

# 天氣分析與預報研討會

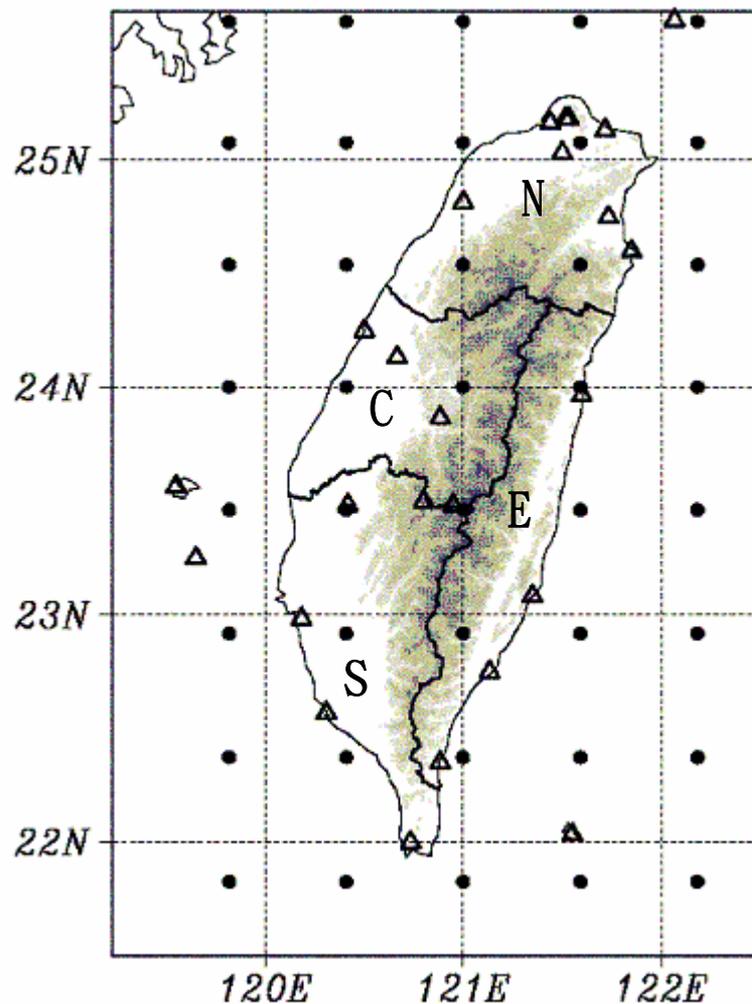
## 中央氣象局動力區域氣候預報系統 之預報能力分析

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

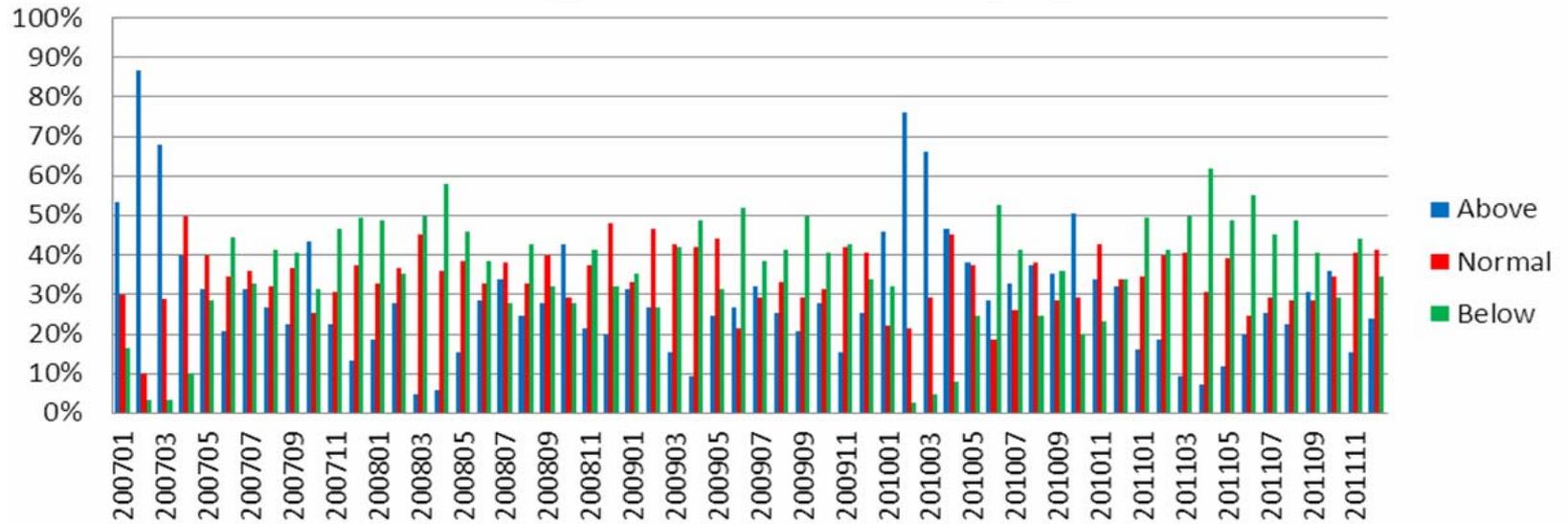


(以北區為例)

