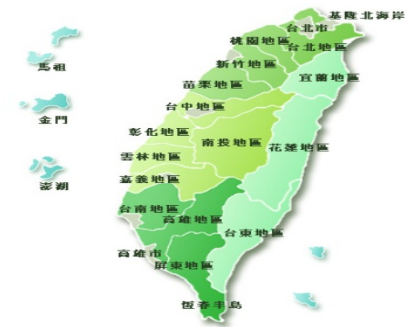


Summary of SoWMEX/TiMREX- 2009 Operation and Data

Ben Jong-Dao Jou (NTU), Chia-Rong Chen (CWB), Wen-Chau Lee (NCAR), Po-Hsiung Lin (NTU), Pay-Liam Lin (NCU), Ching-Huang Liu (CCU), Feng Lei (NCDR), and ...

2nd SoWMEX/TiMREX Science Workshop,
Taipei 20-22 October 2009

Rainfall statistics for the Meiyu season of 2008/2009

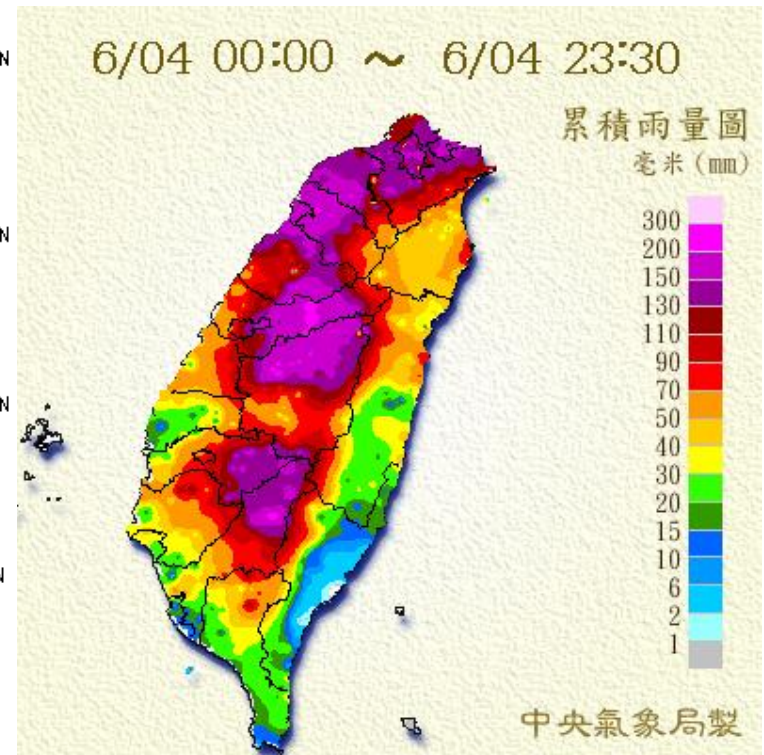
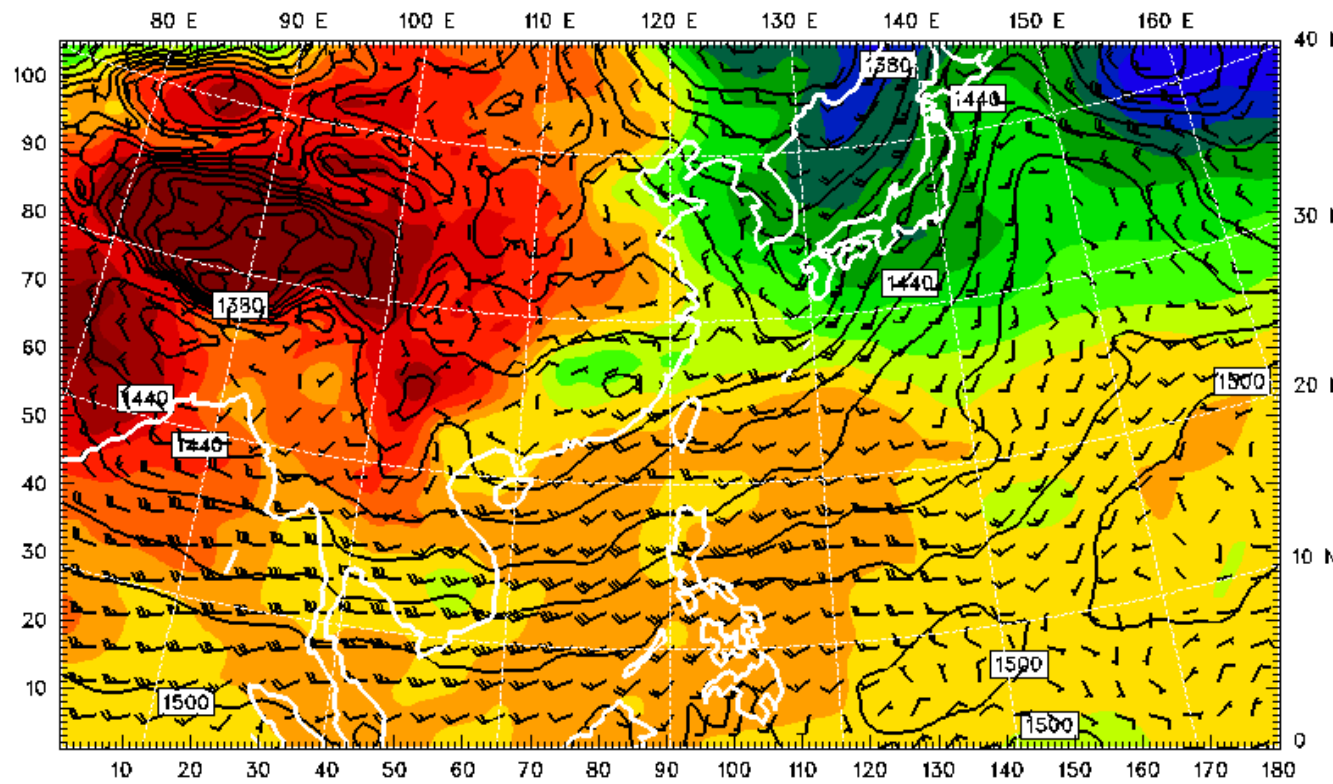
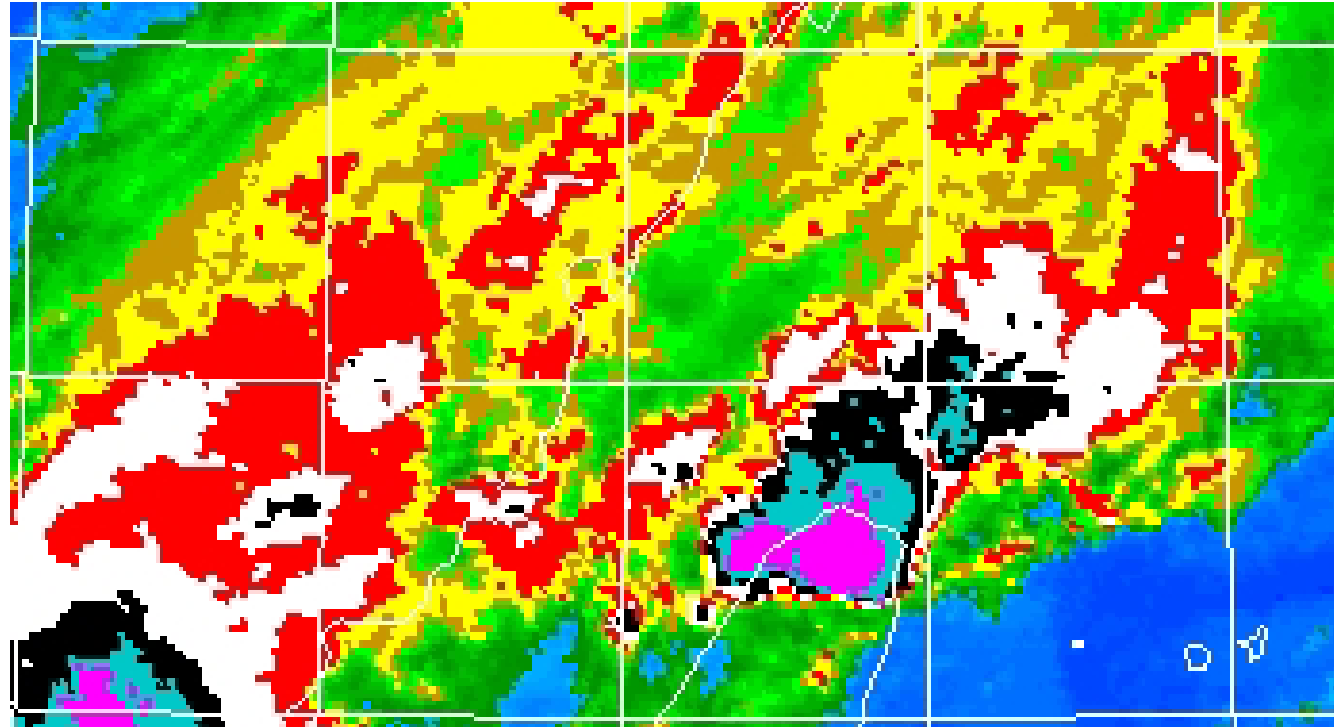


