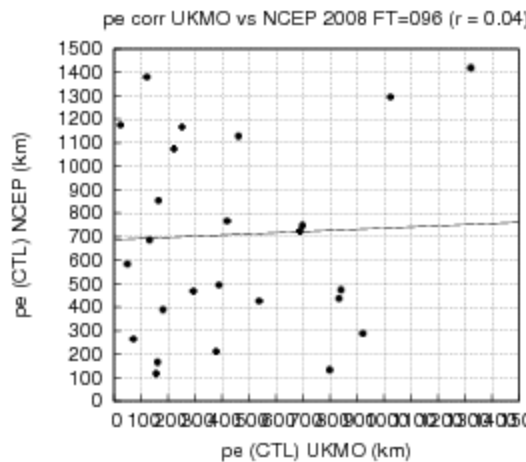
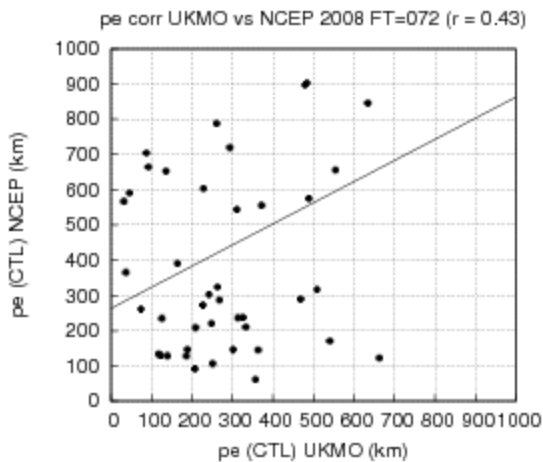
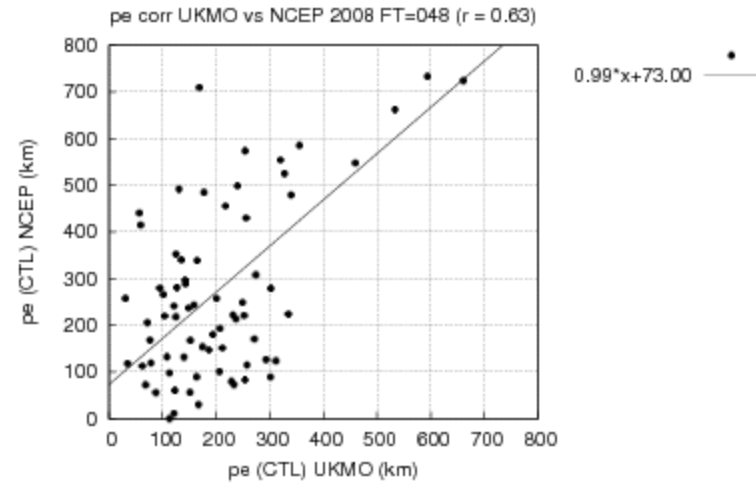
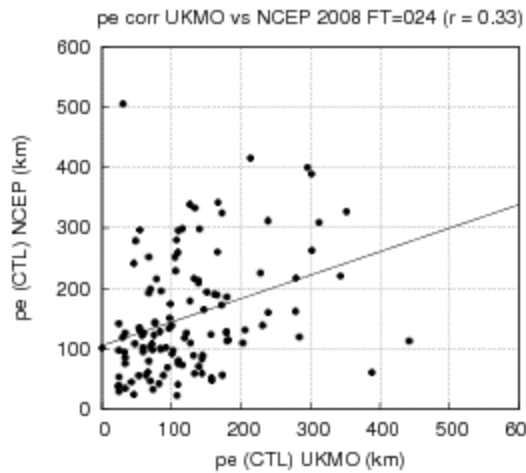