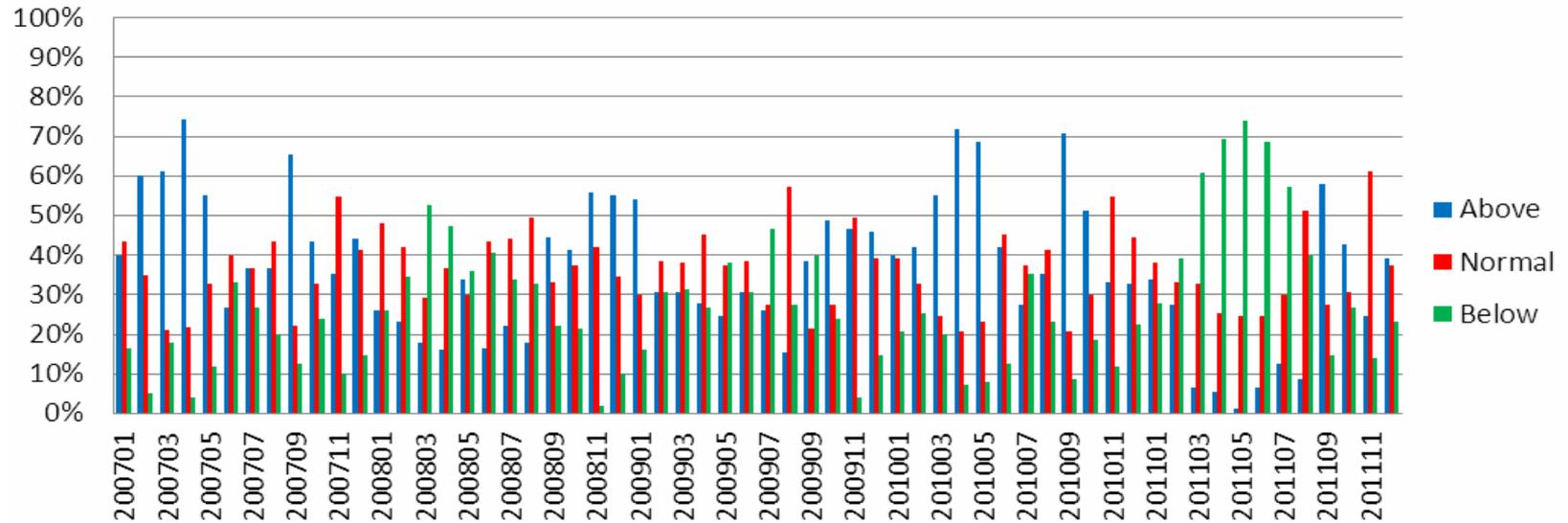
|     | PCP | T2M  |
|-----|-----|------|
| 淡水  | 80% | 80%  |
| 鞍部  | 73% | 80%  |
| 臺北  | 73% | 73%  |
| 竹子湖 | 73% | 87%  |
| 基隆  | 67% | 100% |
| 彭佳嶼 | 47% | 53%  |
| 蘇澳  | 73% | 73%  |
| 宜蘭  | 60% | 60%  |
| 新竹  | 73% | 87%  |
| N   | 69% | 77%  |



