

天氣分析與預報研討會

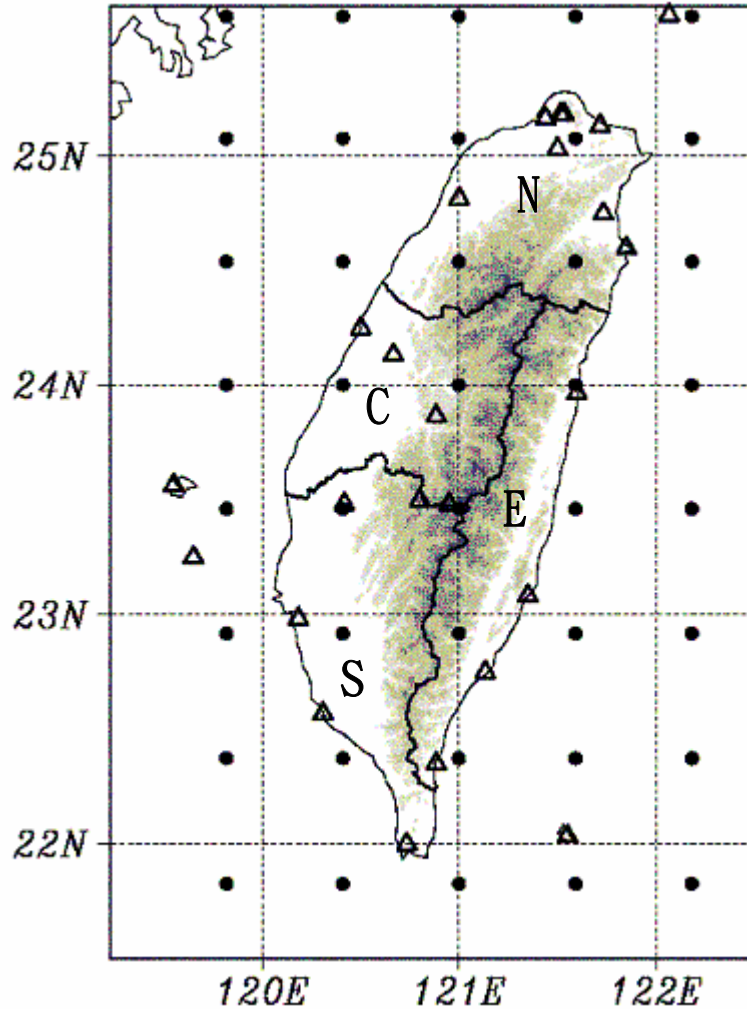
中央氣象局動力區域氣候預報系統 之預報能力分析

20120918 林欣怡、蕭志惠

前言

- 中央氣象局為了提高東亞地區尤其是臺灣地區的氣候預報能力，早在1997年即已開始區域氣候模擬的相關研究，並於2003年開始動力區域氣候預報系統的建置與作業化測試。
- 本預測系統，係以IRI提供之IRI/ECHAM作為NCEP/RSM及本局CWB/RSM之初始場及背景場，進行動力降尺度季節預報。
- 根據中央氣象局動力區域氣候預測系統，2007至2011年期間之機率預報結果，統計分析的方法說明本系統對臺灣地區降水及二米溫度的預報能力。

CWBSTN 2007-2011 區域平均距平分析對各測站之代表性

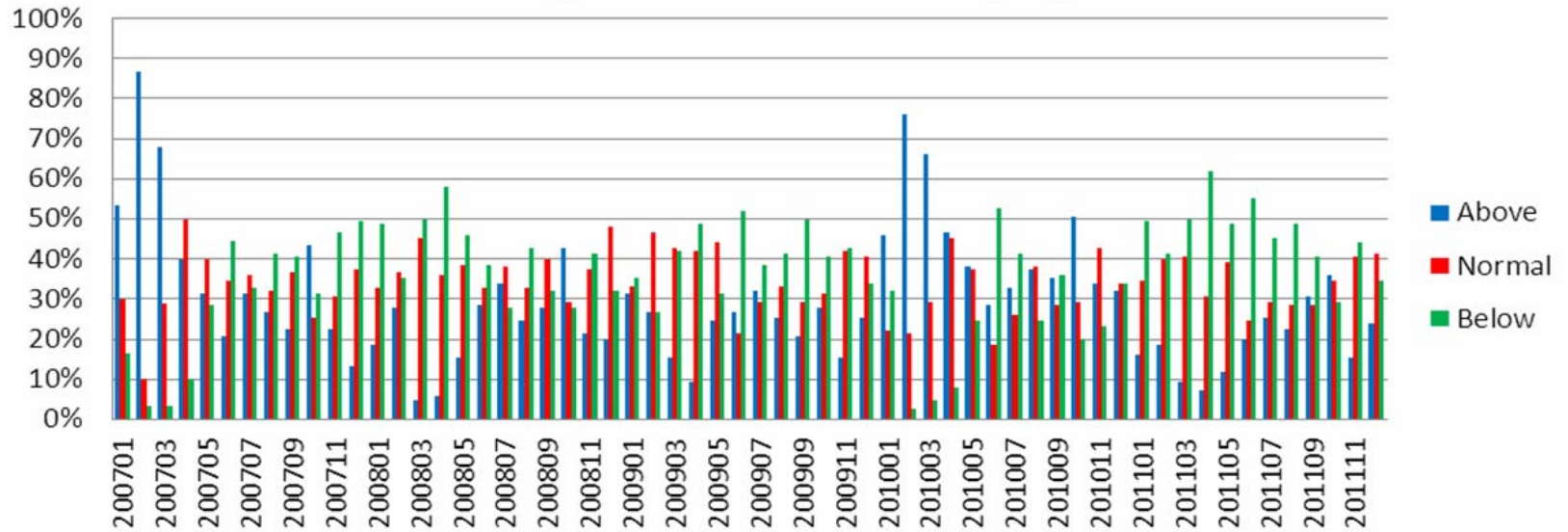


(以北區為例)

