Preliminary Study on the Characteristics of Radar echo under the Influence of Typhoon-introduced Southwest Flow

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Disasters


Typhoon Mindulle !


Typhoon Bilis !


Typhoon Kalmaegi !

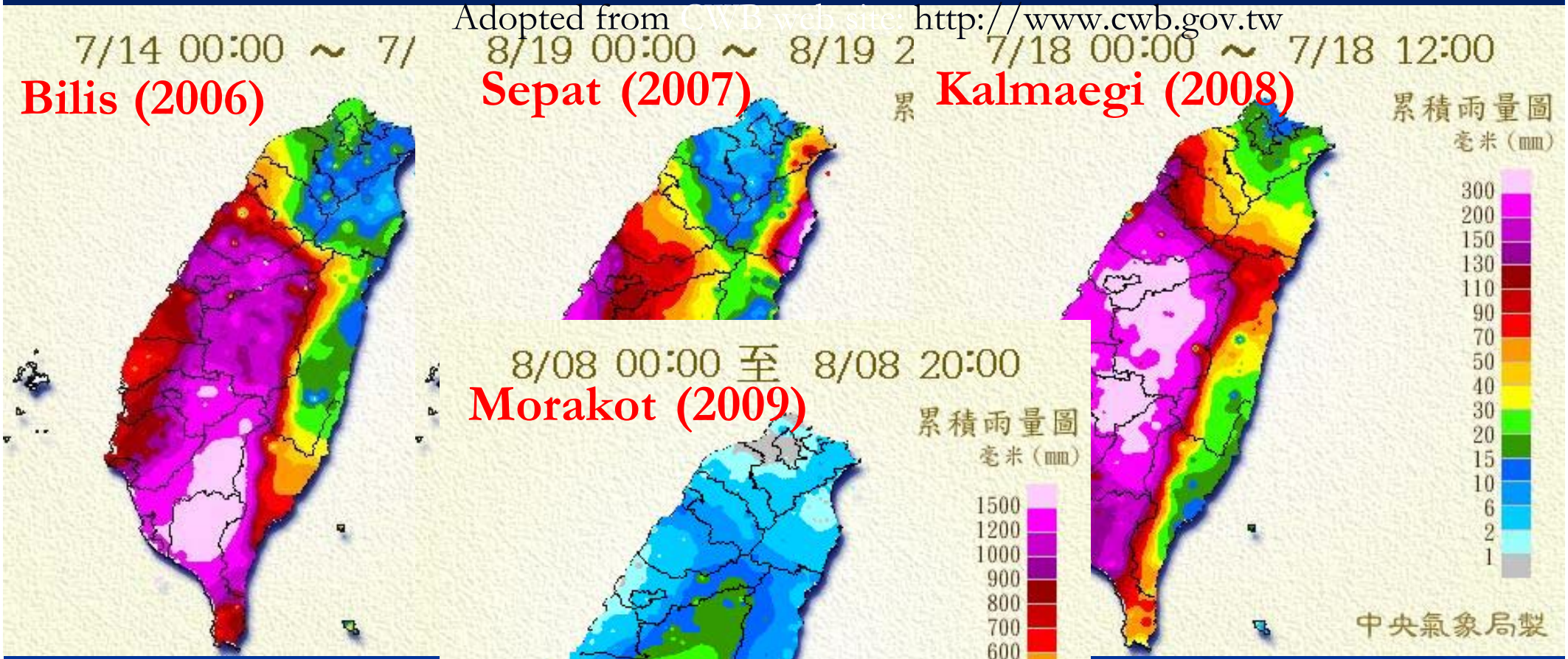

Typhoon Morakot !

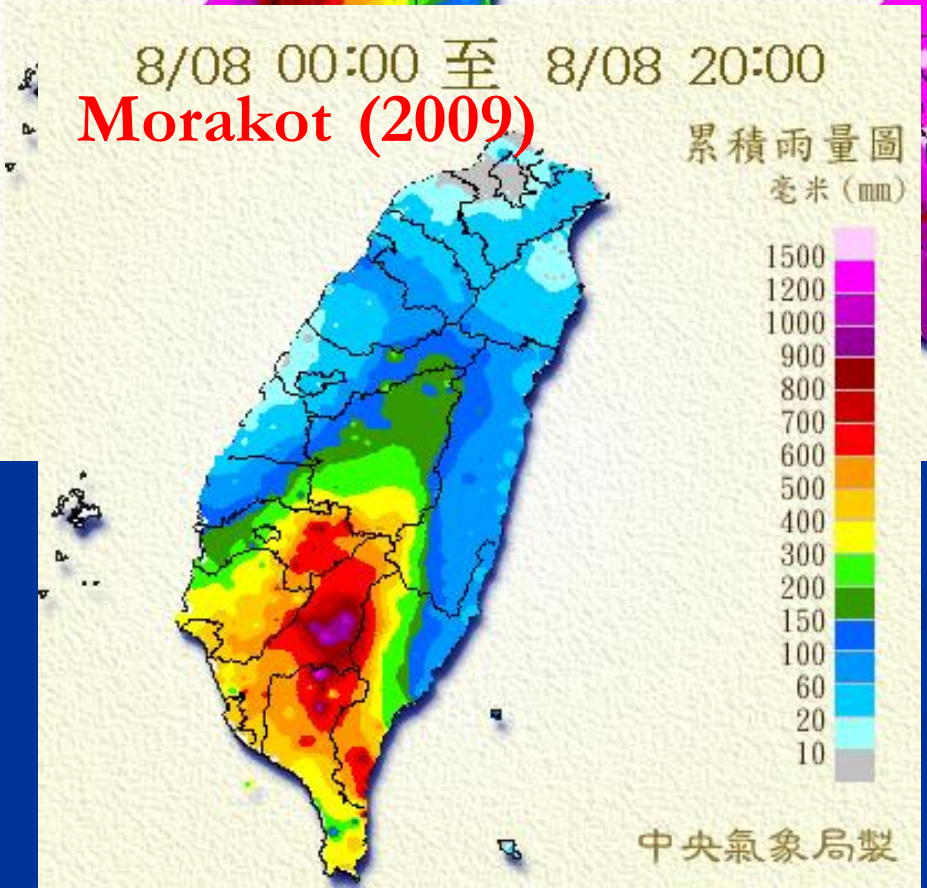
Torrential Rainfall Brought by Typhoon-introduced Southwest flow

- Typhoon Mindulle 2004. 7. 2. ~ 7. 3.
- Typhoon Haitang 2005. 7. 19.
- Typhoon Bilis 2006. 7. 14.
- Typhoon Sepat 2007. 8. 19.
- Typhoon Kalmaegi 2008. 7. 18.
- Typhoon Morakot 2009. 08. 08.