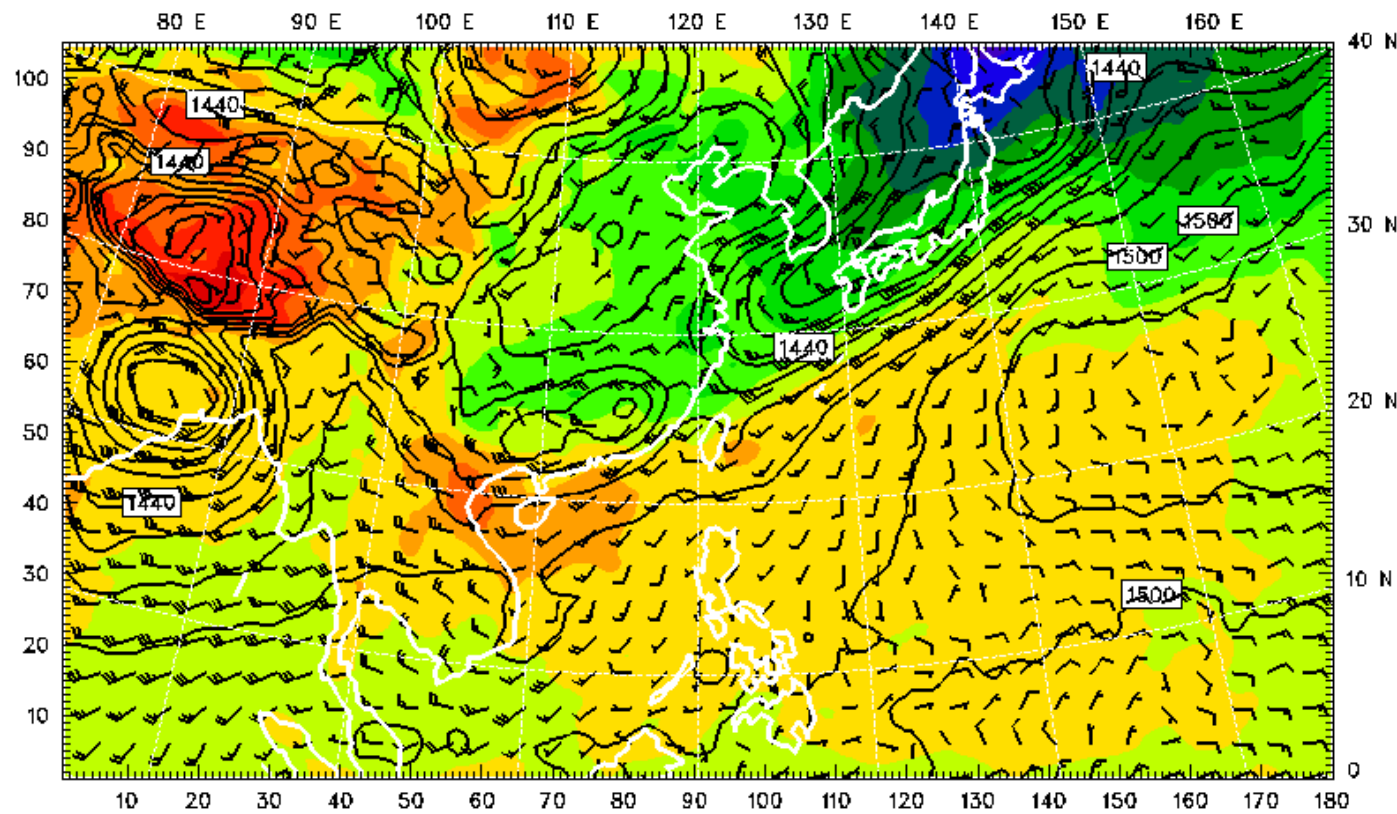
Station and Rainfall (mm)	Tai-pei (N)	Tai-chung (C)	Kao-hsiung (S)	Heng-chuun (P)	A-li-shan	Sun-Moon Lake	I-Lan (E-N)	Hwa-lien (E-C)	Tai-tung (E-S)
May (mean)	258	225	177	164	531	354	264	195	157
May (08/09)	319/ 25	332/ 21	107/ 14	32/ 2	378/ 95	409/ 70	132/ 41	72/ 142	55/ 78
June (mean)	319	343	398	371	711	483	252	220	248
June (08/09)	361/ 277	183/ 422	1200/ 312	653/ 87	496/ 613	440/ 283	173/ 216	170/ 320	327/ 100