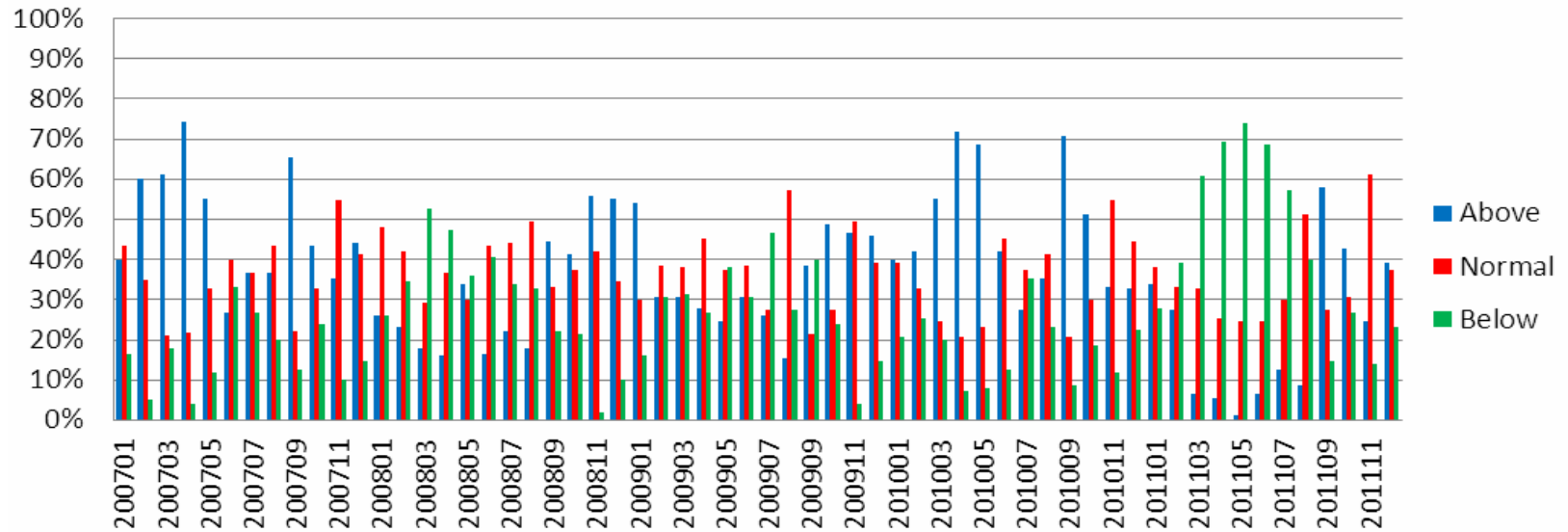
	PCP	T2M
淡水	80%	80%
鞍部	73%	80%
臺北	73%	73%
竹子湖	73%	87%
基隆	67%	100%
彭佳嶼	47%	53%
蘇澳	73%	73%
宜蘭	60%	60%
新竹	73%	87%
N	69%	77%