Rainfall Distribution

Adopted from CWB web site: http://www.cwb.gov.tw



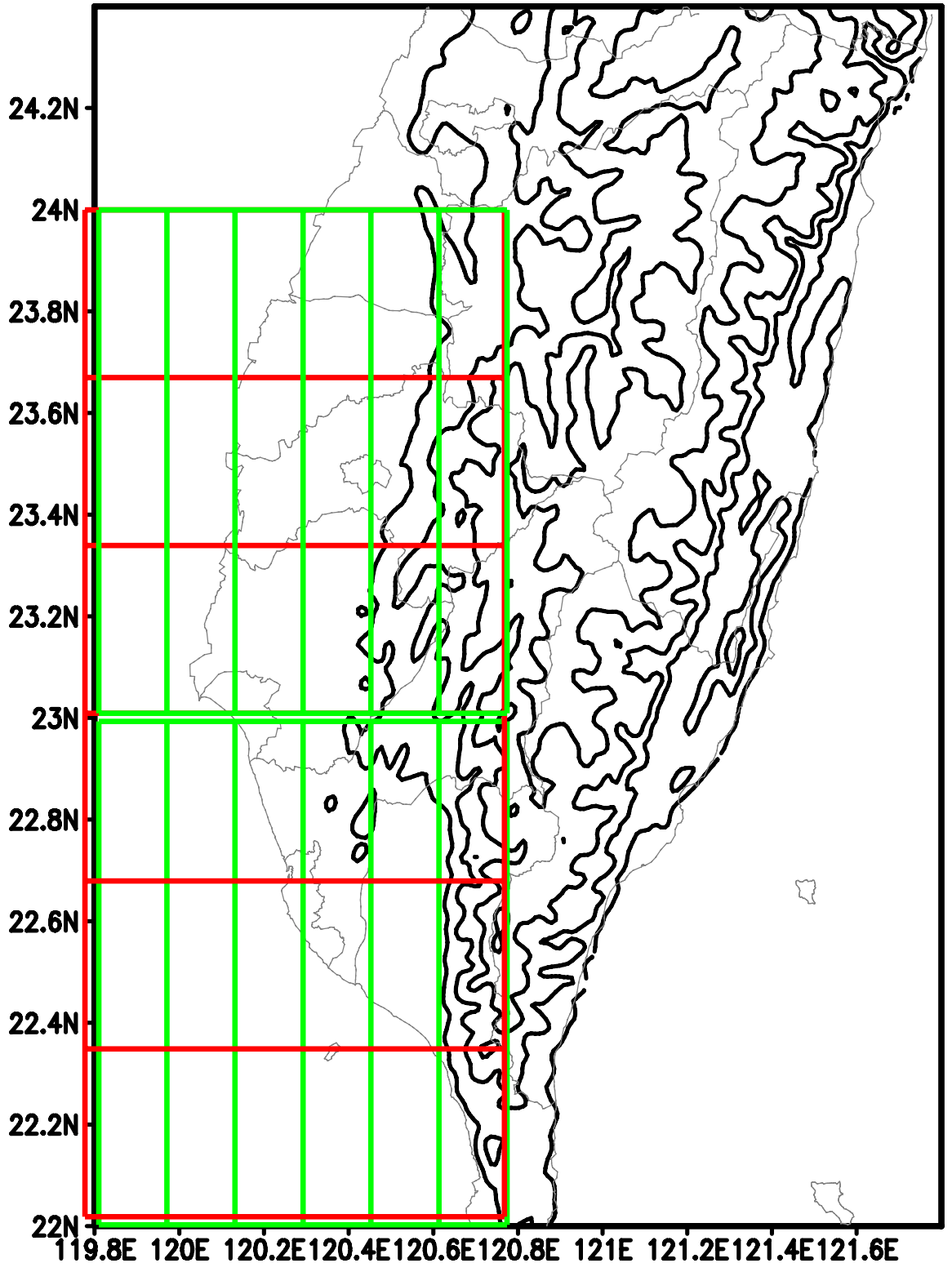


Dataset:
1.4 ° elevation collected by Chiku radar

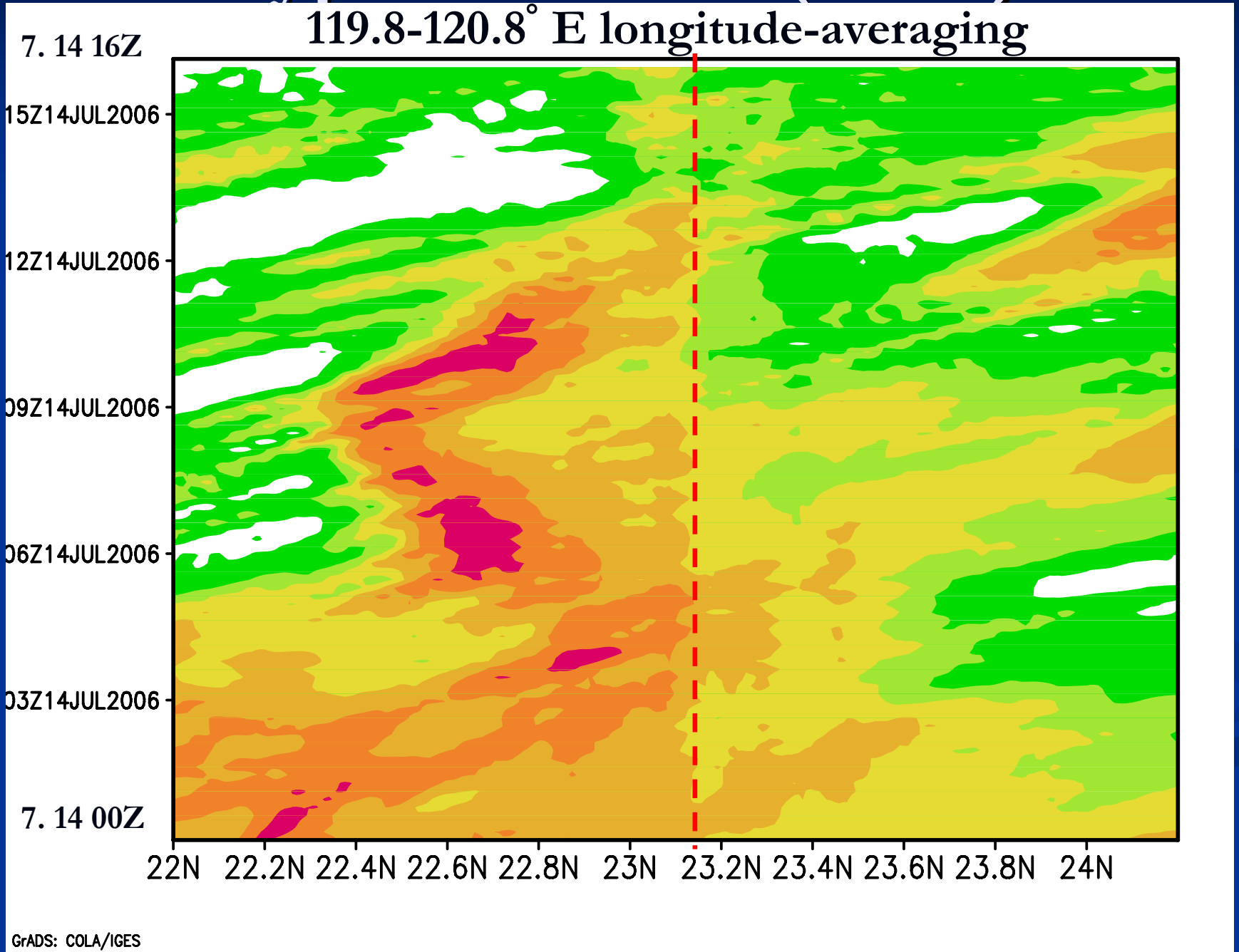
Hovmöller diagram

Longitude averaging

Latitude averaging



Typhoon Bilis (2006)