(2008) In May, north Taiwan has more rainfall than climate (1971-2000). In June, south Taiwan has much more rainfall than climate. The mountain rainfall is much less than the climate mean (A-Li-Shan)

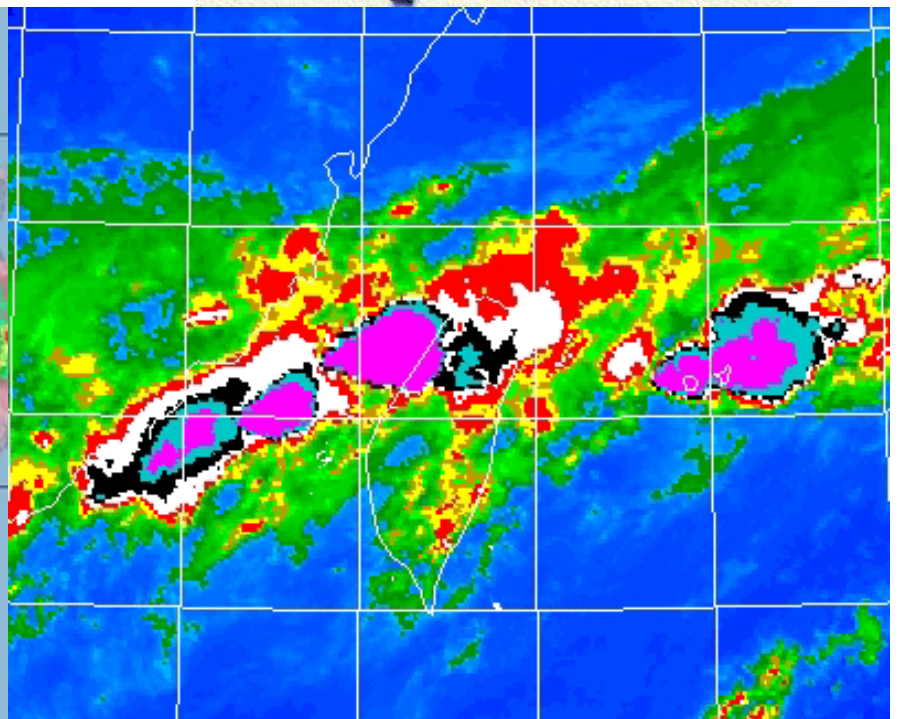
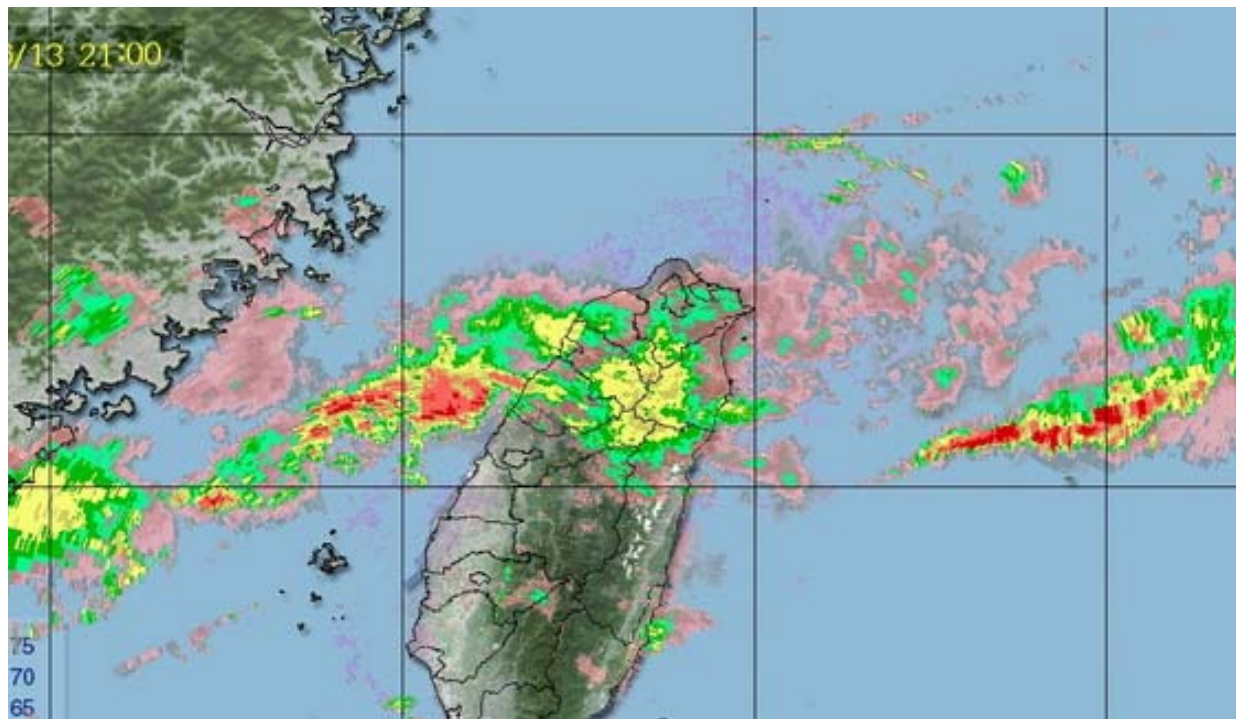
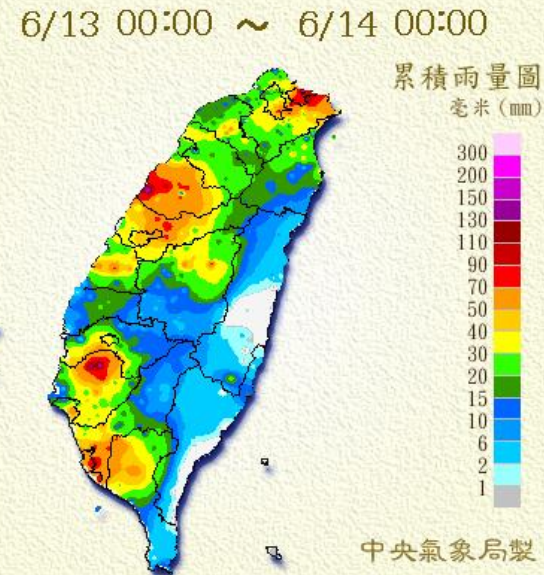
(2009) In May, Taiwan was very dry. In June, central Taiwan has more rain than climate mean.