## RSMs\_FCST(2007-2011)\_N\_PCP



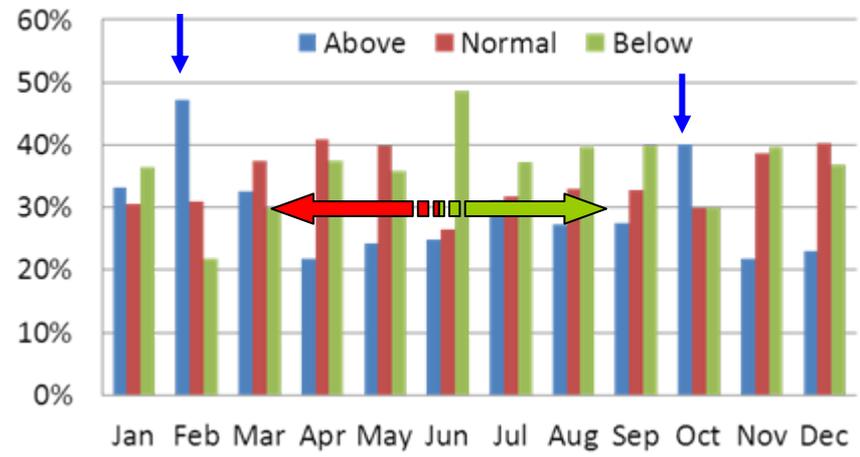
## RSMs\_FCST(2007-2011)\_N\_T2M



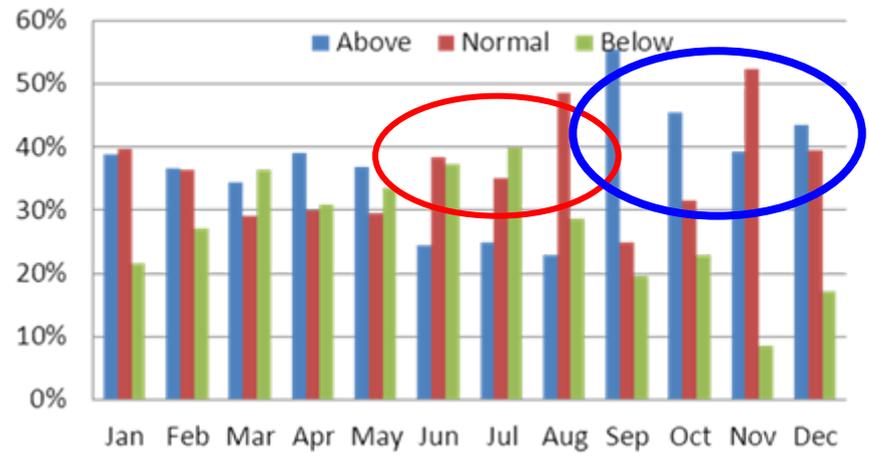


$$POD = \frac{hits}{hits + misses}$$

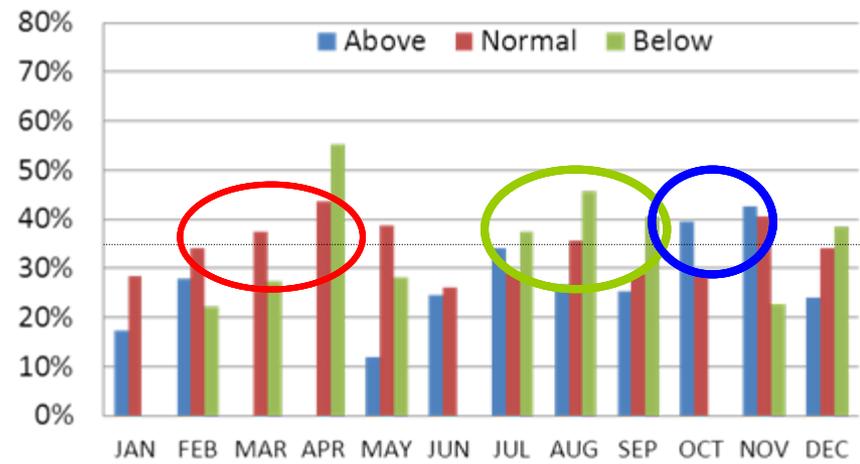
**RSMs\_FCST(2007-2011)\_N\_PCP**



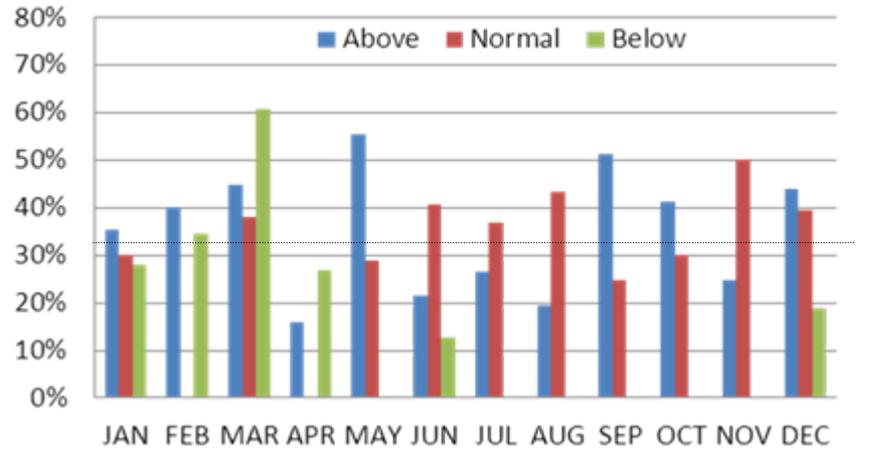
**RSMs\_FCST(2007-2011)\_N\_T2M**



**RSMs\_FCST(2007-2011)\_N\_POD\_PCP**

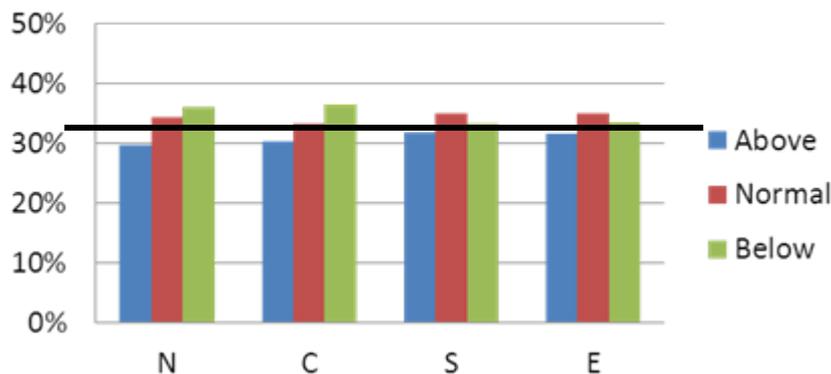