RSMs_FCST(2007-2011)_N_PCP



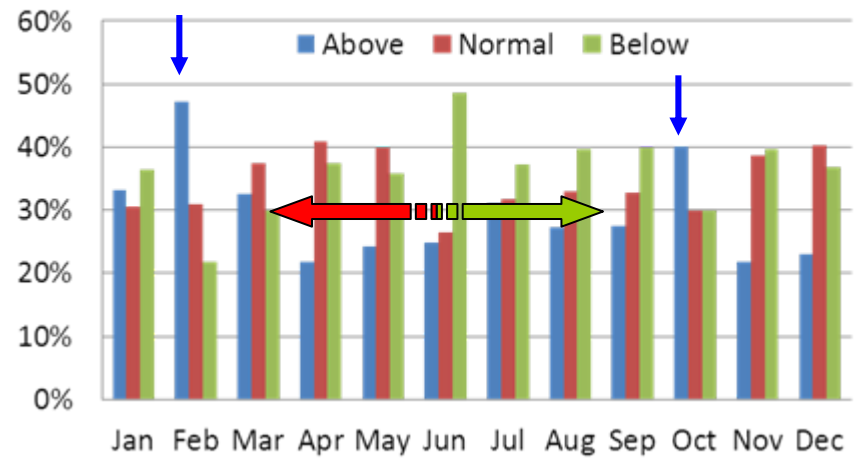
RSMs_FCST(2007-2011)_N_T2M



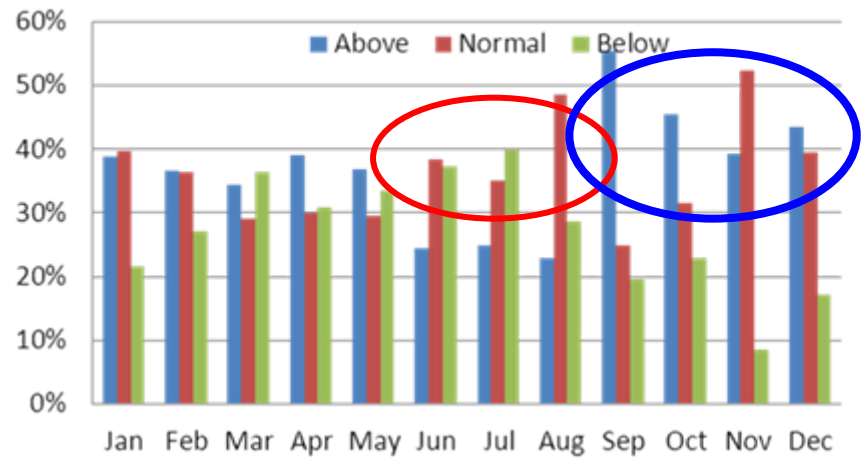


$$POD = \frac{hits}{hits + misses}$$

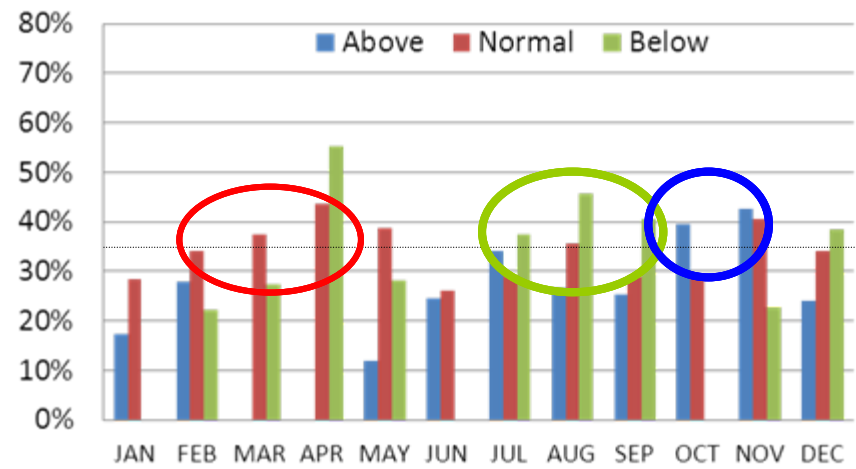
RSMs_FCST(2007-2011)_N_PCP



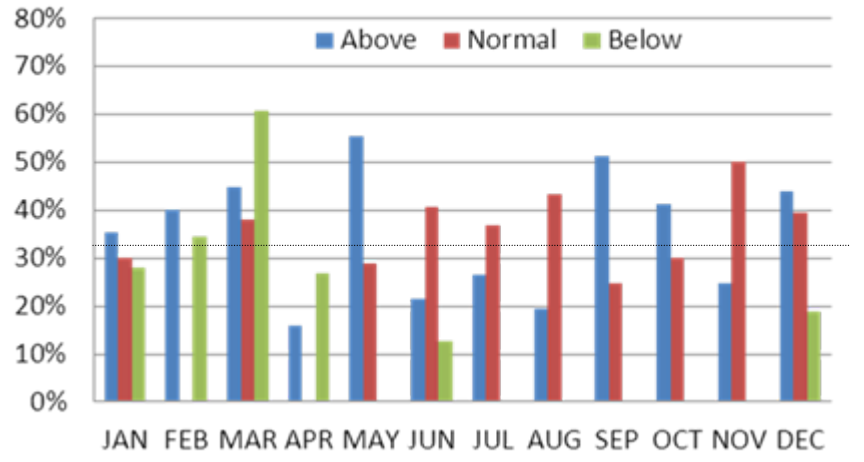
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RSMs_FCST(2007-2011)_N_POD_PCP

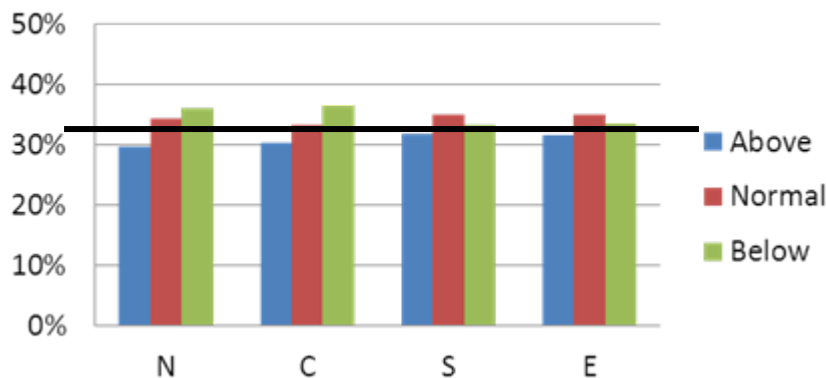


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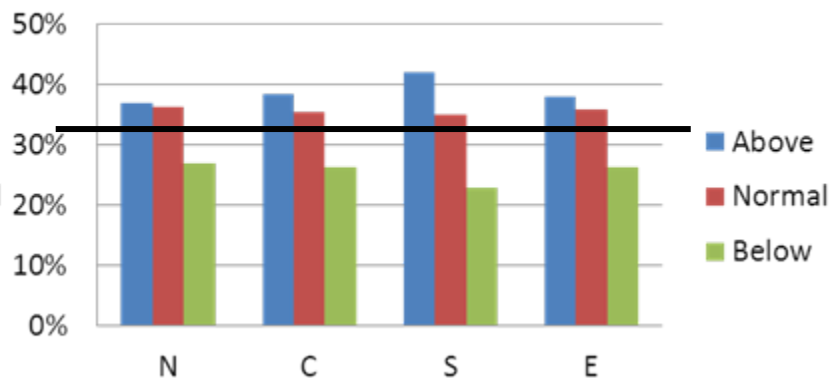