June 4 heavy
rain case,
prefrontal
squall line and
frontal
rainbands

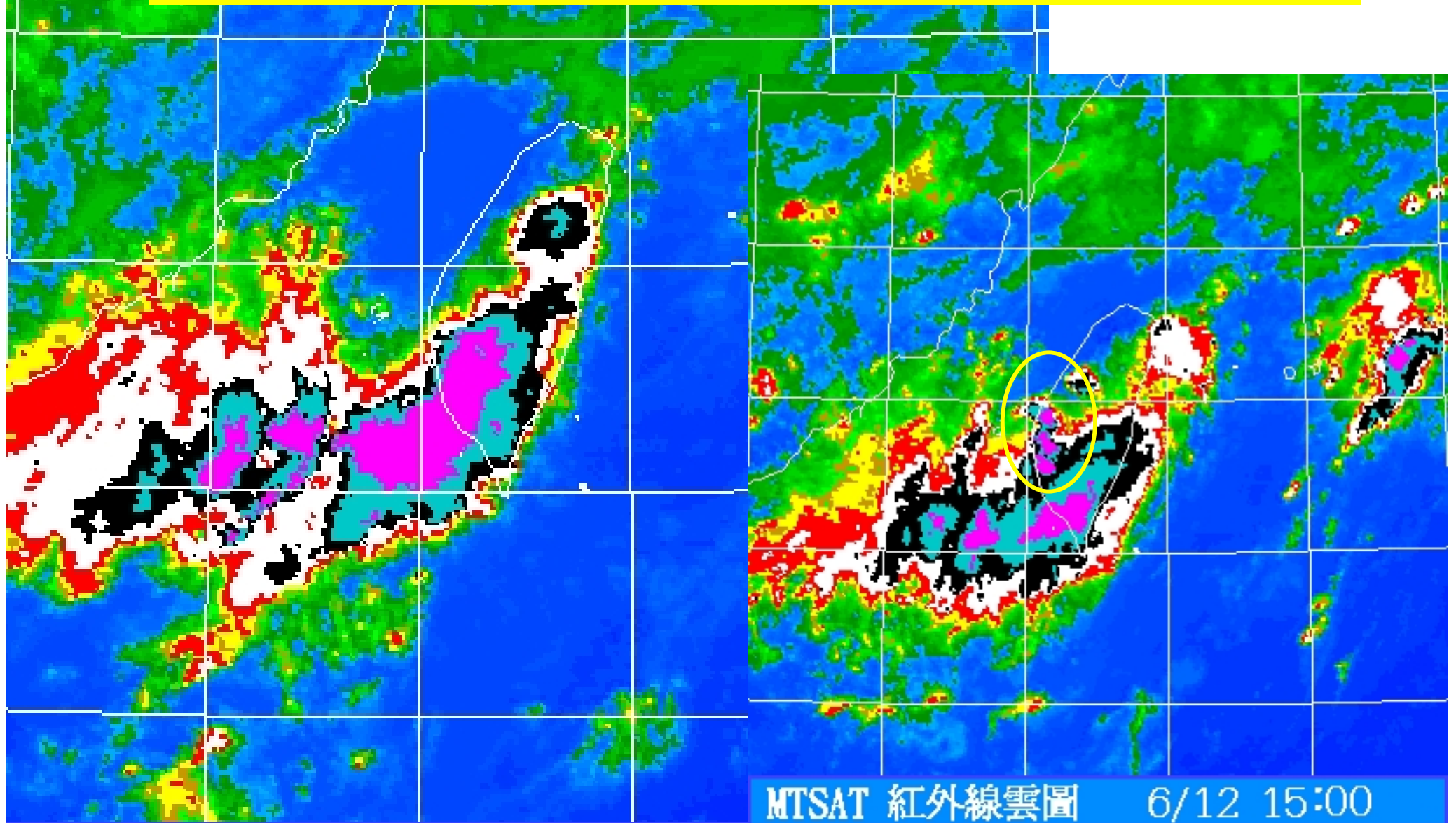




12-14 June 2009
heavy rain event



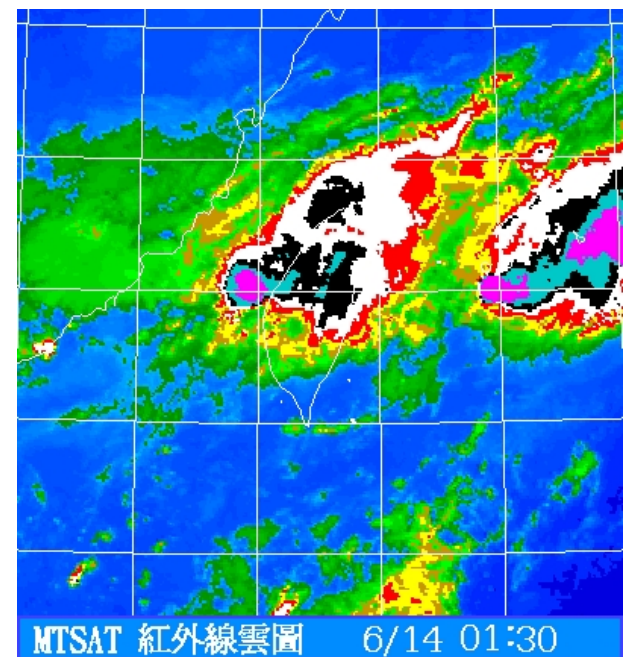
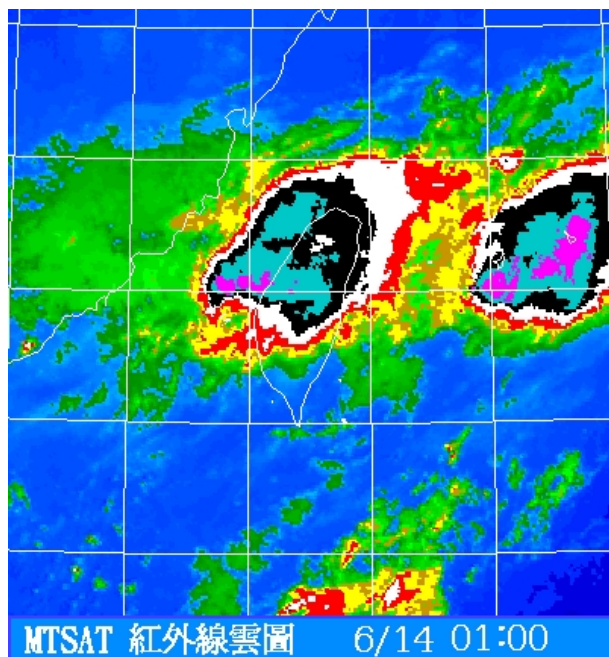