$$1.10 \cdot x + 131.06$$

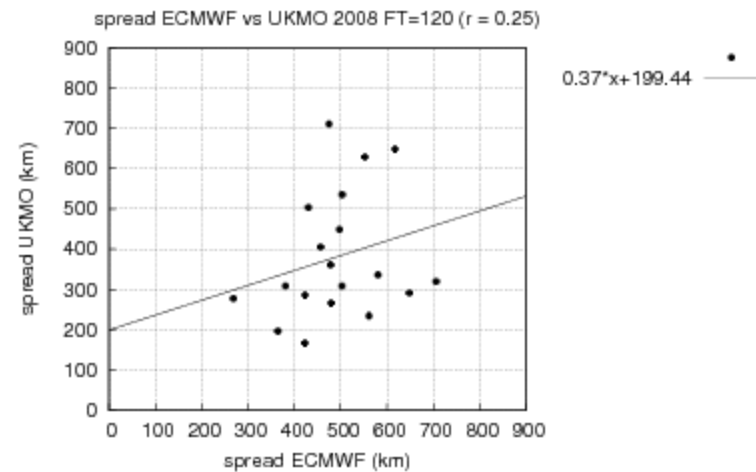
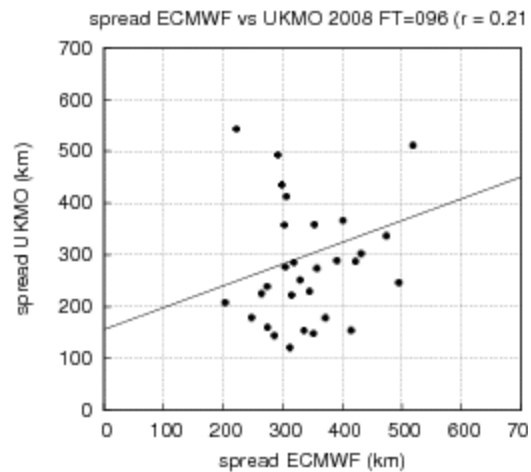
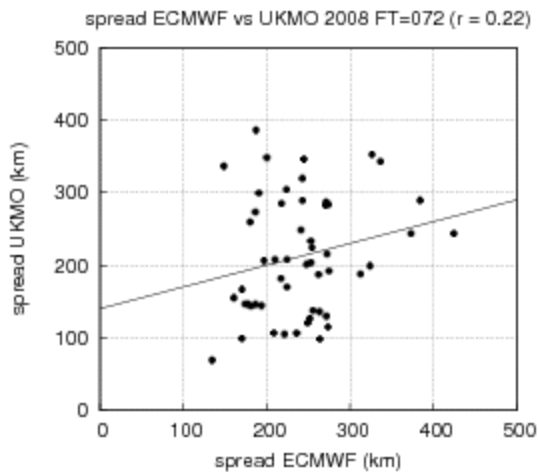
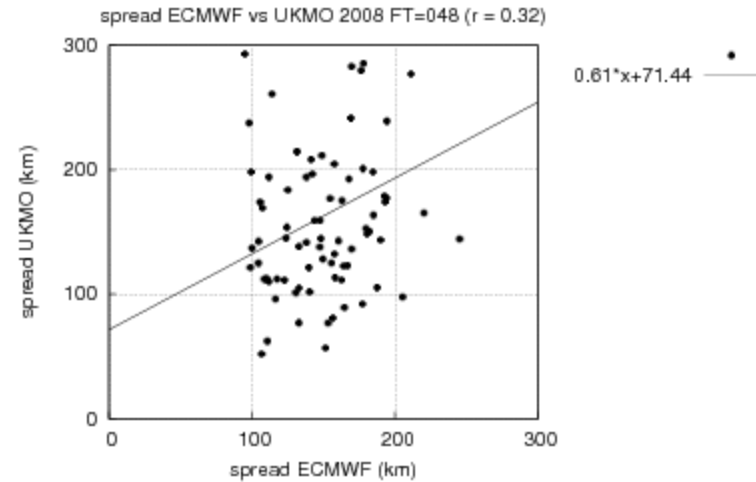
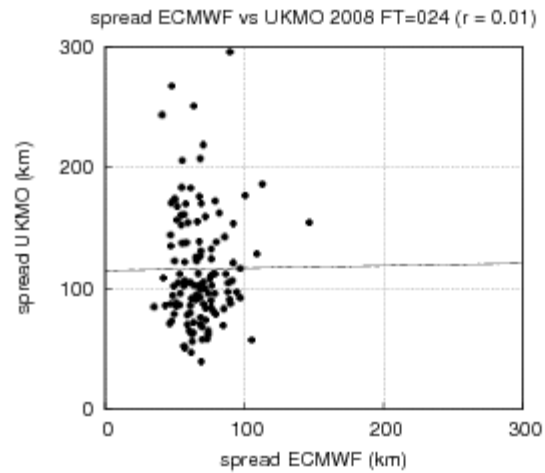