**RSMs\_FCST(2007-2011)\_N\_POD\_T2M**

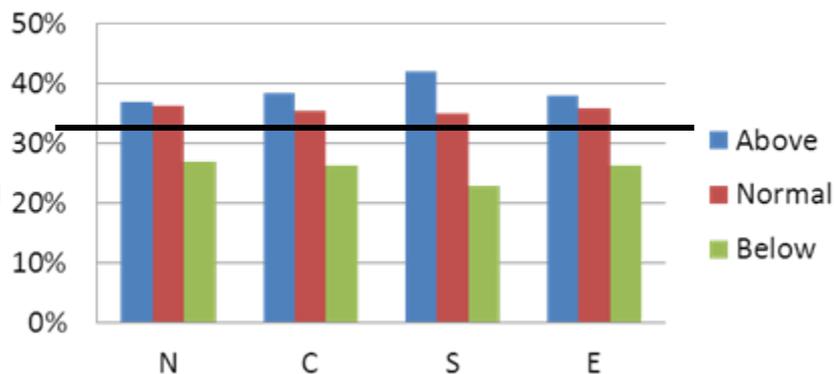


# 四分區降水及2米溫度特性

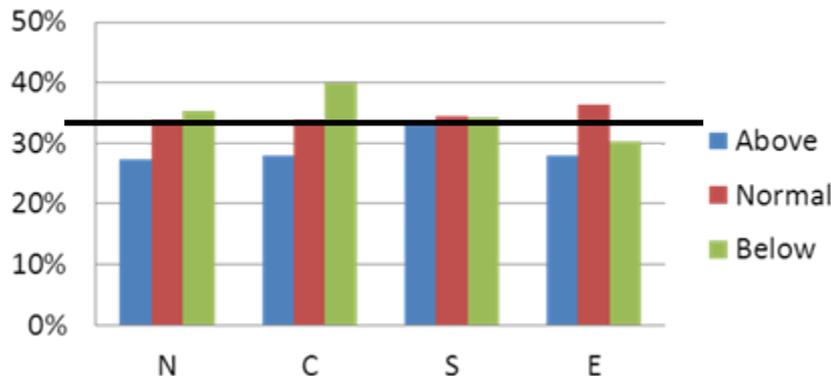
### RSMs\_FCST(2007-2011) PCP 機率預報



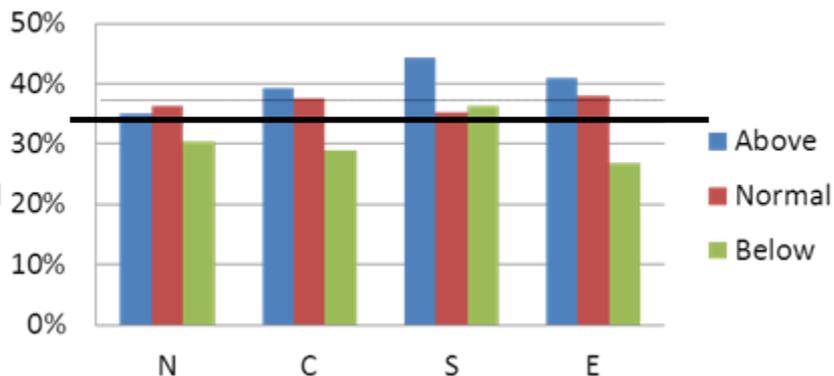
### RSMs\_FCST(2007-2011) T2M 機率預報



### RSMs\_FCST(2007-2011) POD\_PCP

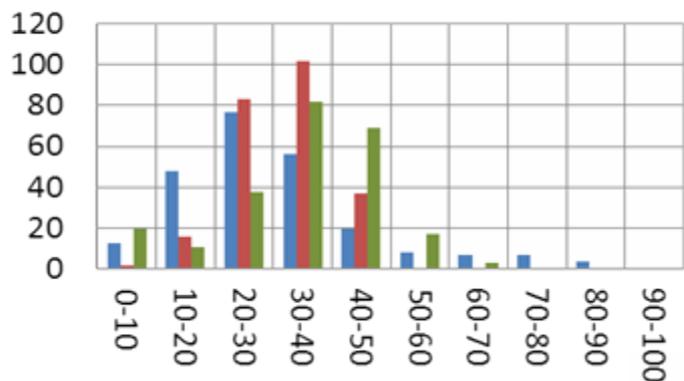


### RSMs\_FCST(2007-2011) POD\_T2M

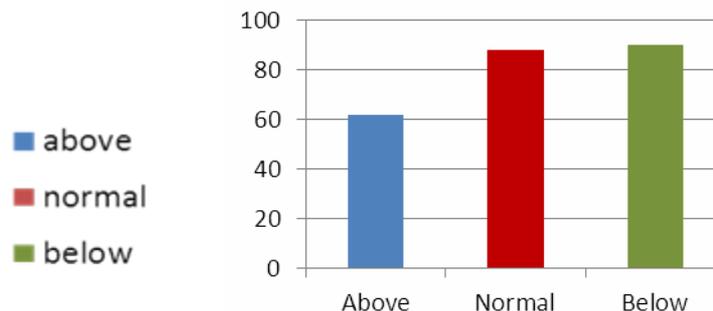


結論一: 溫度的預報能力優於降水，其中又以高於正常及接近正常的檢出率較高  