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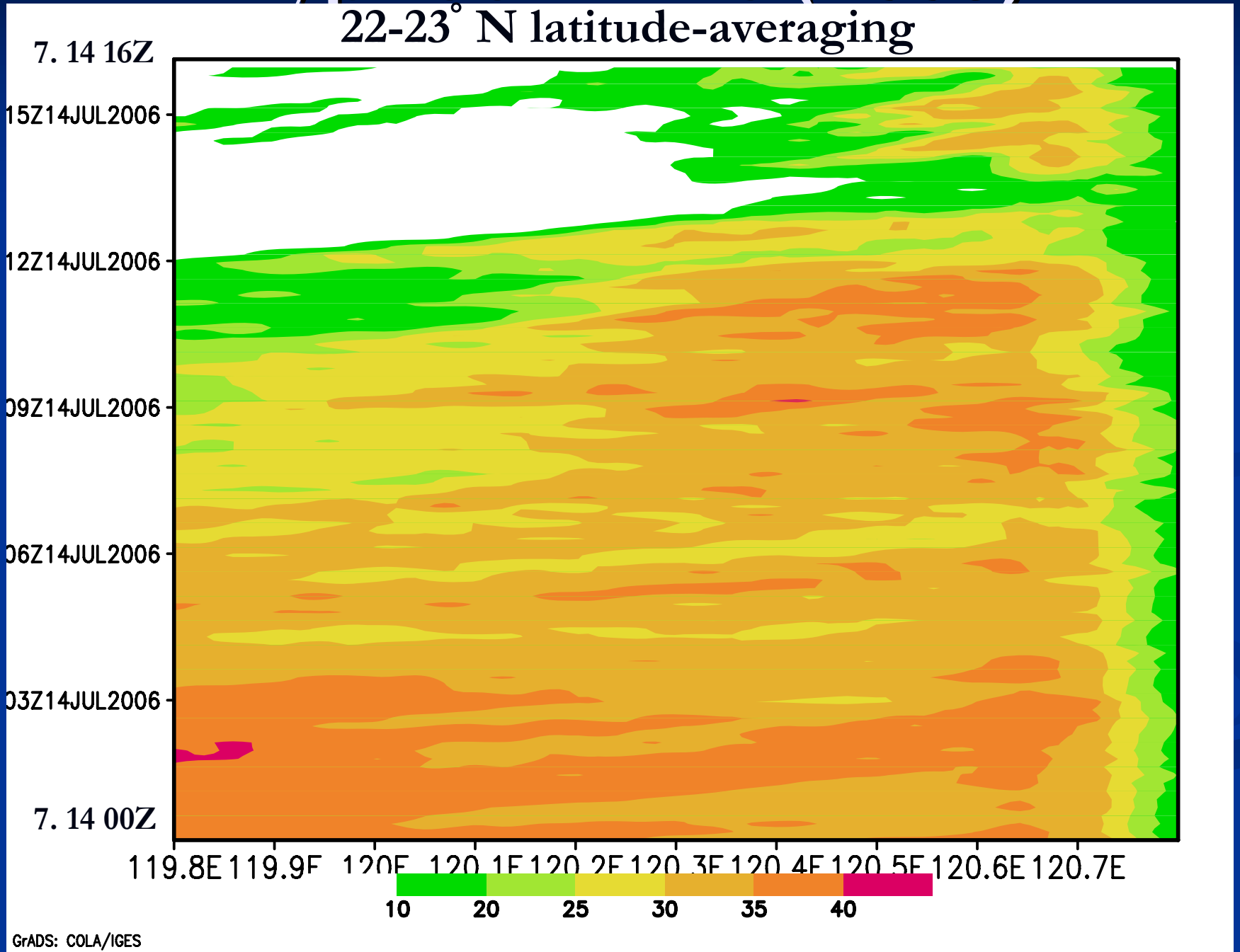
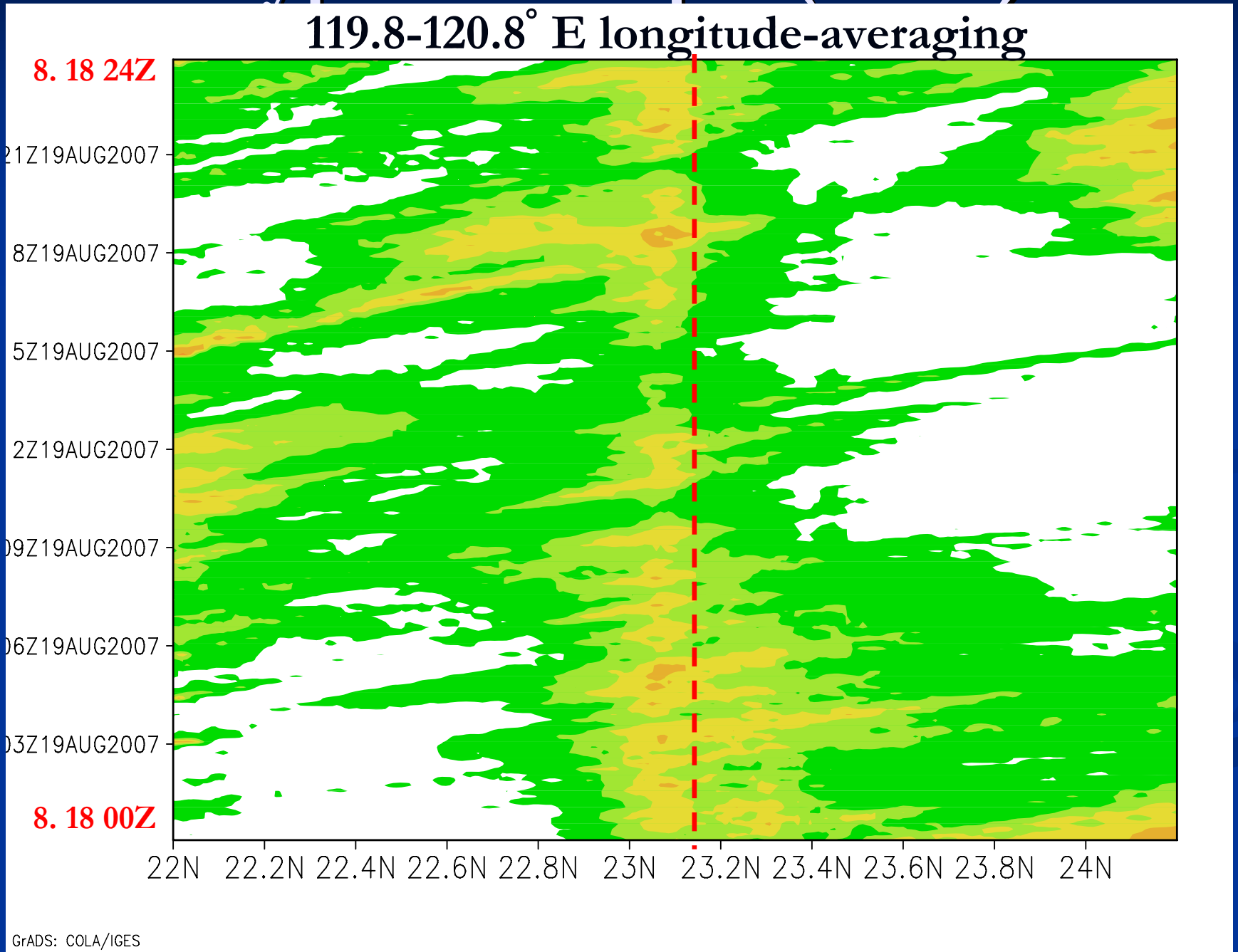