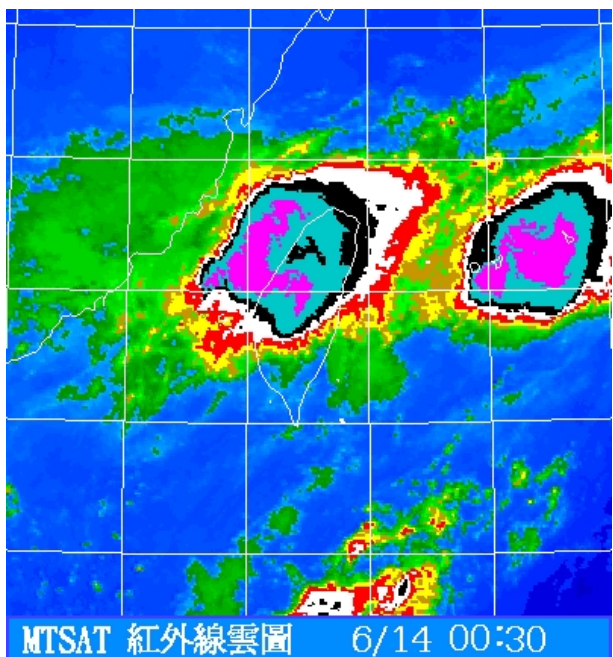
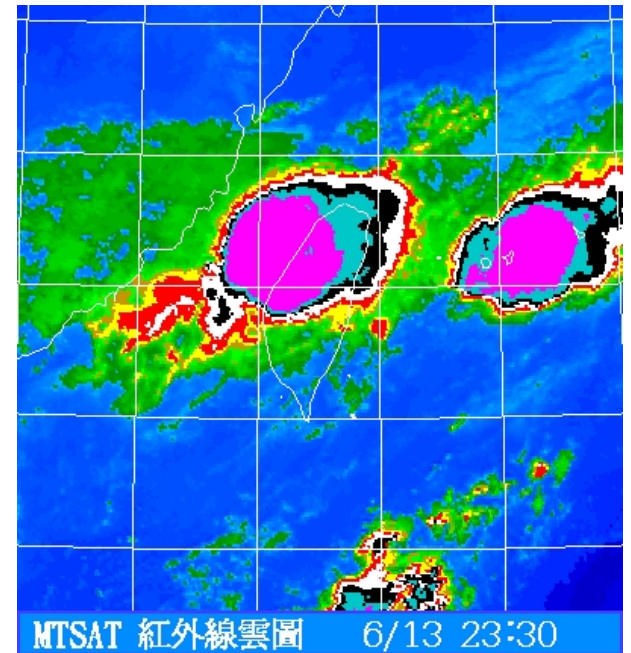
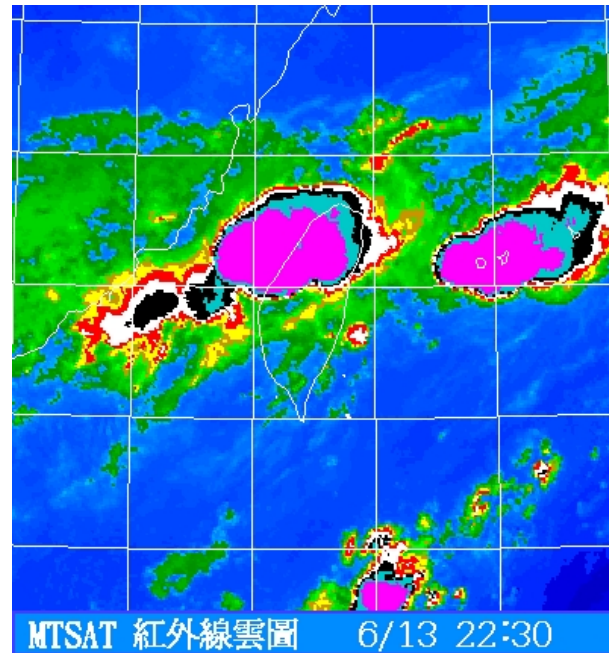
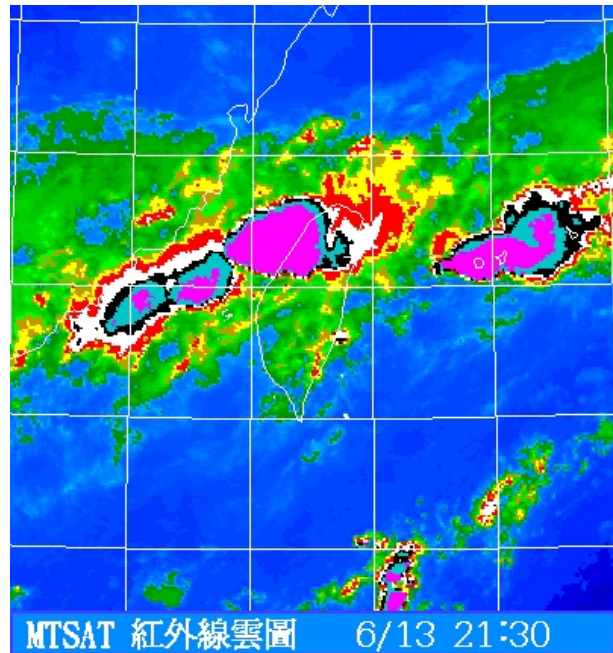
MCSs merging and new cells developed over coastal area