結論二: 降水的預報能力，以中區及南區略優

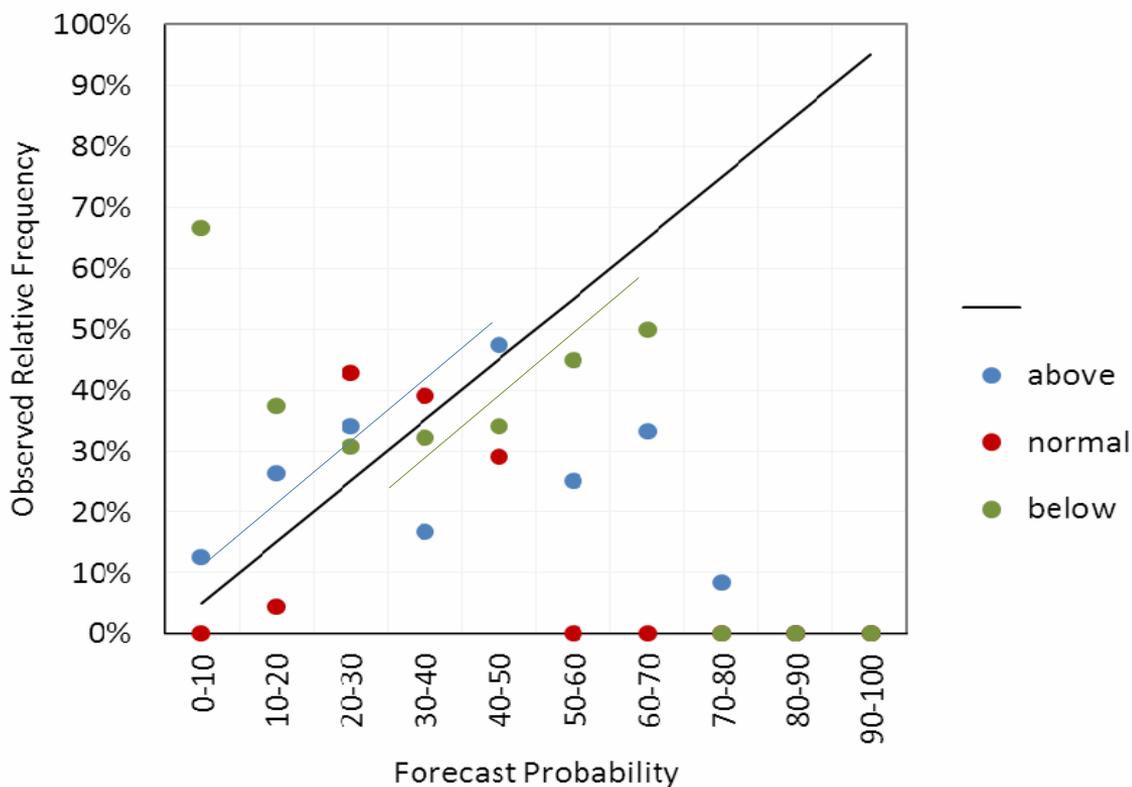
PCP 預報機率與次數



PCP CWBSTN 2007-2011

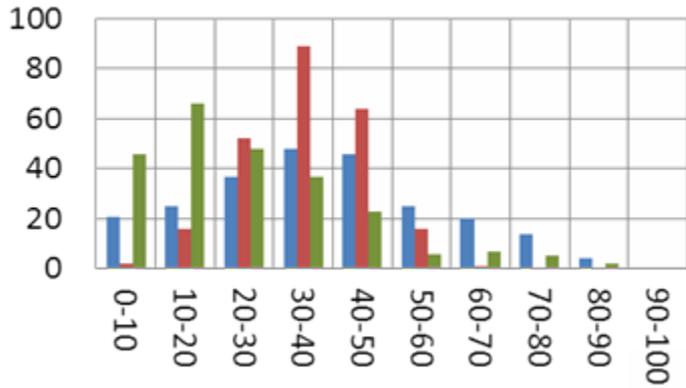


PCP機率預報可信賴度圖

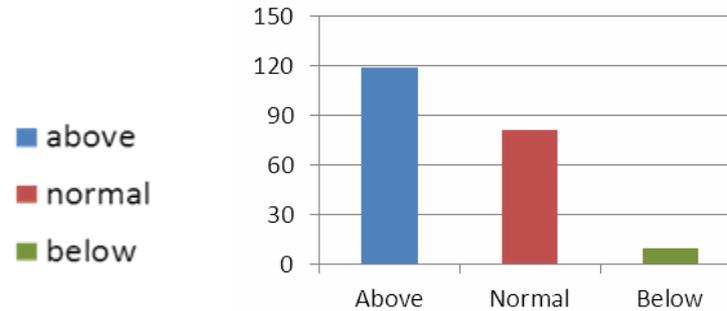


結論三: 降水之預報機率在30%之下者常有低估的情形, 在50%之上者有高估的情形。

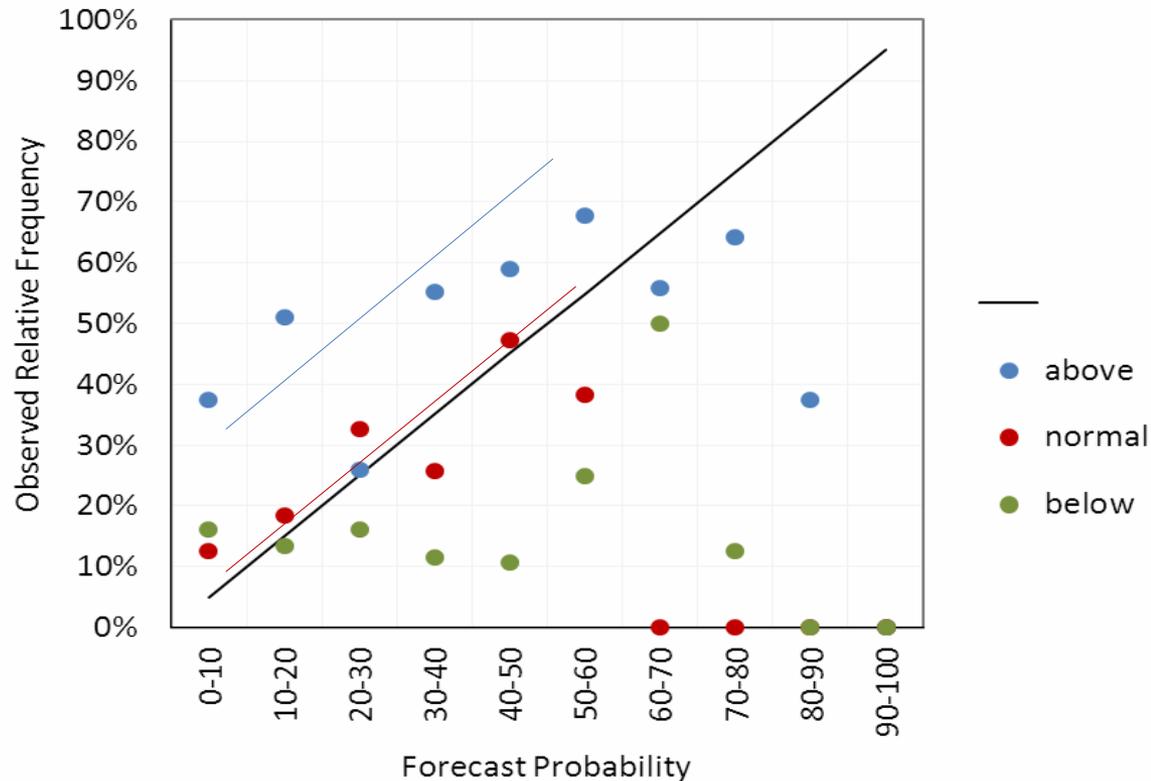
### T2M 預報機率與次數



### 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

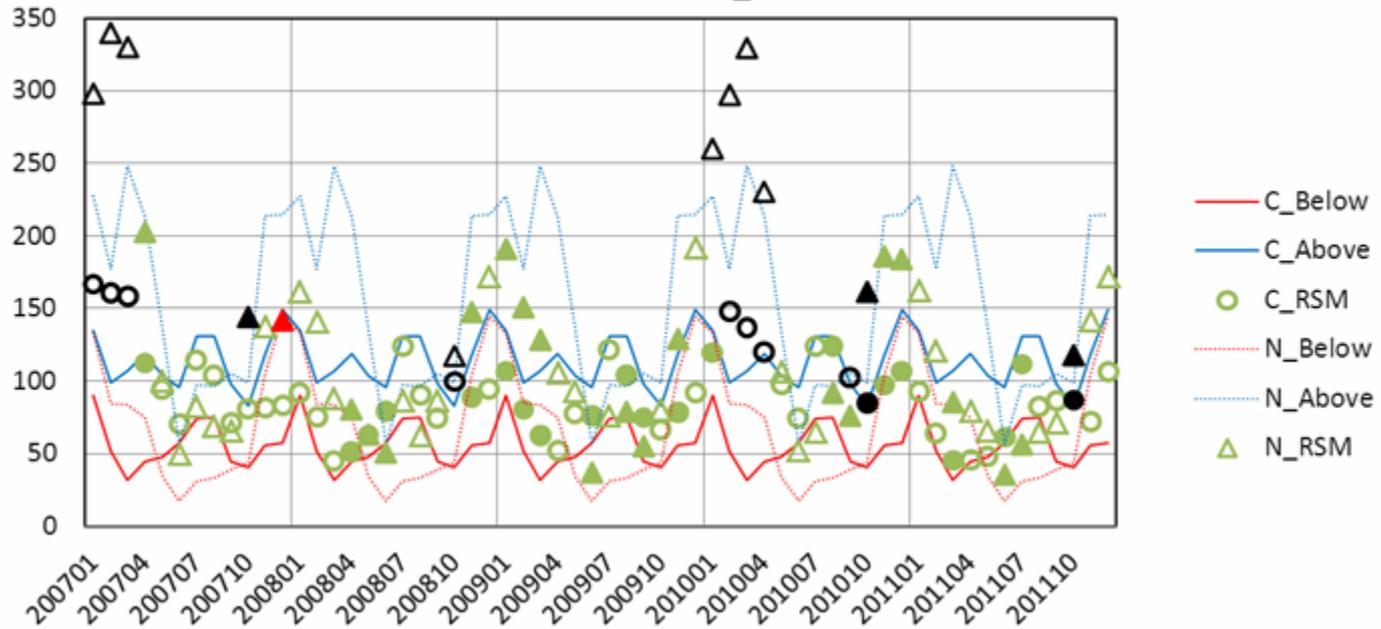
根據2007至2011年區域氣候預報系統之預報結果，對於臺灣4分區降水及二米溫度的預報校驗可得以下之結論：

