

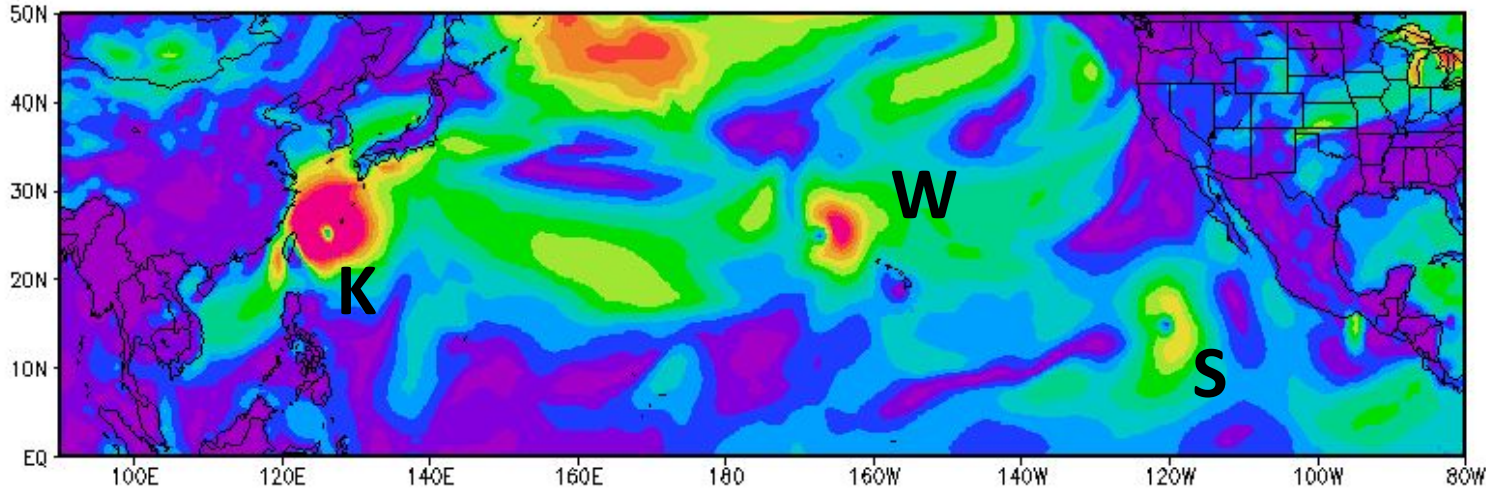
CORe TC Analysis

2018 Individual Members

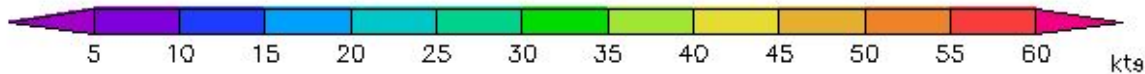
Lindsey Long

1/26/2023

Wind Comparison by Basin - 10/4/2018, 12Z



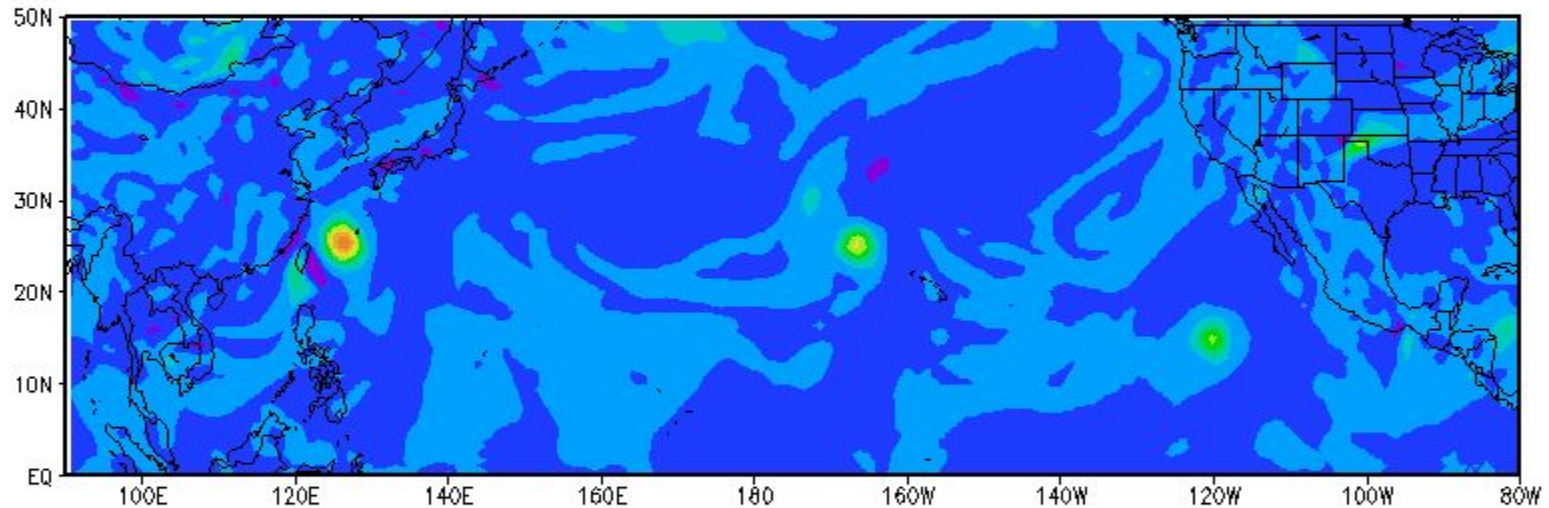
CORE 10m Winds



Three storms coexist at this time:
Sergio, 120 kts (CORE = 36kts)
Kong-Rey, 65 kts (CORE = 75kts)
Walaka, 100 kts (CORE = 52kts)