Typhoon Sepat(2007)



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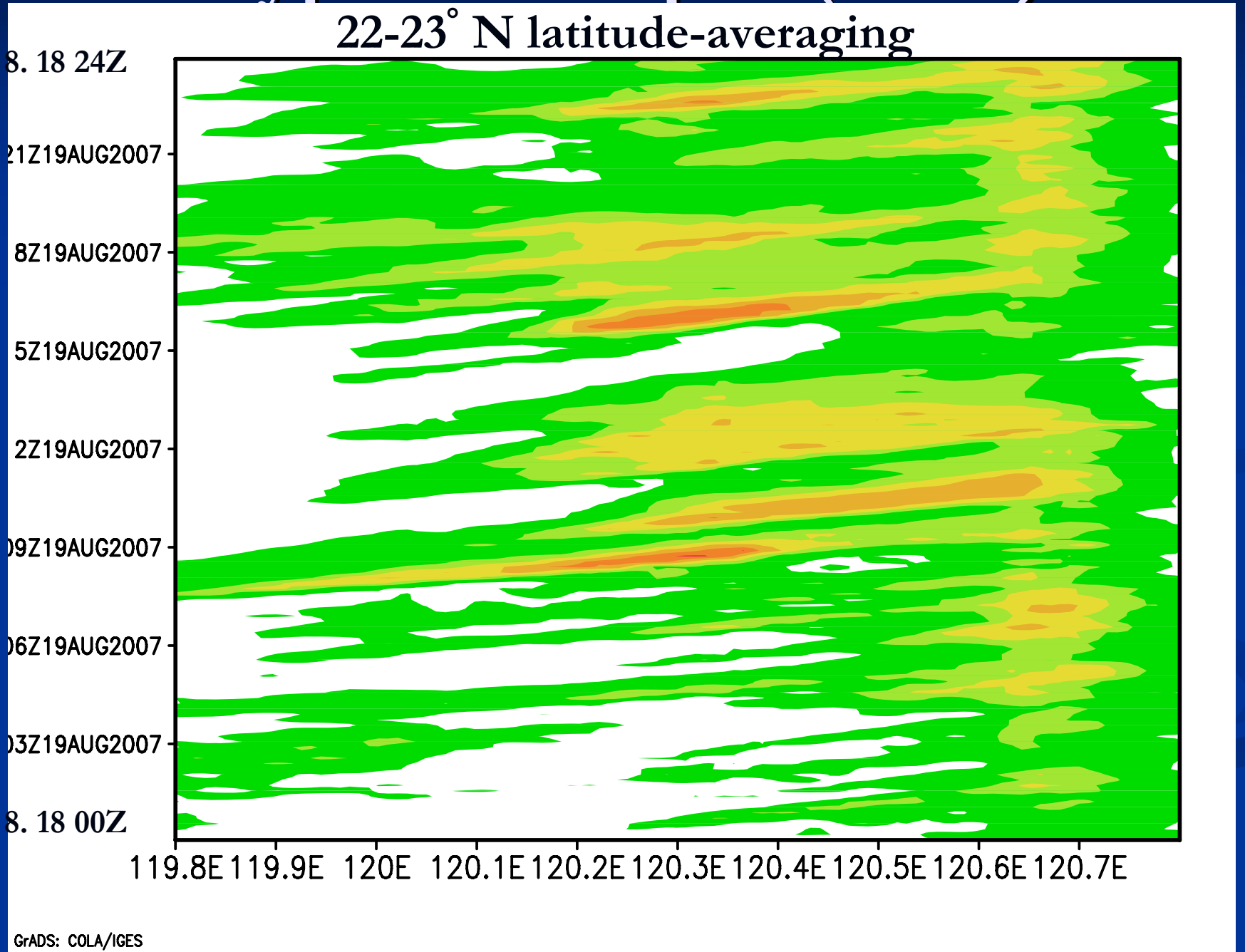