- 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。

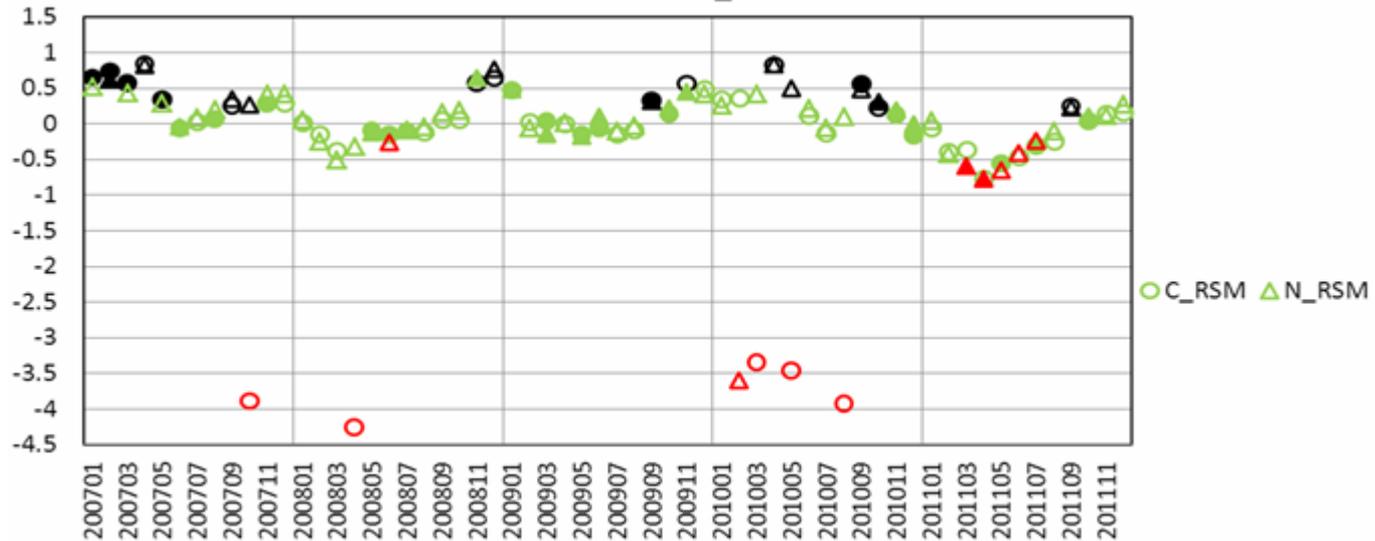
THE END

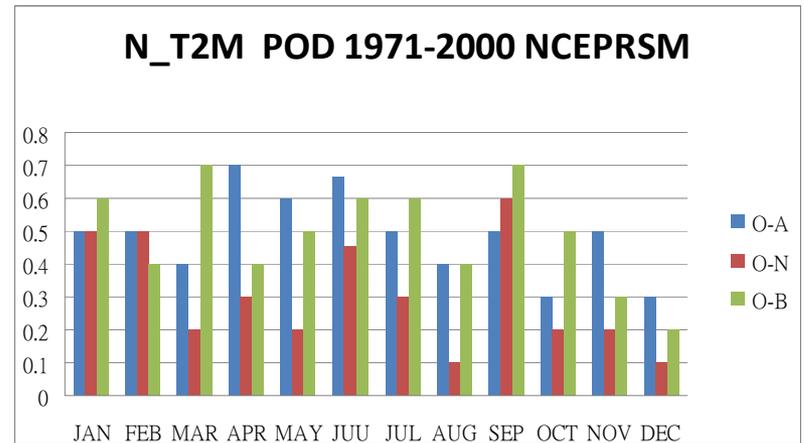
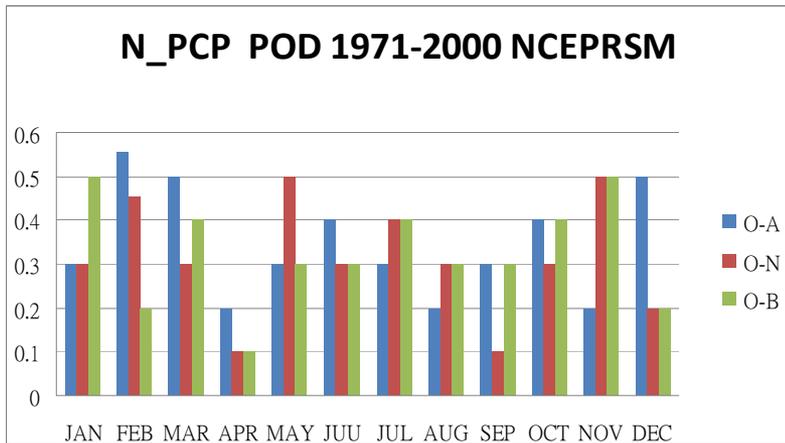
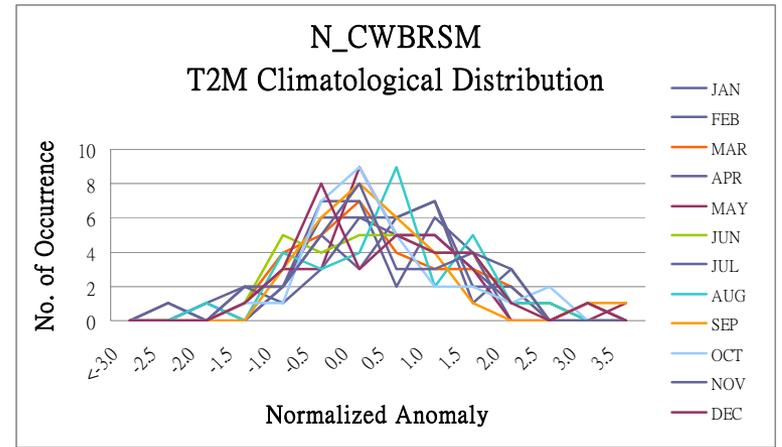
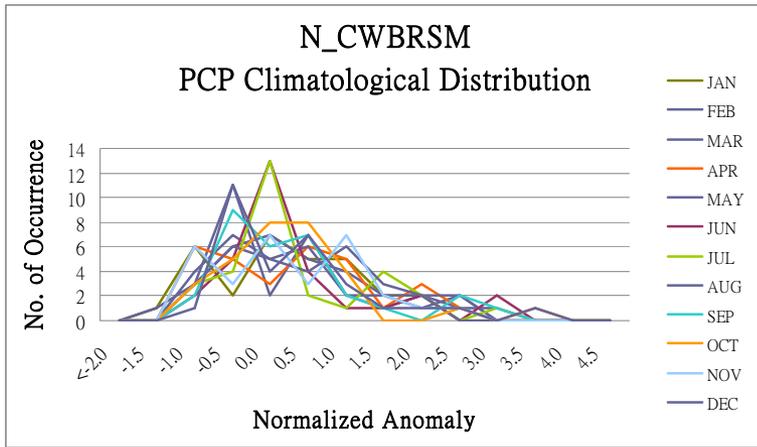