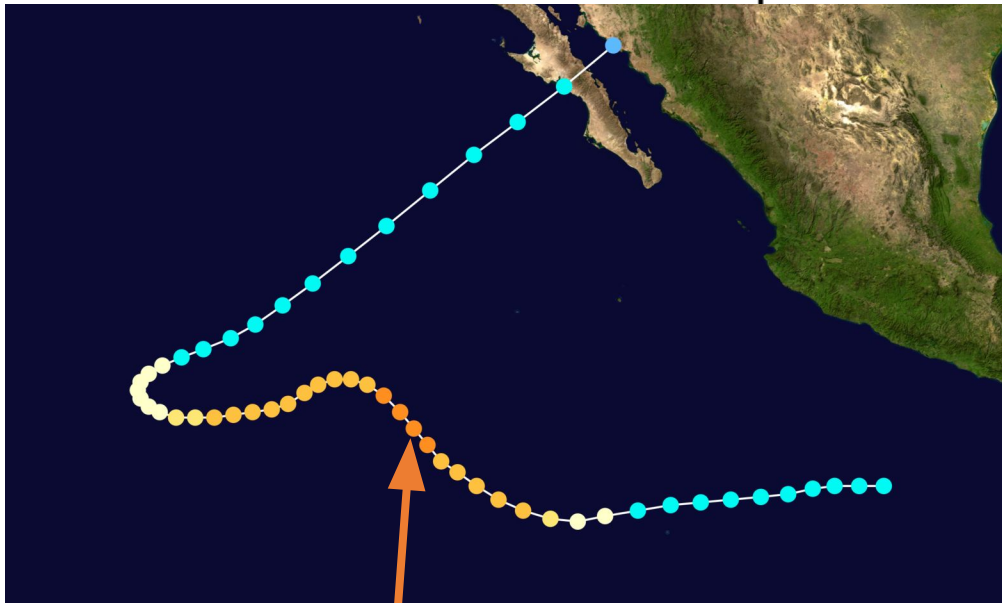
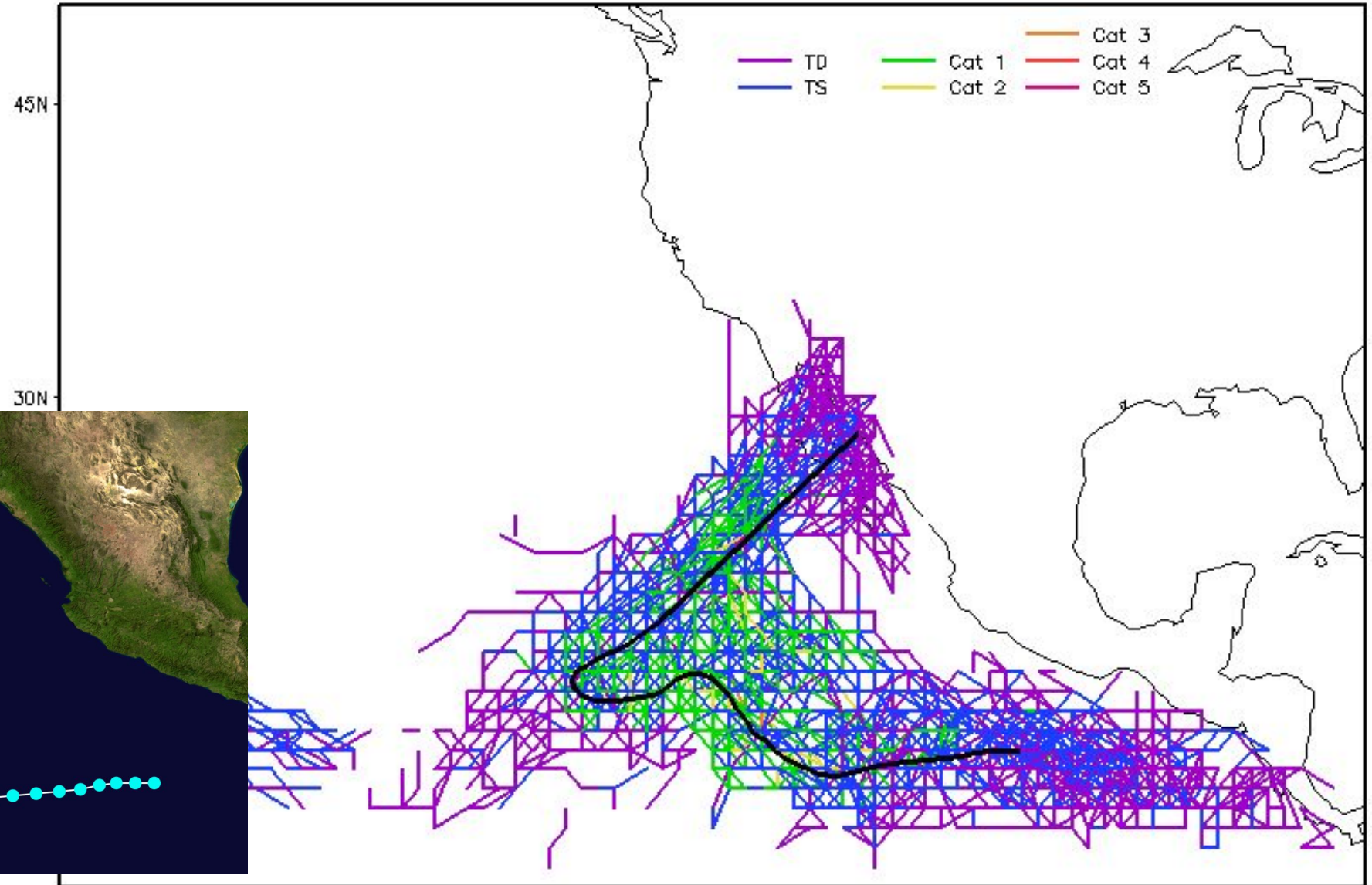
Why are the Eastern Pacific winds so much weaker?

CORE Vorticity (850mb)



A closer look at **Sergio**. The track of all 80 models, plus the observed track (black).

There is a large spread among the members and only about half reach above Cat 2 wind speeds whereas Sergio was a cat 4 storm.