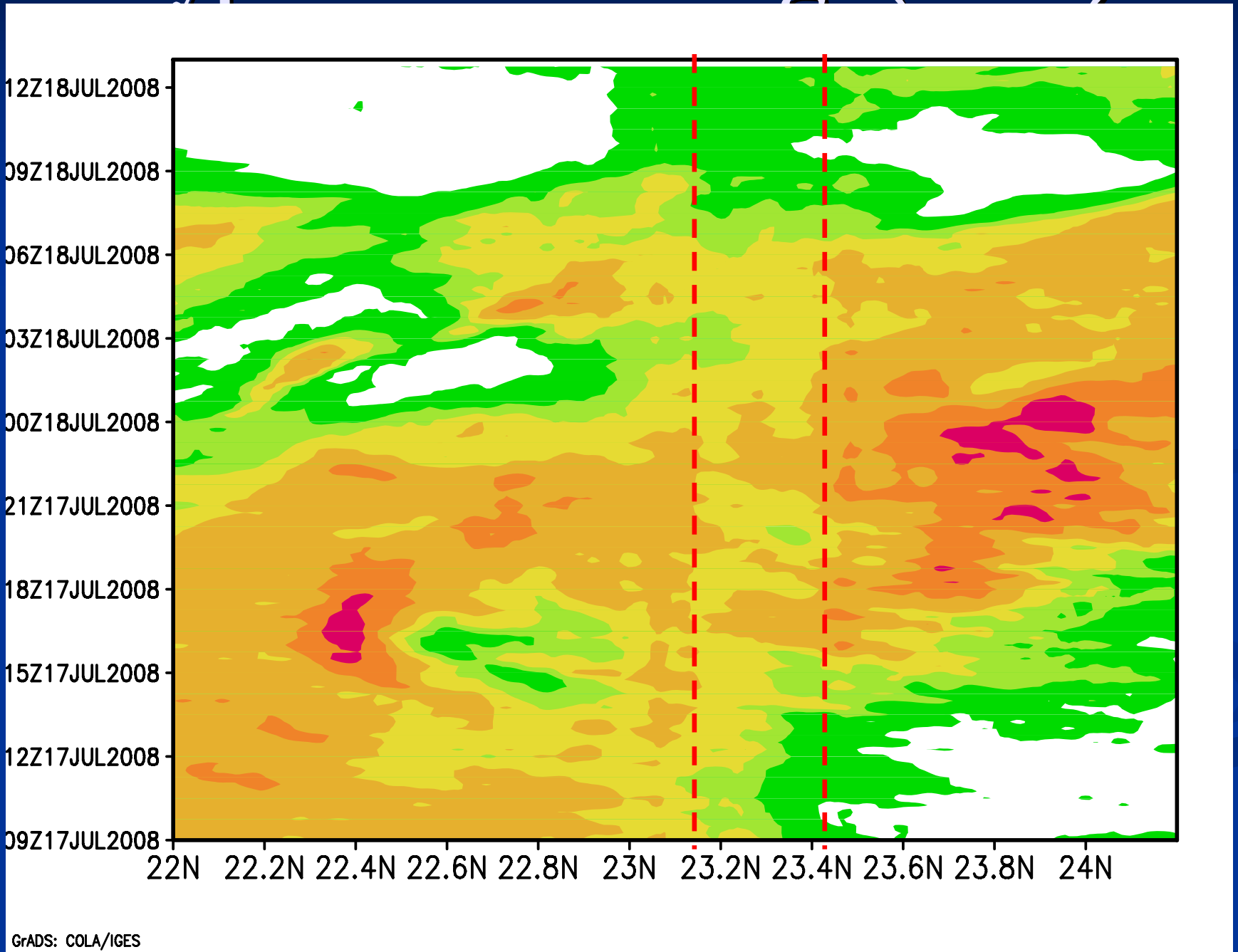
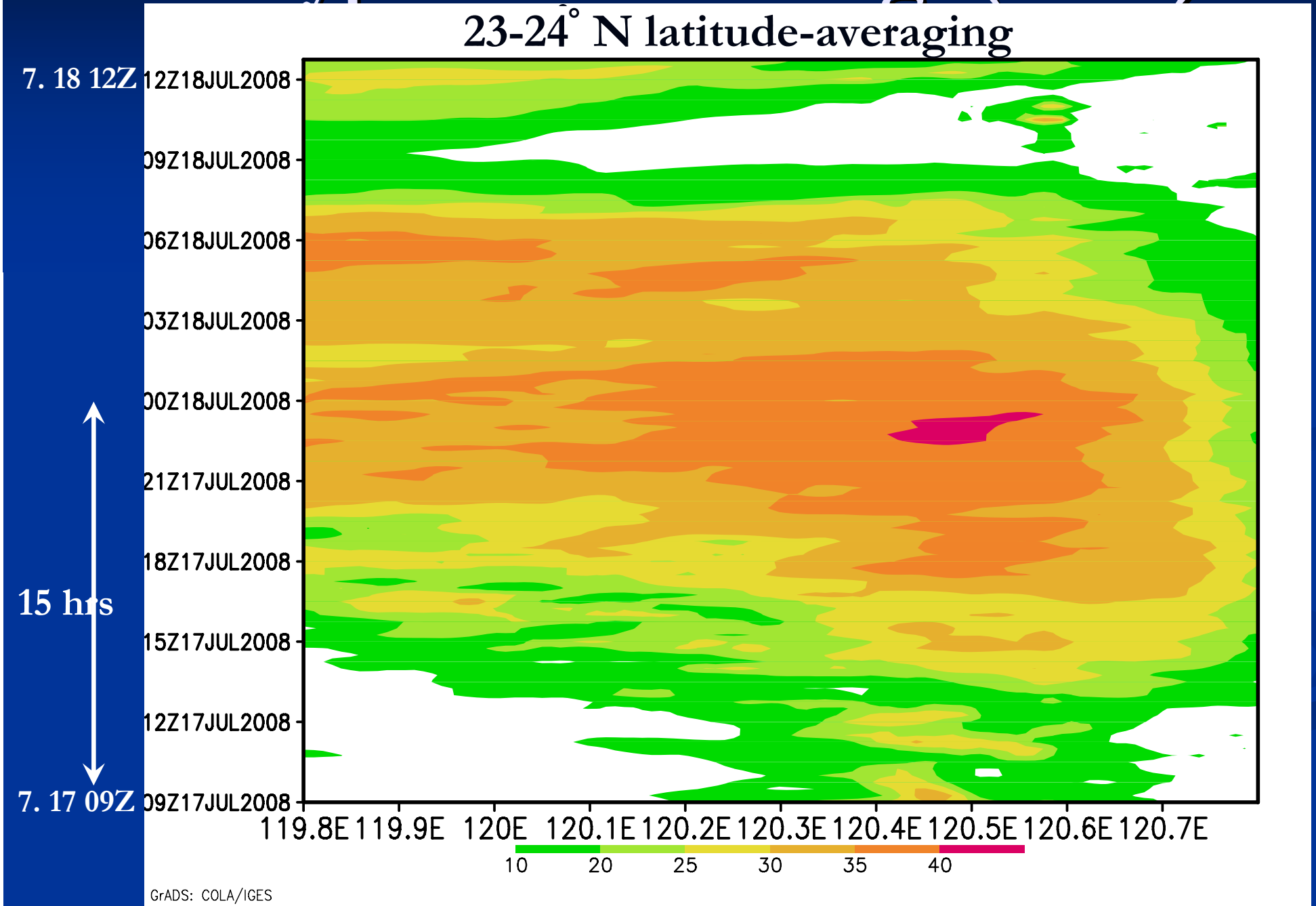