FCST N\_PCP

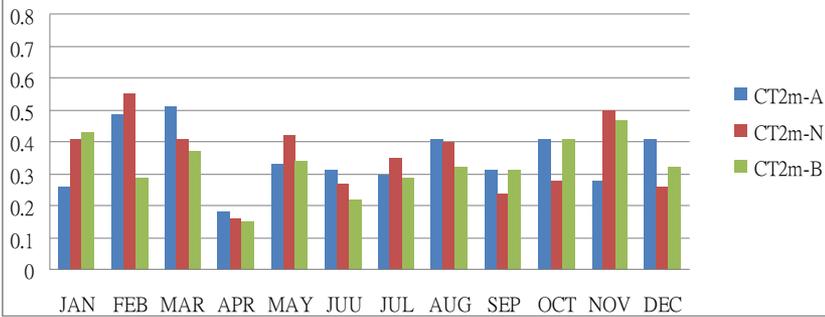


FCST N\_T2M

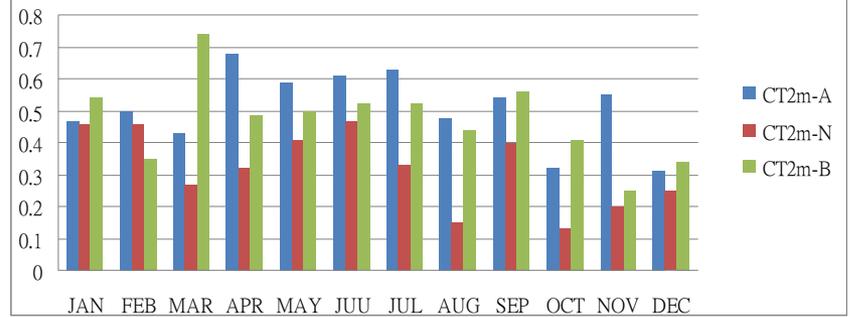




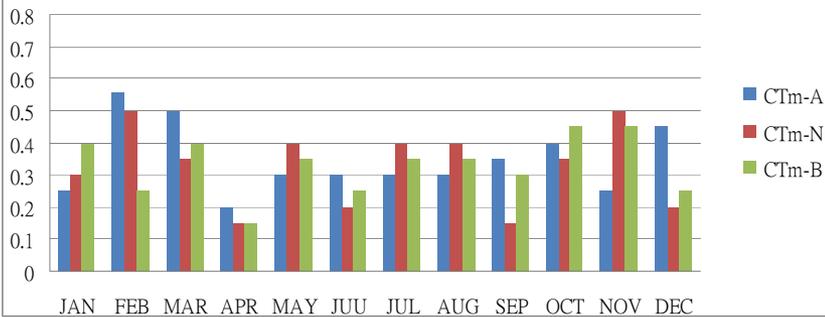
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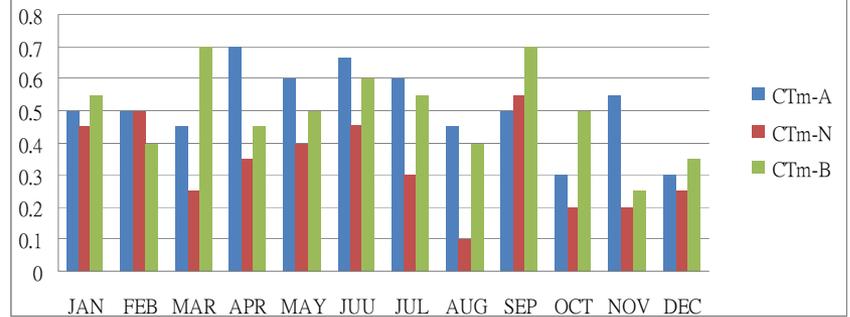
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### RSMs\_AMIP\_N1\_CT\_PCP