四分區降水及2米溫度特性

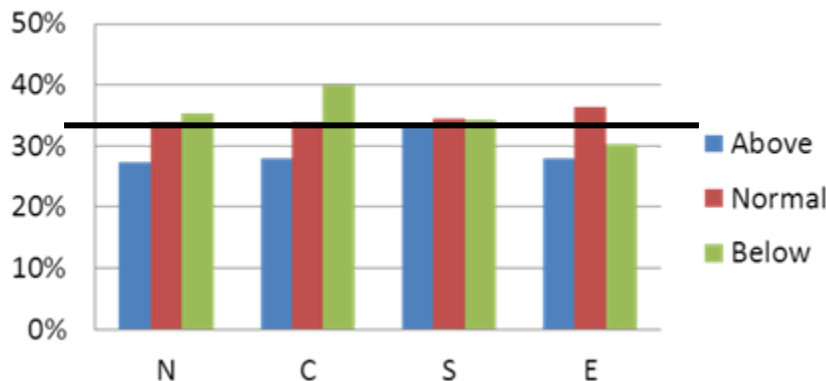
RSMs_FCST(2007-2011) PCP 機率預報



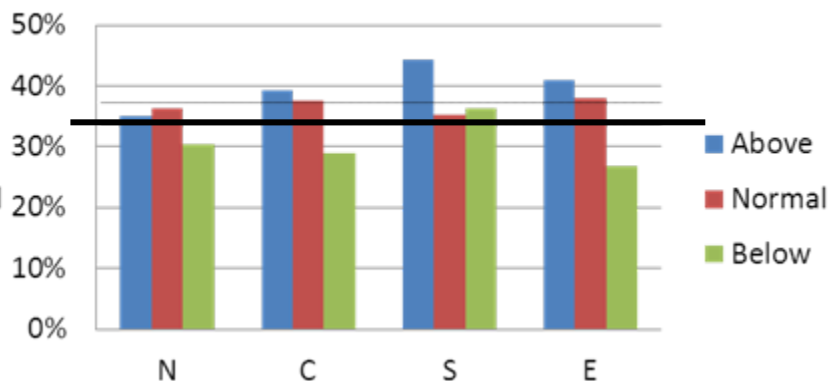
RSMs_FCST(2007-2011) T2M 機率預報



RSMs_FCST(2007-2011) POD_PCP

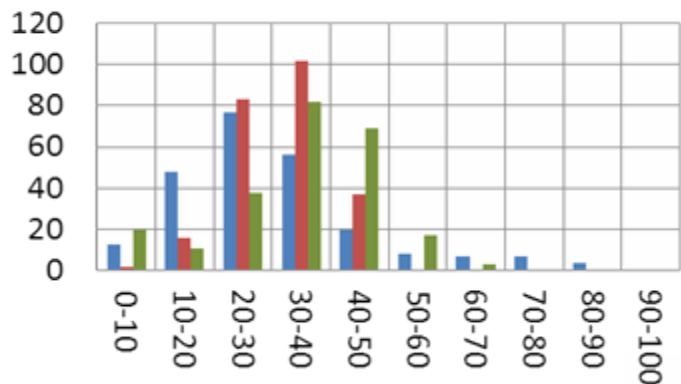


RSMs_FCST(2007-2011) POD_T2M

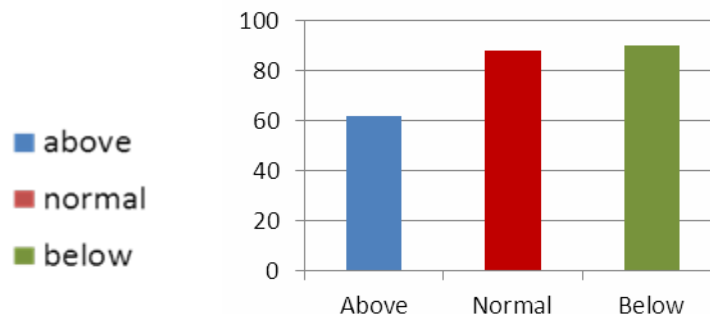


結論一: 溫度的預報能力優於降水，其中又以高於正常及接近正常的檢出率較高
結論二: 降水的預報能力，以中區及南區略優

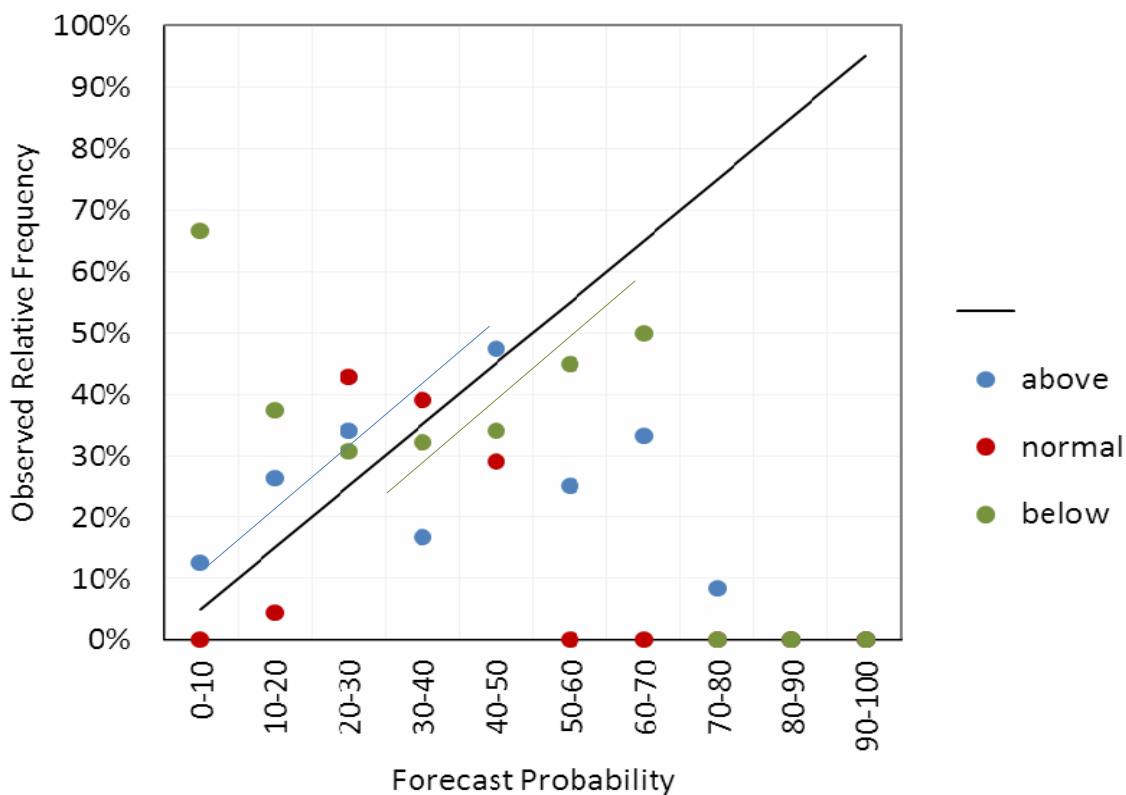
PCP 預報機率與次數