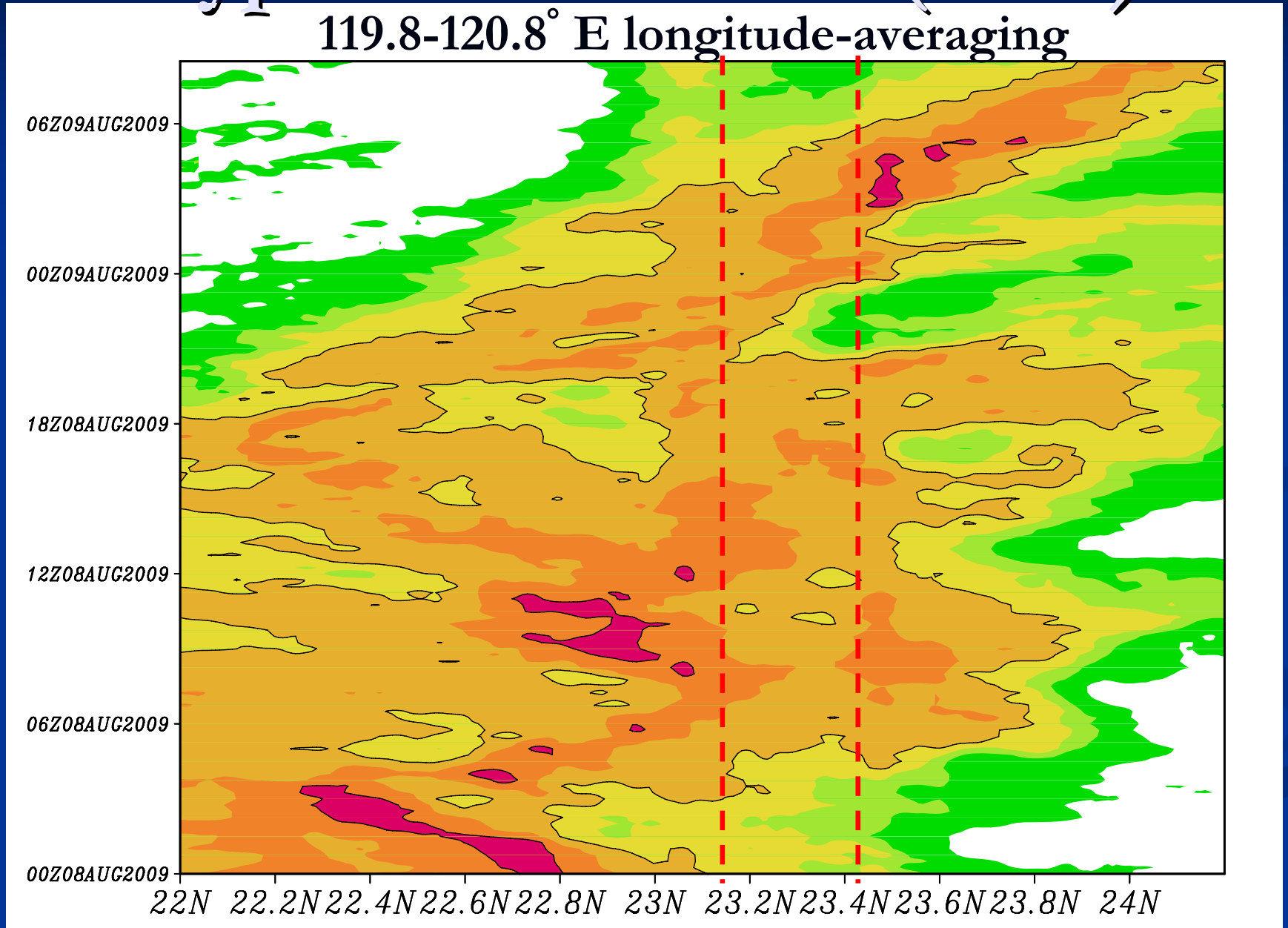
Typhoon Kalmaegi (2008)

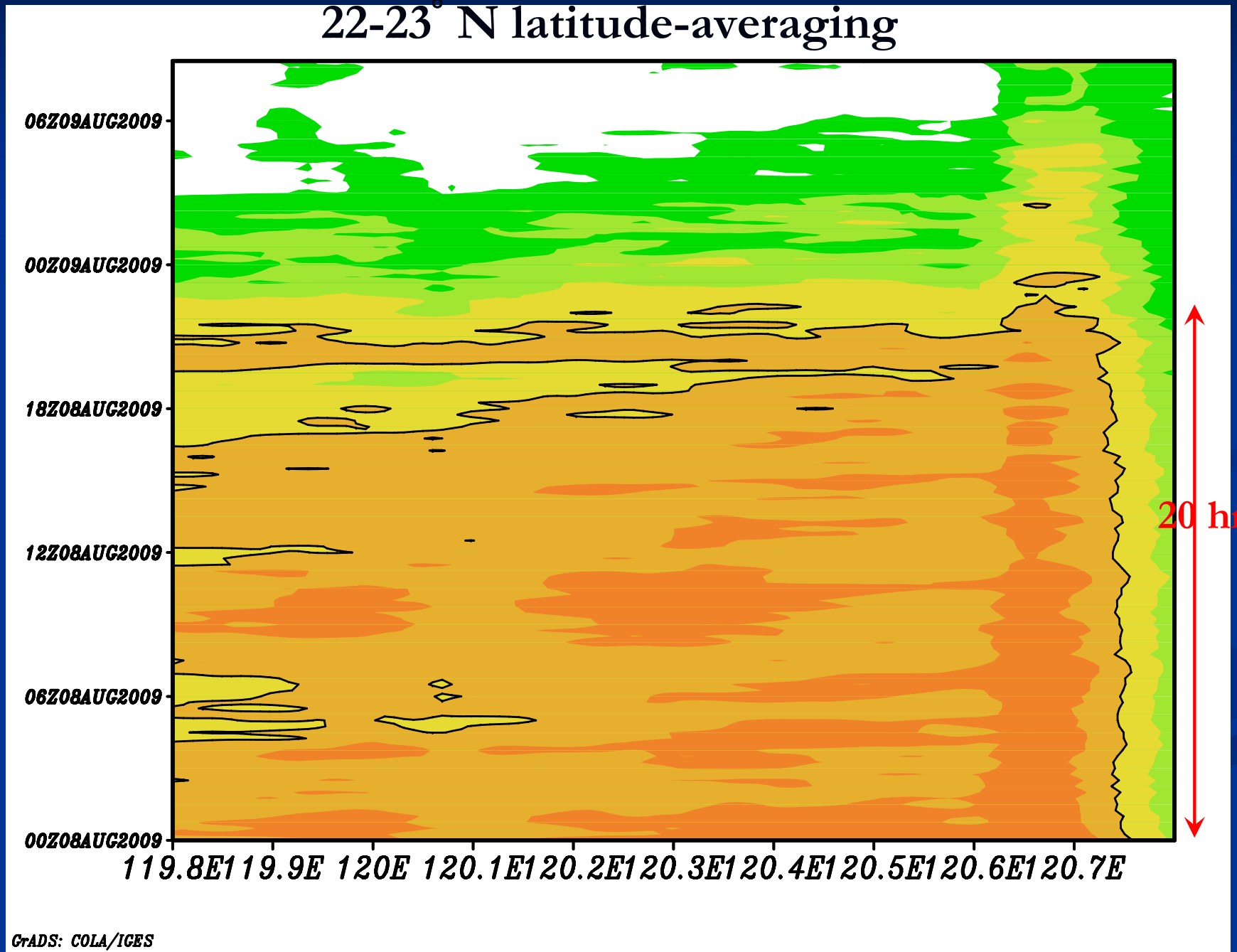


Typhoon Kalmaegi (2008)