MTSAT 紅外線雲圖 6/12 13:00

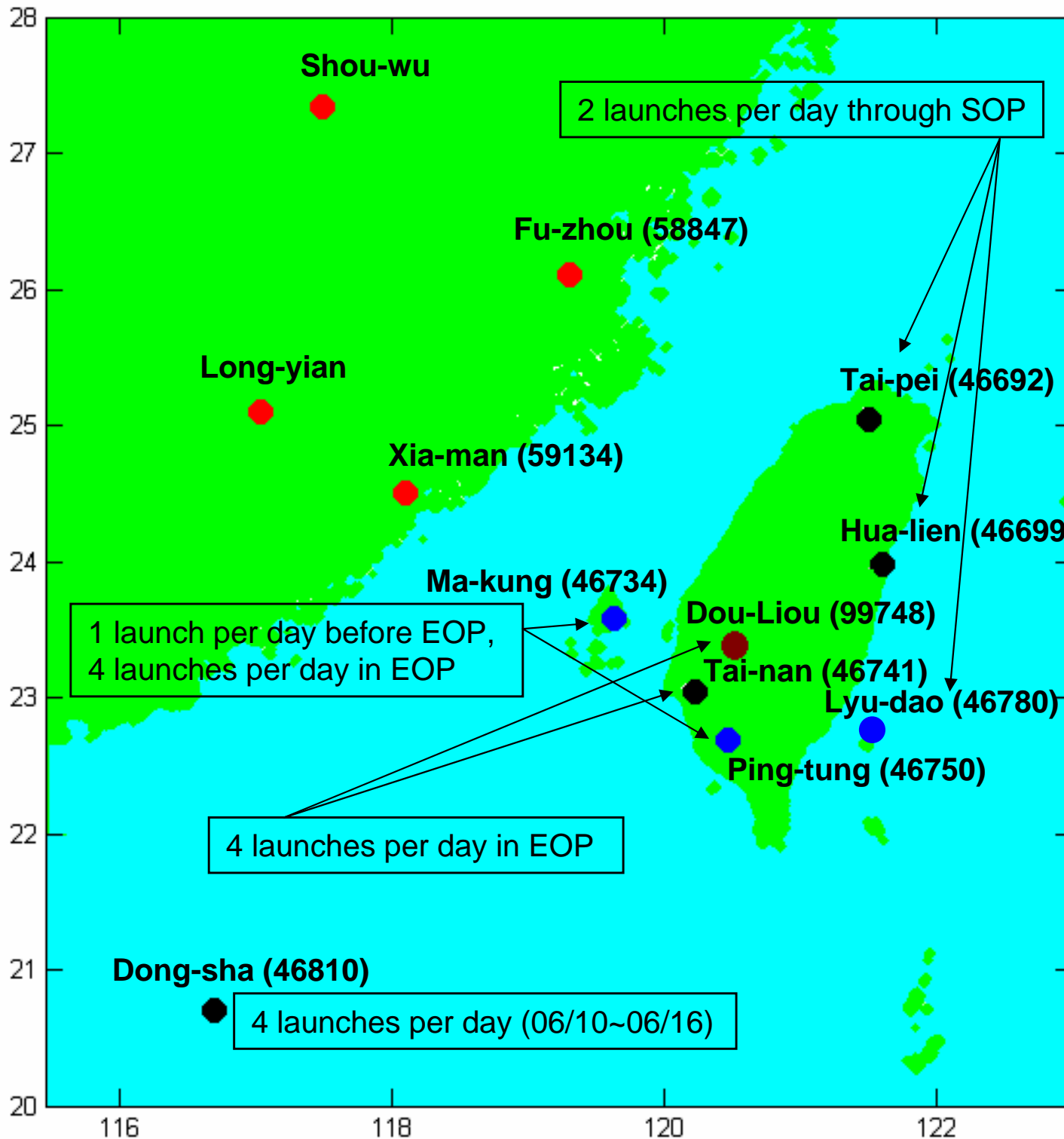
MTSAT 紅外線雲圖 6/12 15:00

Back-building MCS (12-14 June 2009)



A summary of SoWMEX/TiMREX-2009 operation

- SOP, 20 May- 16 June 2009
 - Operation facility: CWB Cigu radar, AFWW Makung and CCK c-band polarimetric radars, NTU/NCU/CCU sounding, TEAM-r radar, ISS, JWD and 2D-VD, surface stations, and flux measurement
 - 38 hours flight time and 150 dropsondes available for IOPs (CWB)
 - **EOP: 3-16 June 2009**, 4 sondes per day for Makung, Pingtung, and Tainan;
 - TEAM-r was deployed at Puzi. Extra surface observations was available and additional sounding at Dou-Liou.
 - AFWW CCK radar is operated in RHI and sector modes;
 - Real time operation mode of dual-Doppler synthesis is executed;
 - Data assimilation experiment using COSMIC and dropsonde data is conducted;
 - 4 Fujian soundings 4 times per day is available during EOP
 - Soil moisture and surface flux measurements conducted by TTFRC.
-