PCP CWBSTN 2007-2011

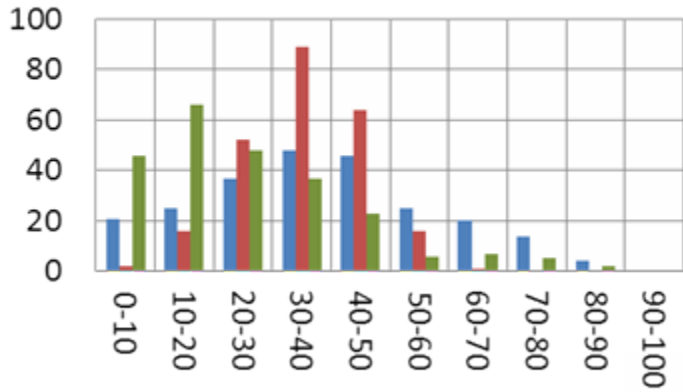


PCP 機率預報可信賴度圖

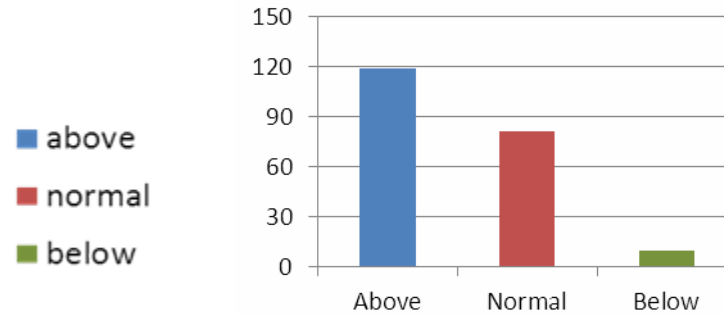


結論三: 降水之預報機率在30%之下者常有低估的情形, 在50%之上者有高估的情形。

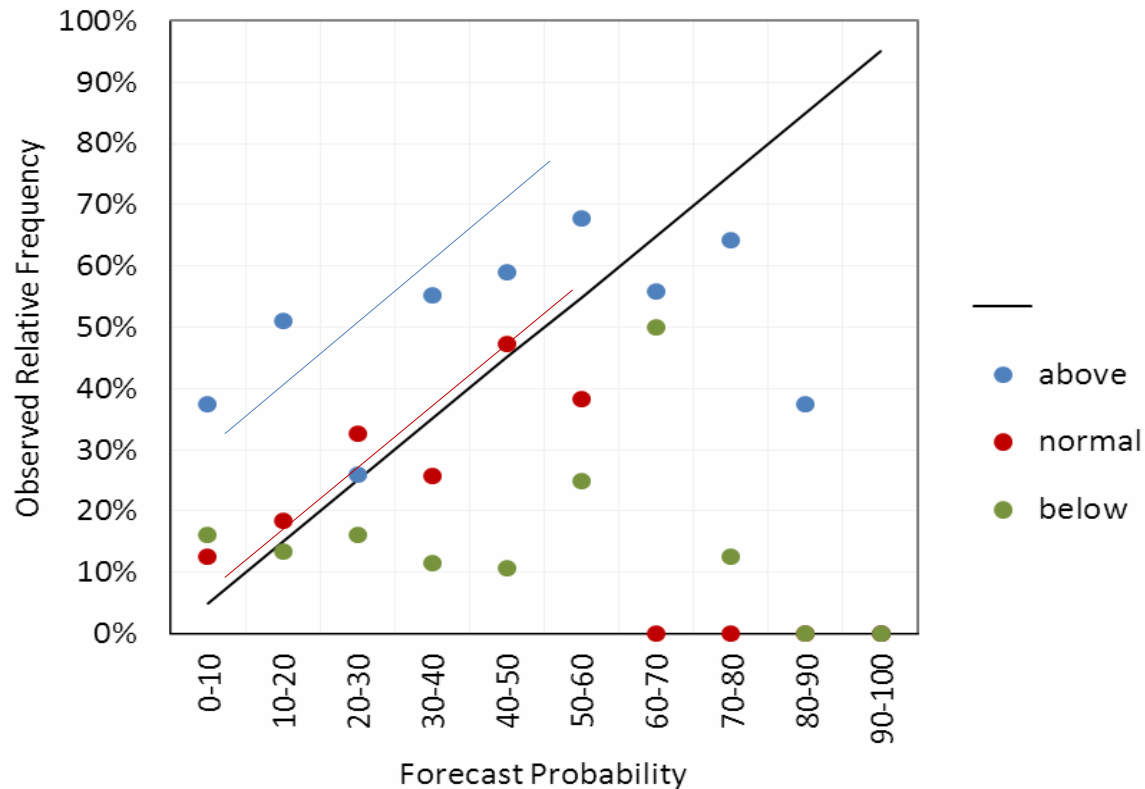
T2M 預報機率與次數



T2M CWBSTN 2007-2011



T2M 機率預報可信賴度圖



結論四: 溫度之預報機率，對高於正常者常有低估的情形，對低於正常者常有高估的情形，對60%之下的接近正常有較高的可信度

結論

根據2007至2011年區域氣候預報系統之預報結果，對於臺灣4分區降水及二米溫度的預報校驗可得以下之結論：

1、溫度的預報能力優於降水，其中又以高於正常及接近正常的檢出率較高。