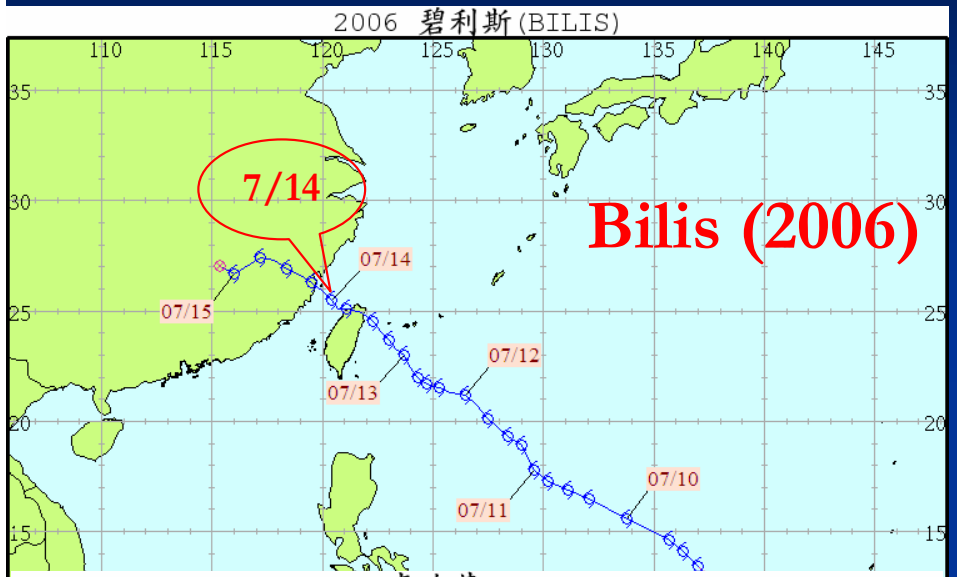


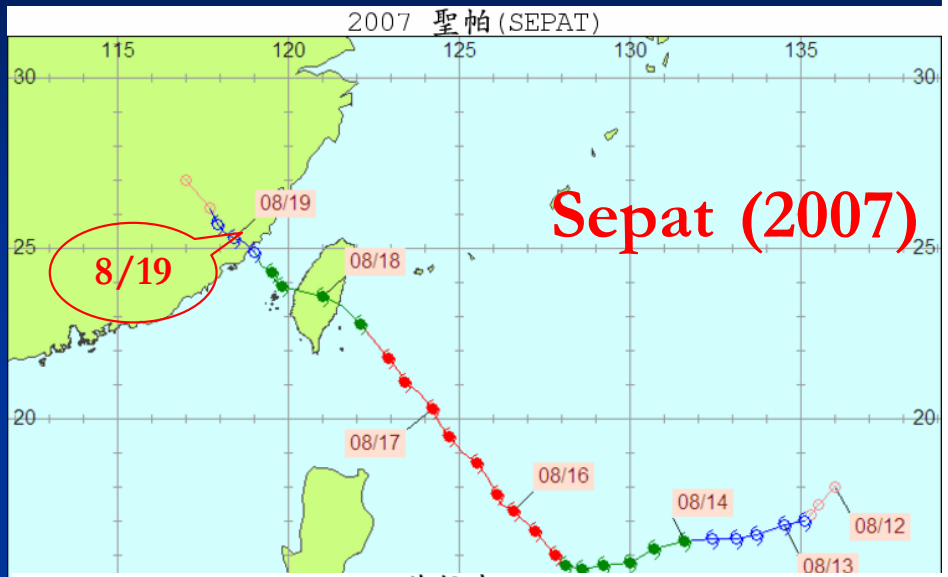
Typhoon Morakot (2009)