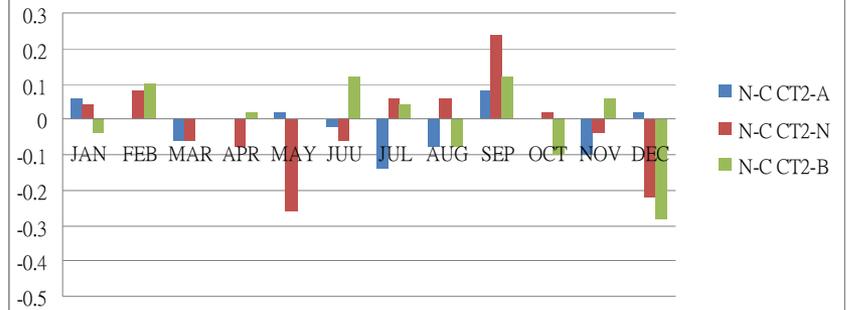
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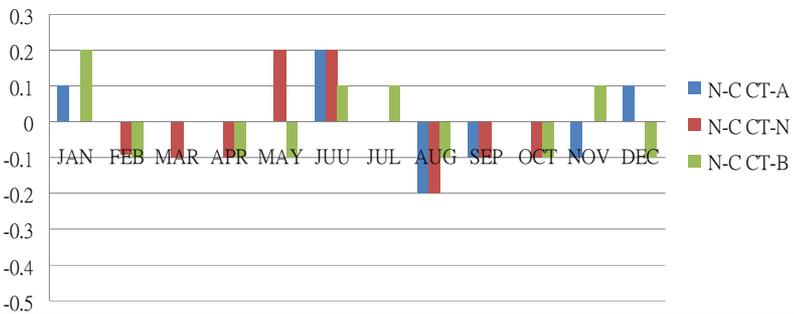
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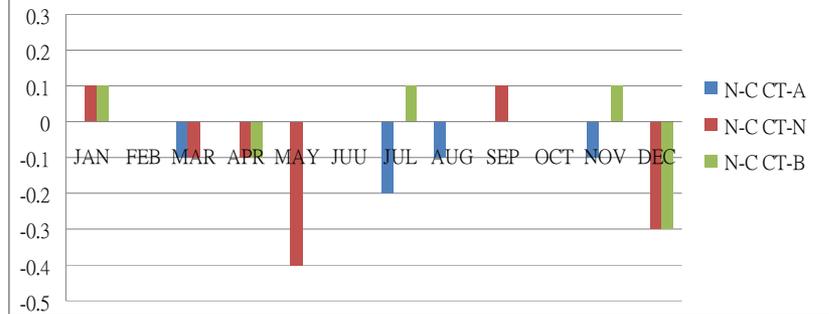
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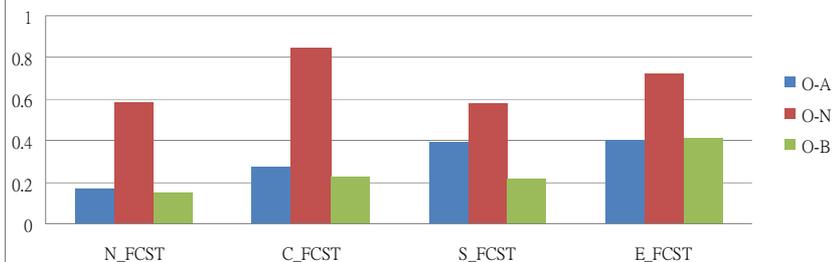
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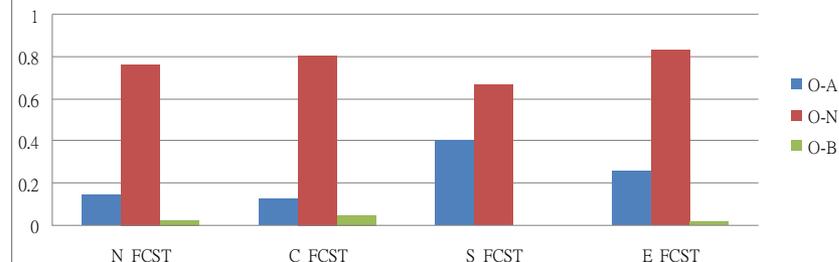
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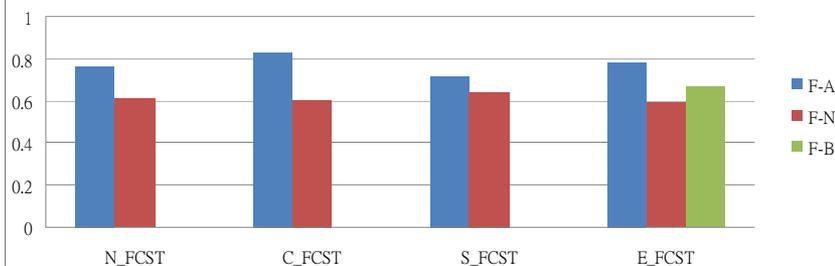
RSMs\_FCST(2007-2011) POD\_T2M 三分法



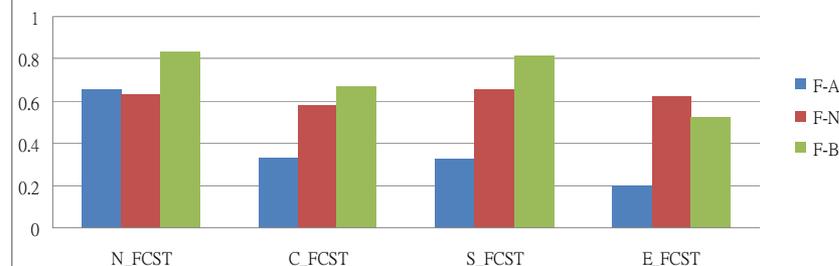
RSMs\_FCST(2007-2011) POD\_PCP 三分法



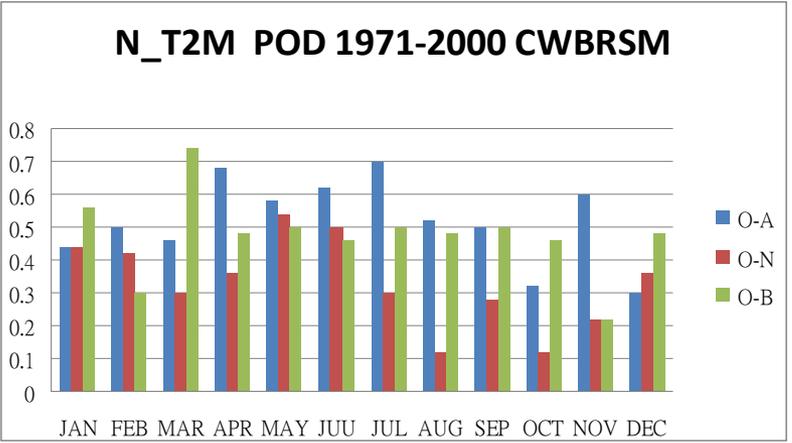
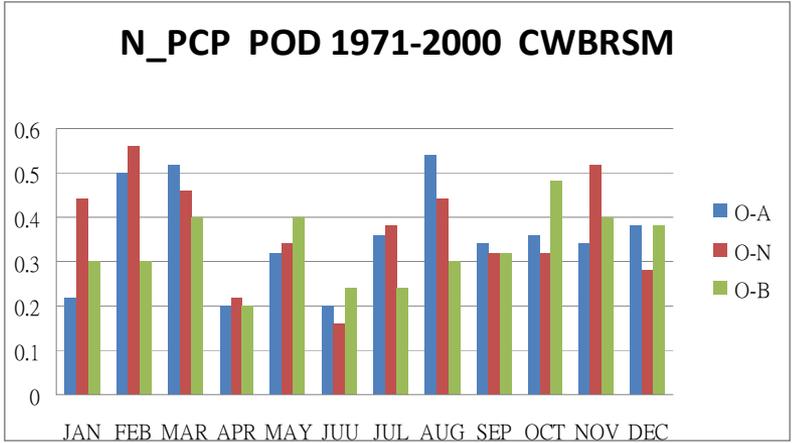
RSMs\_FCST(2007-2011) FRA\_PCP 三分法



RSMs\_FCST(2007-2011) FRA\_T2M 三分法



HIT



CT