2、降水的預報能力，以中區及南區略優。

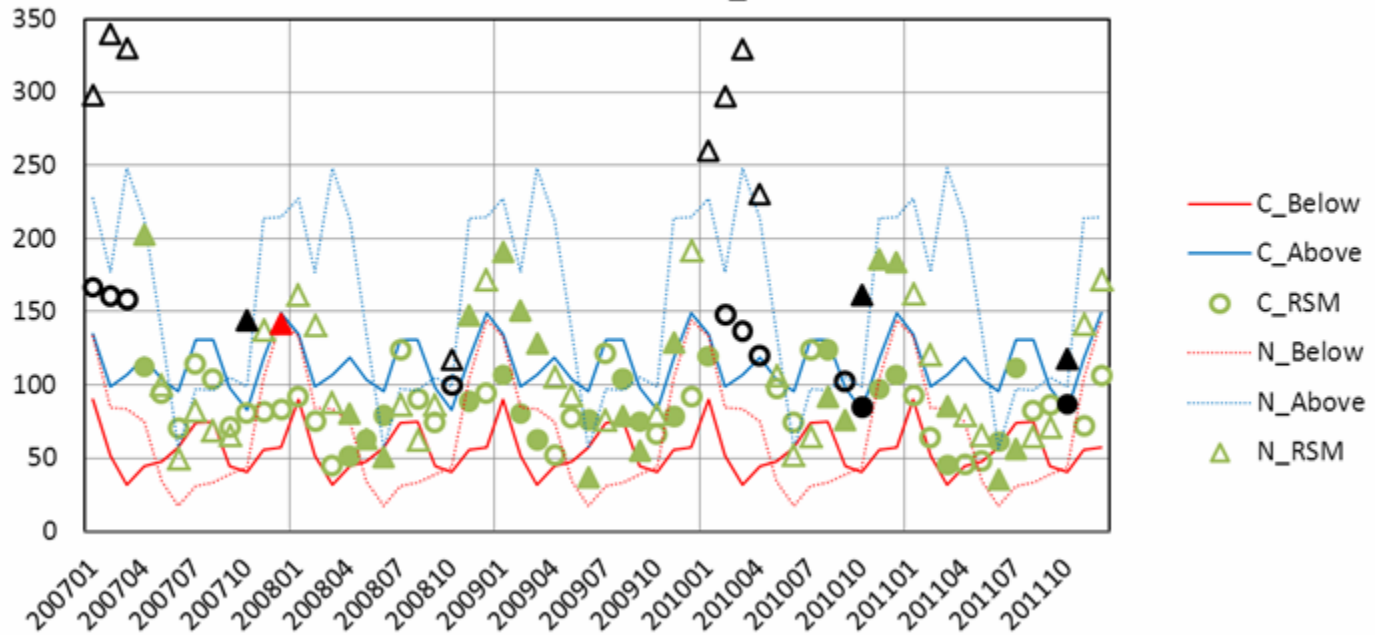
3、降水之預報機率在30%之下者常有低估的情形，在50%之上者有高估的情形。

4、溫度之預報機率，對高於正常者常有低估的情形，對低於正常者常有高估的情形，對60%之下的接近正常有較高的可信度。

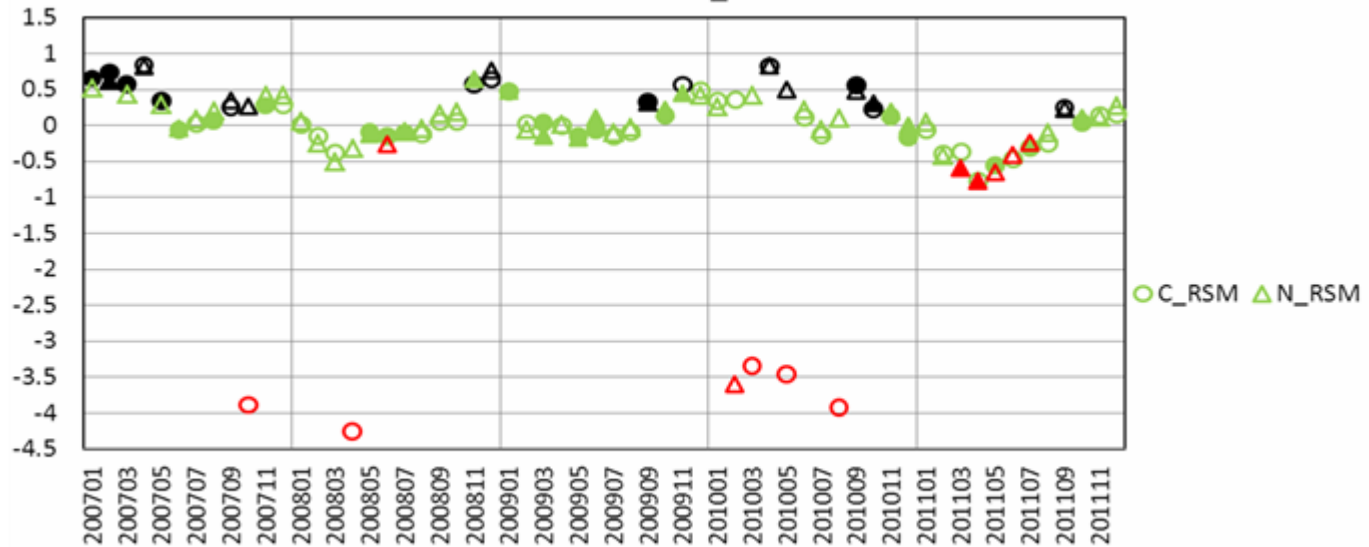
5、因統計的樣本數太少，以上的結論只能代表這5年預報的特徵。

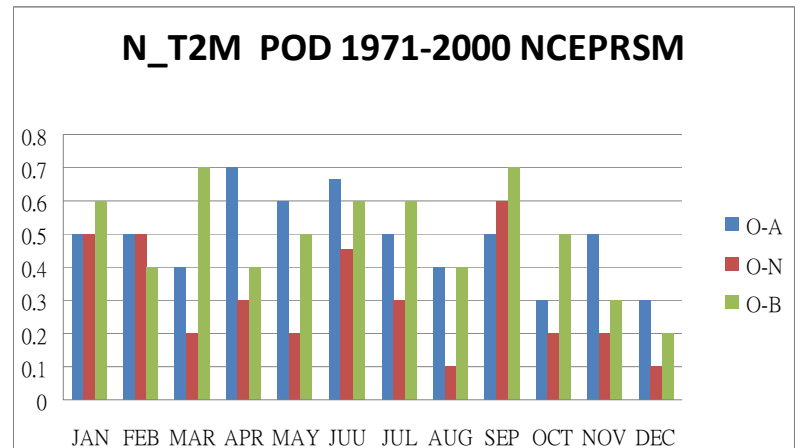
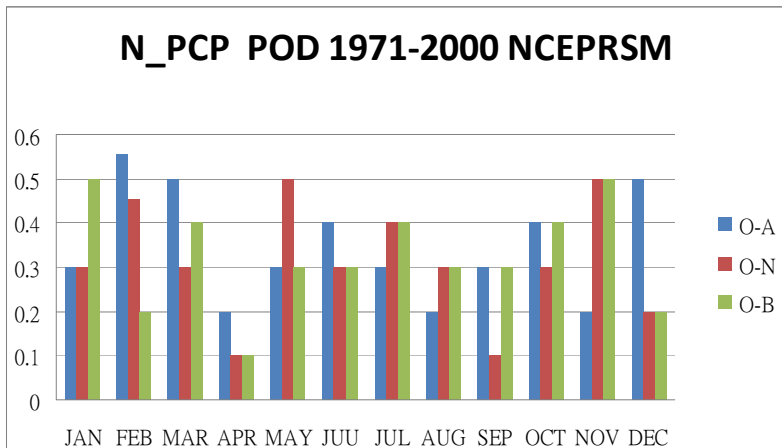
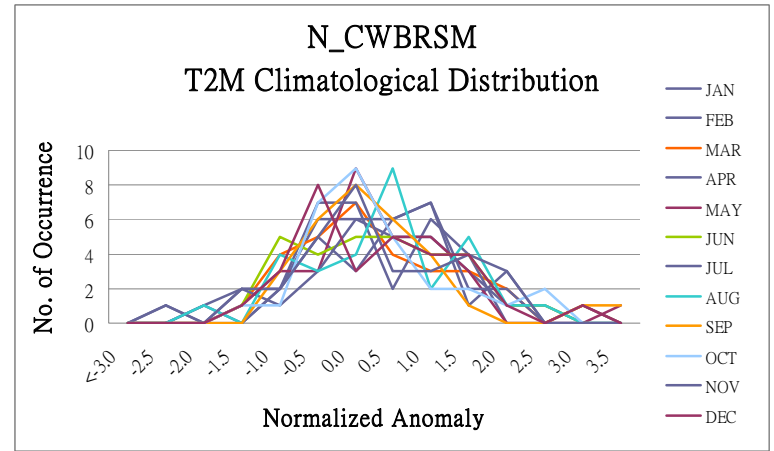
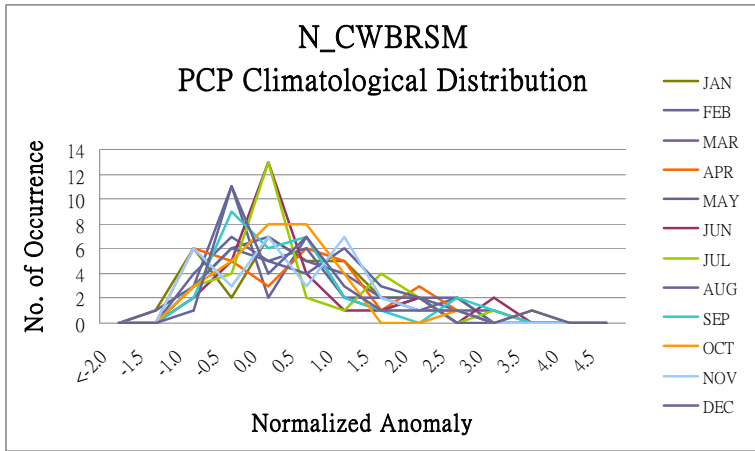
THE END