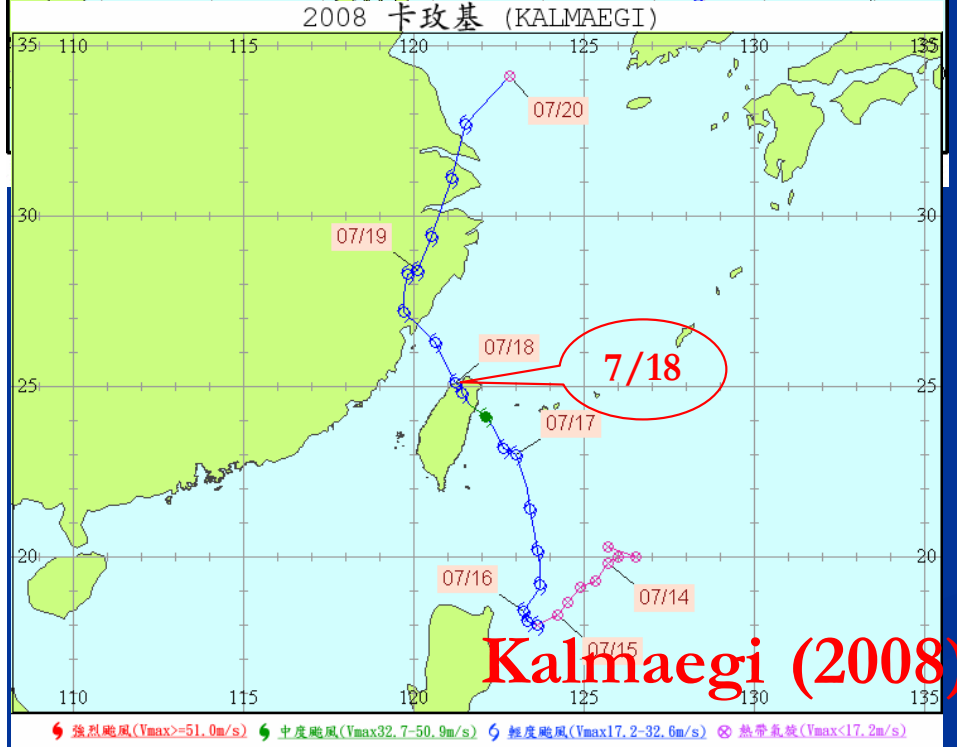


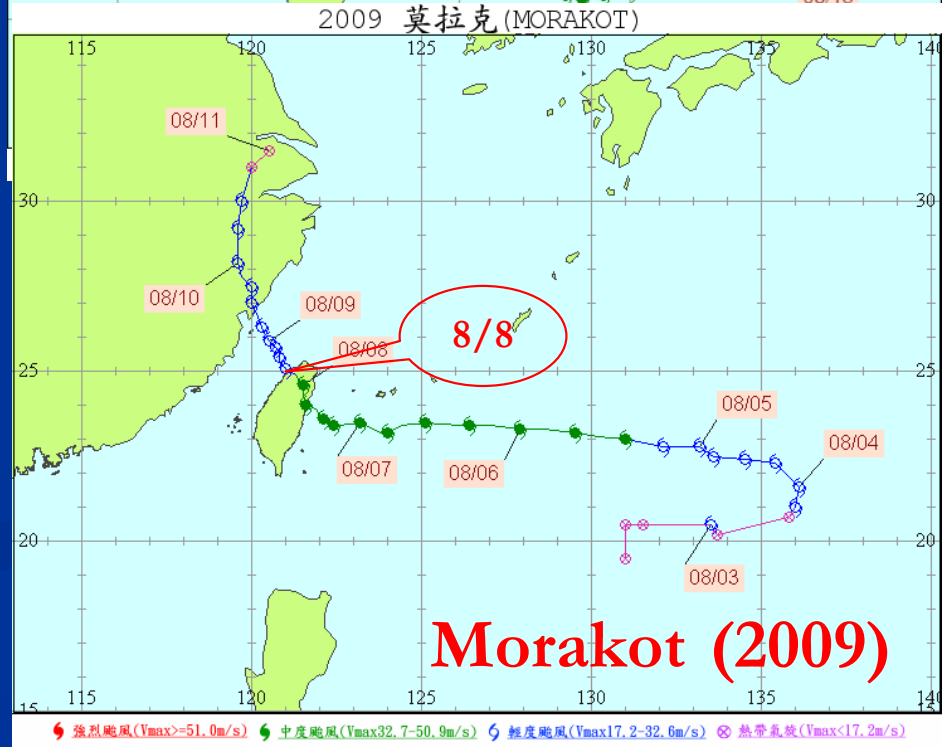

22-23° N latitude-averaging
8. 9 06Z
06Z09AUG2009
00Z09AUG2009
18Z08AUG2009
12Z08AUG2009
06Z08AUG2009
00Z08AUG2009
8. 8 00Z
20 hrs
119.8E 119.9E 120E 120.1E 120.2E 120.3E 120.4E 120.5E 120.6E 120.7E
GrADS: COLA/IGES

Typhoons' Propagation and Location









Question-
The Southwesterly flow

Introduced by typhoon?

Interact with typhoon?

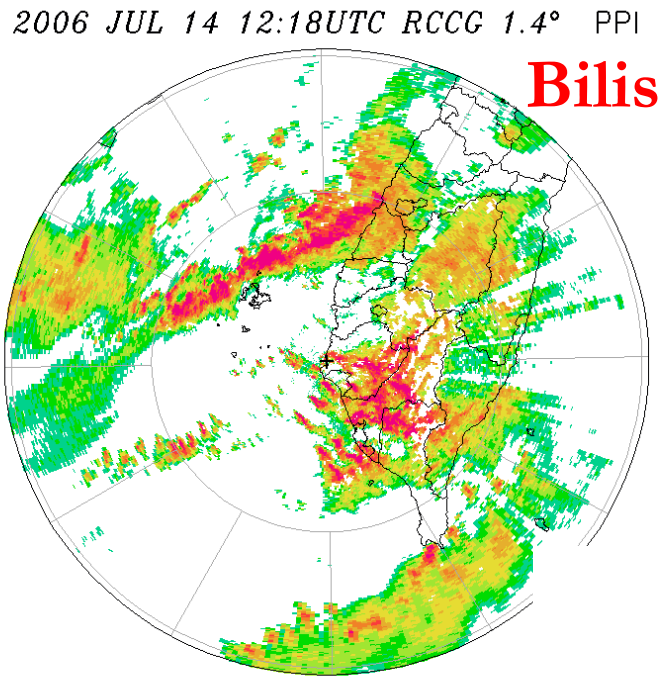
Summary

- The intense echoes will be confined at 23° N or intensify in the area between 23 and 23.2 ° N.
- The intense echo sustained over 15 and 20 hrs have an opportunity to occur heavy rainfall.
- The issue that the southwest flow interact with typhoon or is introduced by typhoon need to be clarified in the future.

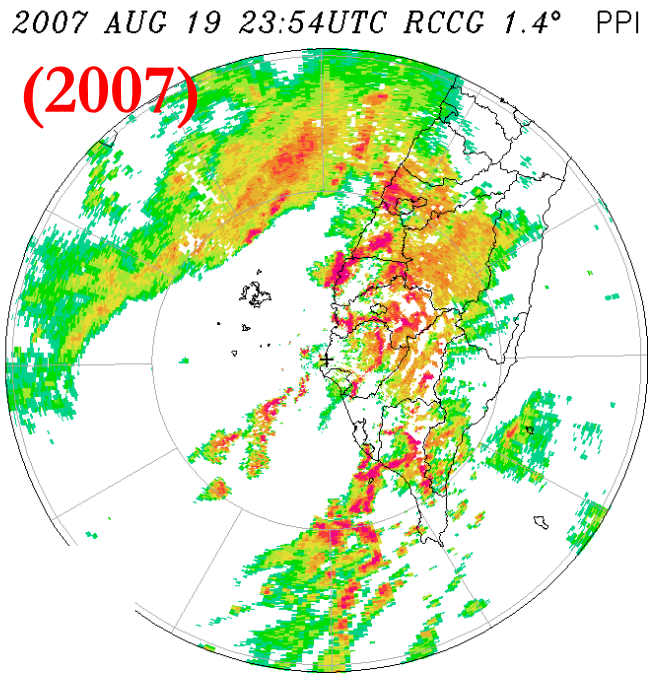
Thank you for your attention!

May God's grace be with you!

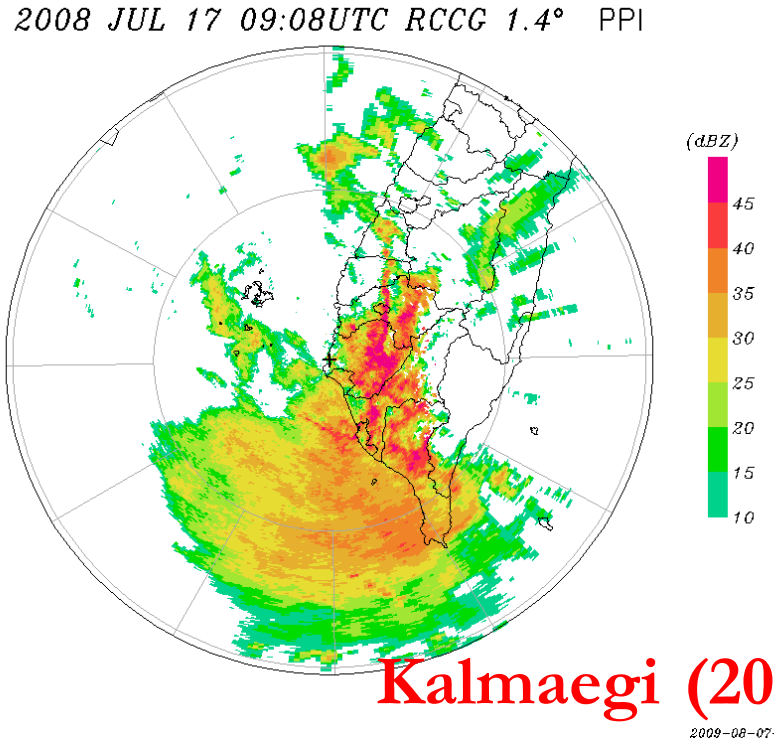
Evolution of Rainabnd



Bilis (2006)



Sepat (2007)



Kalmaegi (2008)