2009 SoWMEX sounding network
SOP: 05/20 ~ 06/16
EOP: 06/03 ~ 06/16

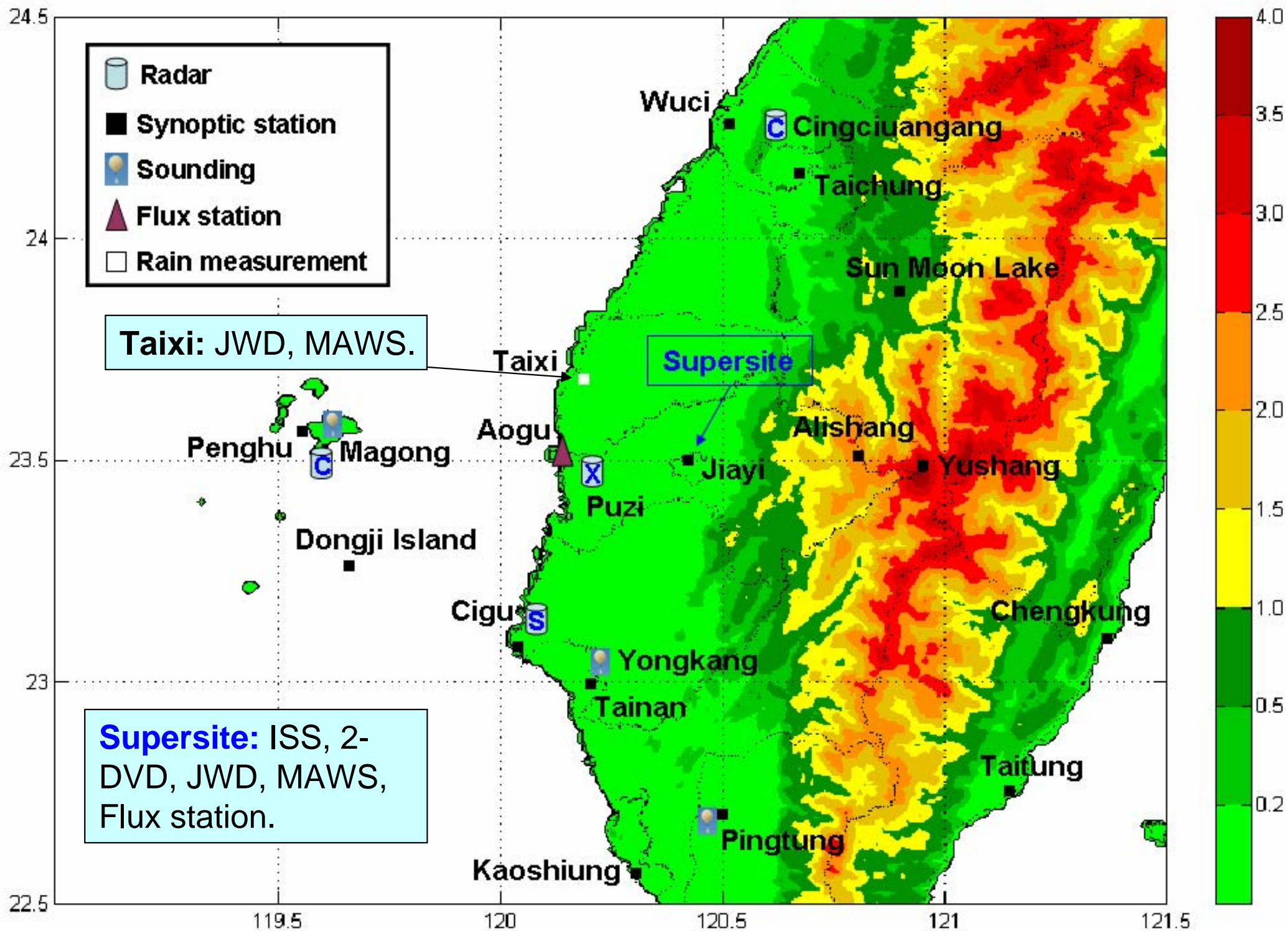
●	CWB
●	Airforce
●	Additional
●	China

Sonde types:

Meisei: Tai-pei, Hua-lien, Tai-nan.

Vaisala RS-80: Ma-kung, Ping-tung.

Vaisala RS-92: Chia-yi, Dong-sha



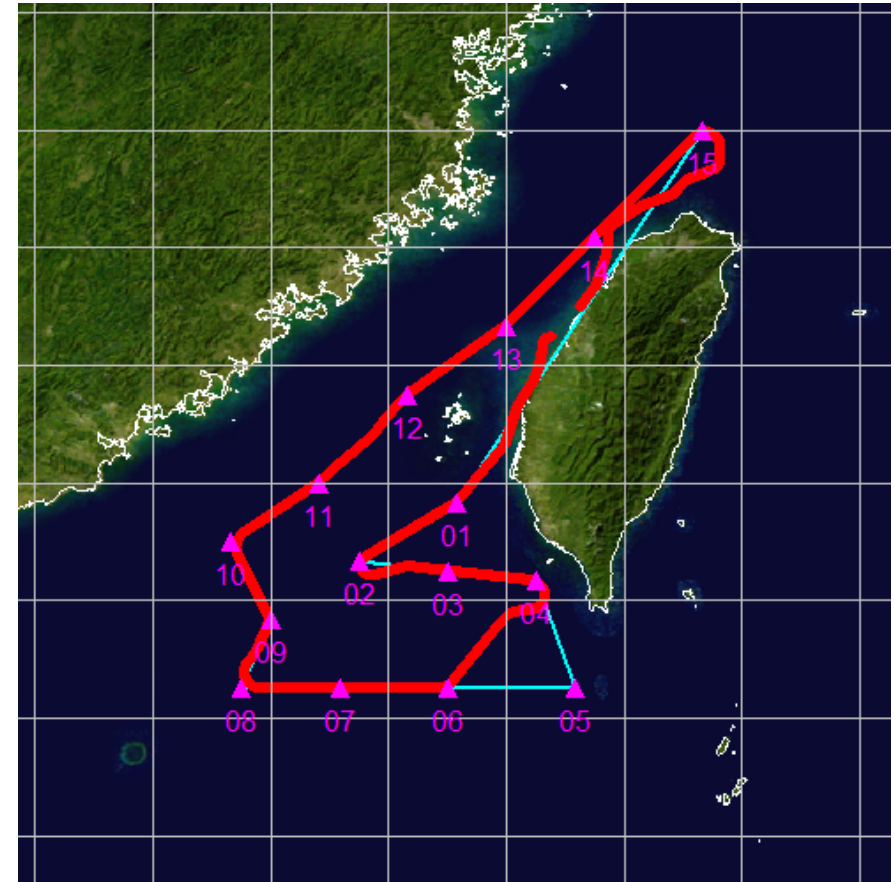
Taixi: JWD, MAWS.