FCST N_PCP

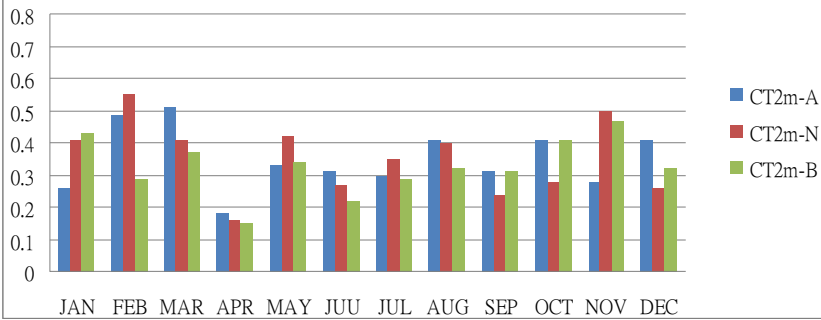


FCST N_T2M

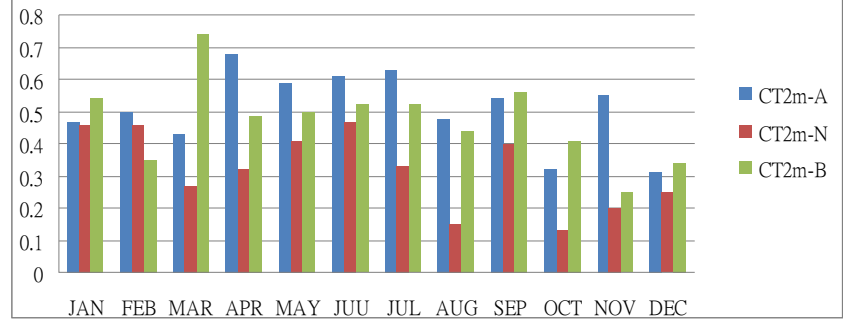




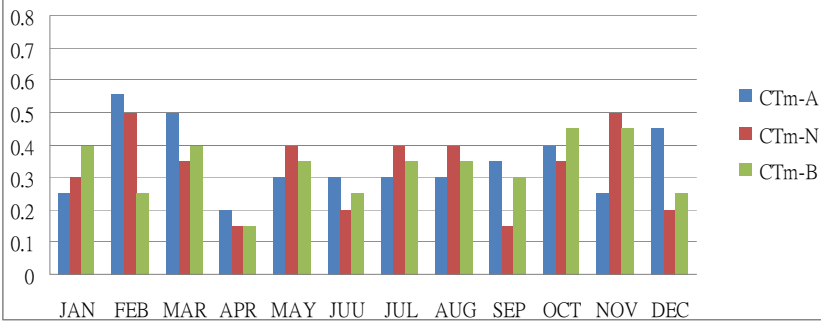
RSMs_AMIP_N1_POD_PCP



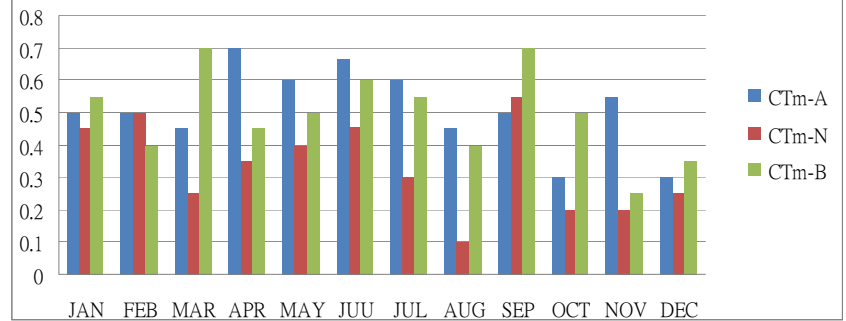
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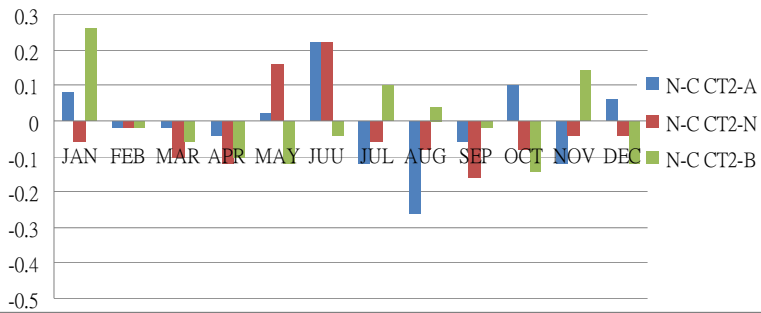
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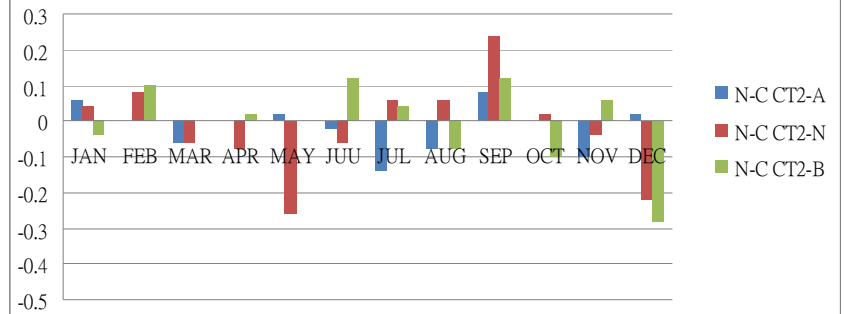
RSMs_AMIP_N1_CT_T2M