$$1.35 \cdot x + 455.53$$

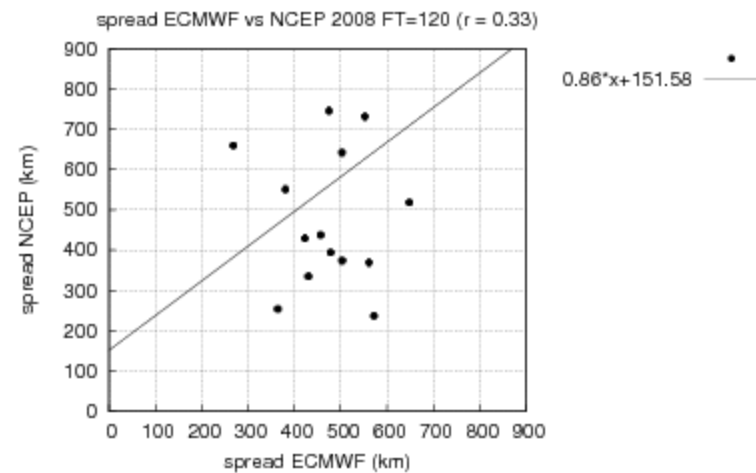
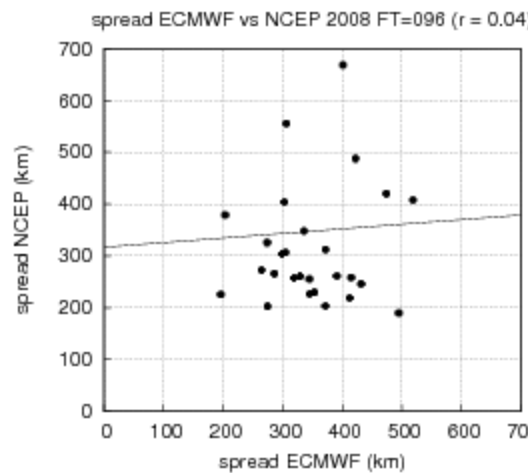
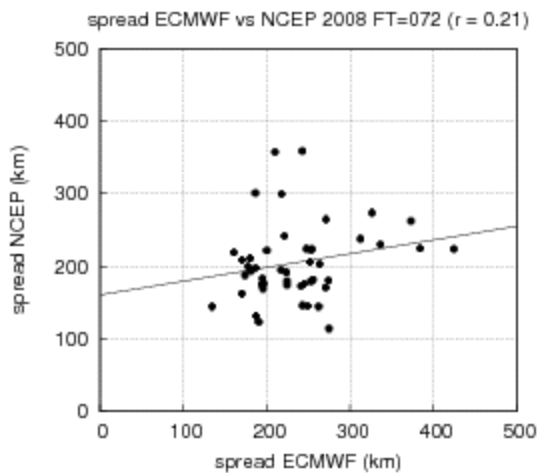
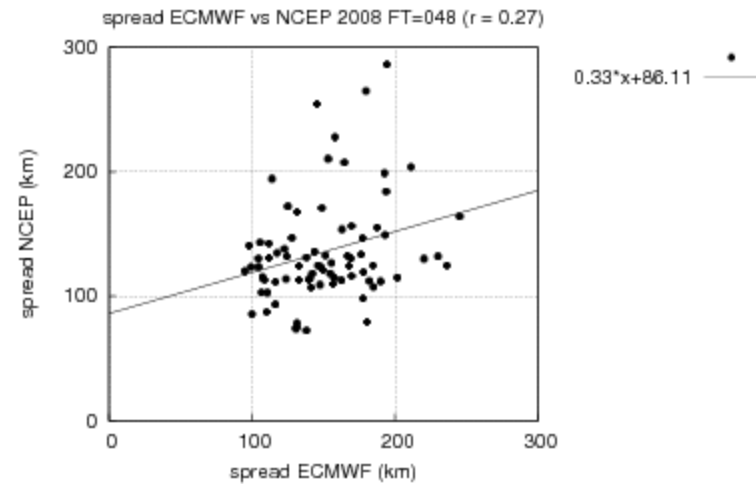
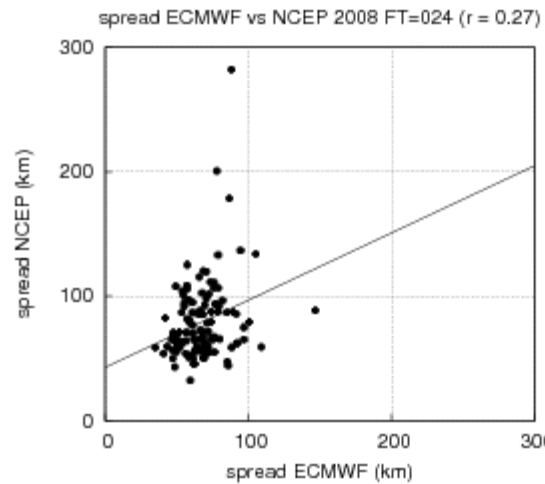
Position Error Correlation; UKMO vs NCEP 2008



Spread Correlation; ECMWF vs UKMO 2007



Spread Correlation; ECMWF vs NCEP 2008



Spread Correlation; UKMO vs NCEP 2008