Supersite

Supersite: ISS, 2-DVD, JWD, MAWS, Flux station.

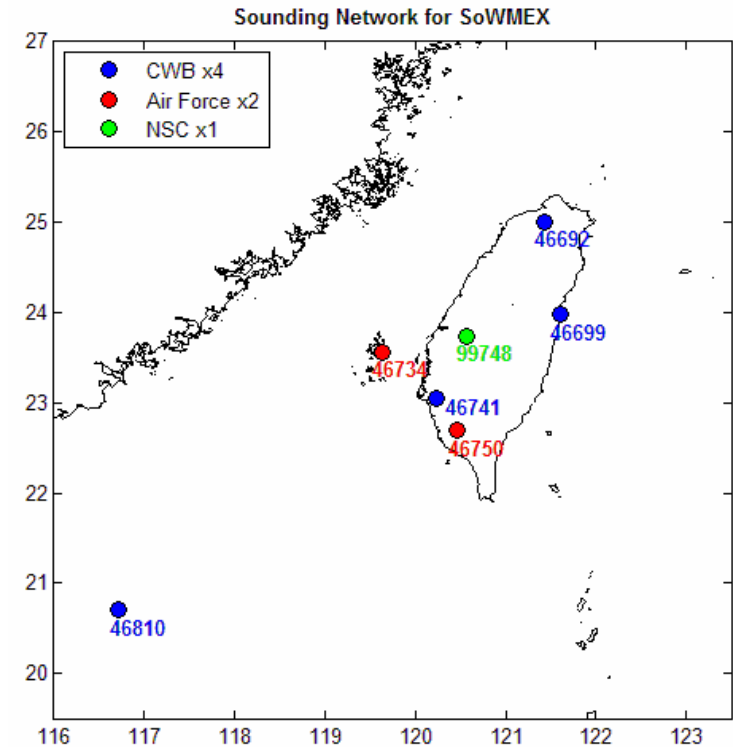
Dropsonde operation

Mission	Date (UTC)	Launched (#)	No wind (#)	Bad (#)
1	06/02 21	12	0	0
2	06/03 09	15	1	0
3	06/03 21	8	1	2
4	06/04 09	15	6	0
5	06/11 09	15	6	0
6	06/11 21	15	0	0
7	06/12 09	15	0	0
8	06/12 21	15	0	0
9	06/13 09	15	0	0
10	06/14 09	--	--	--
11	06/15 09	15	4	1
Total		141	18	3
Note: mission 10 abort.				



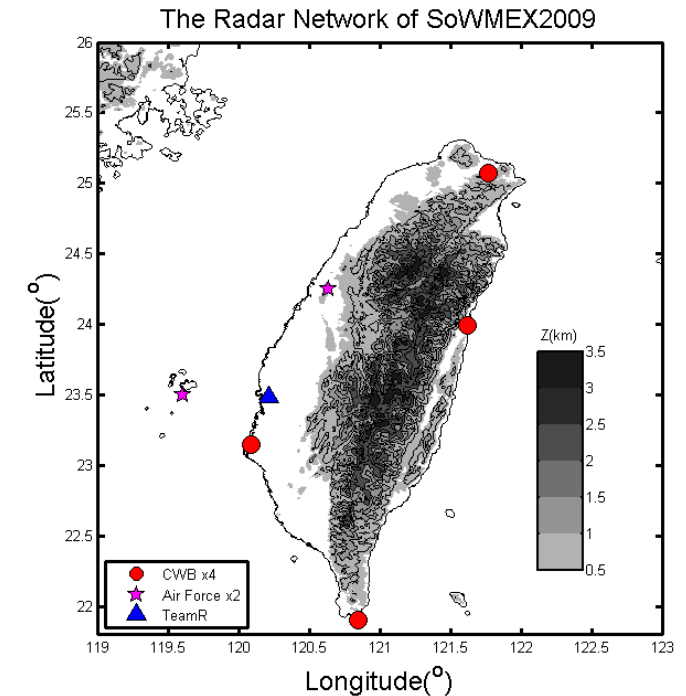
Sounding Data

Site ID (Name)	SOP	EOP (06/03 00 – 06/16 00 UTC)	Total
46692 (Ban Ciao)	29	24	53
46699 (Hua Lian)	30	26	56
46734 (Ma Gong)	15	36	51
46741 (Tai Nan)	7	42	49
46750 (Ping Dong)	7	9	16
46810 (Dong Sha)	--	--	--
99748 (Dou Liou)	0	46	46
Total:	88	183	271



Radar and Rain Measurement Data

Radar/site	Observation period	Type of radar
CCK	5/21~6/16	C-band polarimetric
MaKung		C-band polarimetric
TeamR	6/3~6/16	Mobile x-band polarimetric
QPESUMS	5/1~6/30	Operational 4 S-band Doppler



Instrument	Observation period	Data type	site
Flux-meter	6/3~6/26	High frequency 3-d wind speed, CO ₂ and H ₂ O concentration, wind direction and wind speed, temperature, soil temperature, soil water content, heat flux and air pressure.	A:N Chiayi U B: Aogu wet land
JWD	5/26~6/18	Rain drop size distribution-collision (every minute)	A:Chiayi B:Taixi
2D-VD	5/26-6/18	Rain drop size distribution-optical (every minute)	N Chiayi U
ISS	5/26-6/18	Wind profile every 6 minutes and surface observations	N Chiayi U

Thank you!