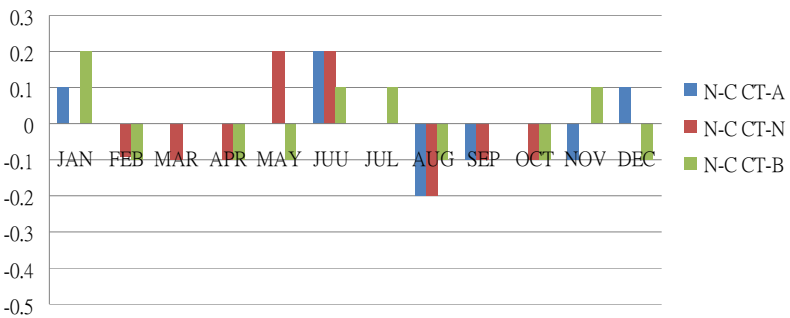
N-C RSM_AMIP_N1_POD_PCP



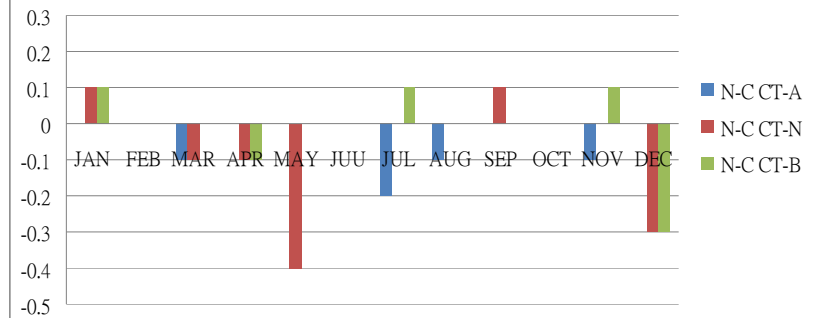
N-C RSM_AMIP_N1_POD_T2M



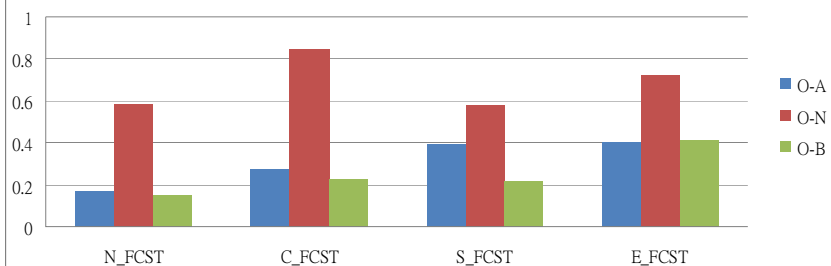
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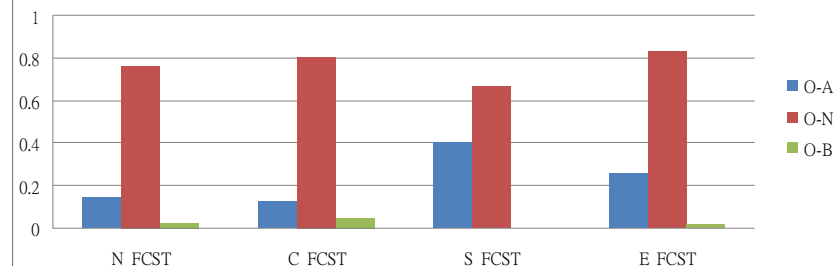
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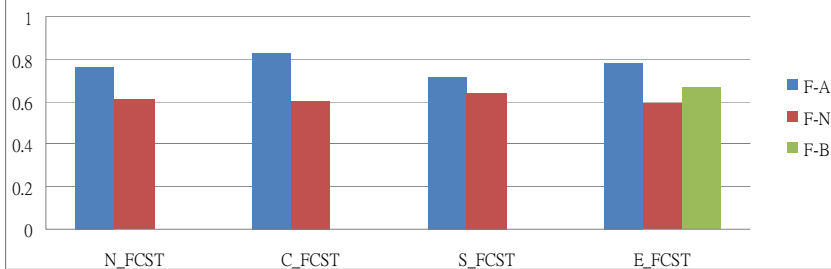
RSMs_FCST(2007-2011) POD_T2M 三分法



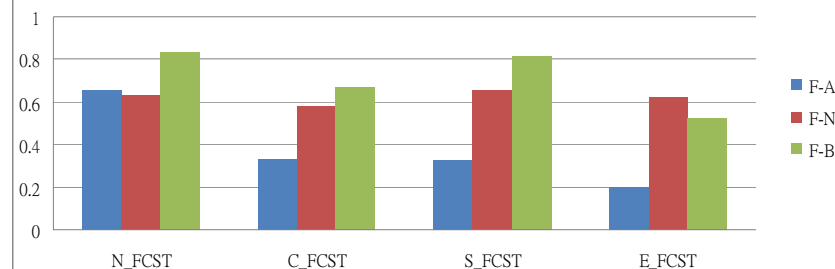
RSMs_FCST(2007-2011) POD_PCP 三分法



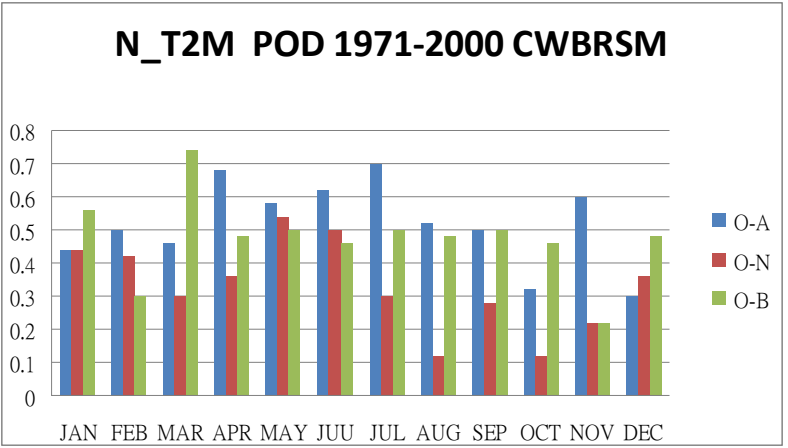
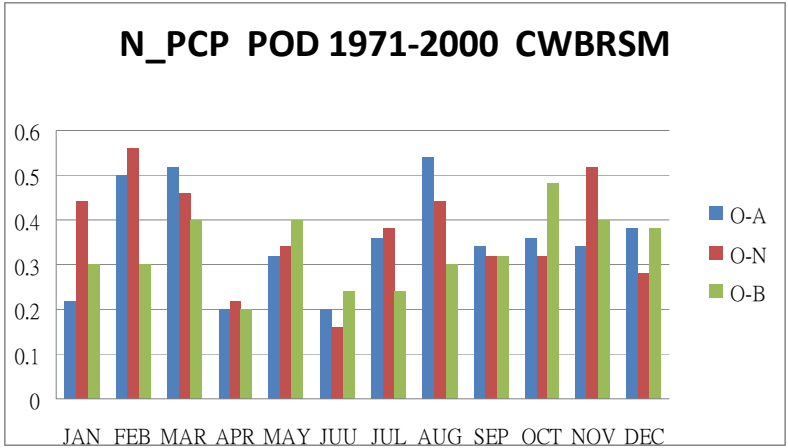
RSMs_FCST(2007-2011) FRA_PCP 三分法



RSMs_FCST(2007-2011) FRA_T2M 三分法



HIT



CT