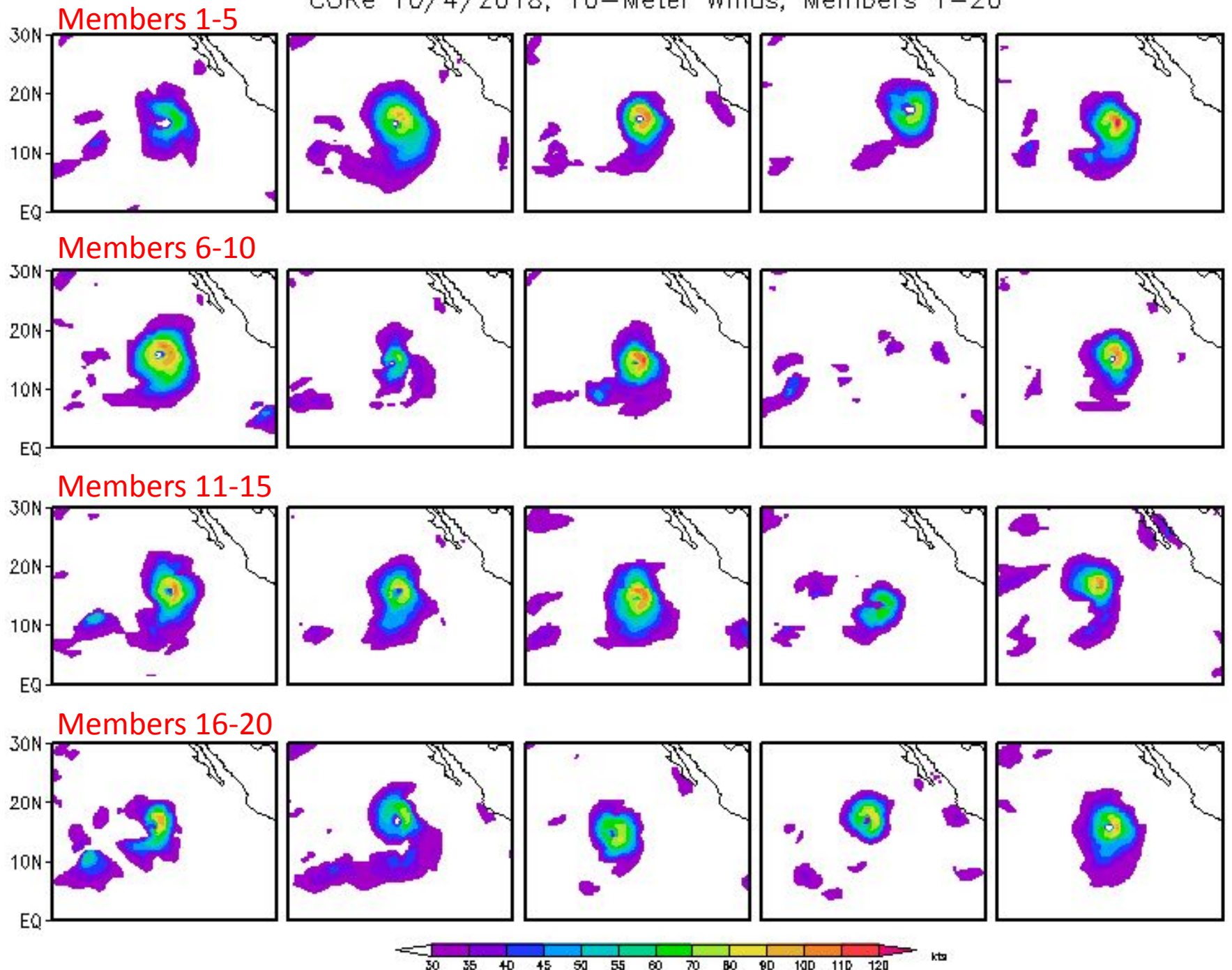
The following analysis is based on this point in the storm track.
Cat 4 winds are dark orange.

A comparison of 10-meter wind speeds for all 80 members (over next 4 slides).

The scale goes to 120 kts (pink), the max speed reach by Sergio on this day/time.

11 members (#5, 8, 21, 28, 31, 33, 34, 37, 62, 65, 71) approach this speed (reach the red/pink hues) and two are missing the storm completely (#9 and 52)

Ten Members (#1, 7, 14, 22, 26, 45, 58, 61, 63, 73) do not reach Hurricane strength (>64 kts).

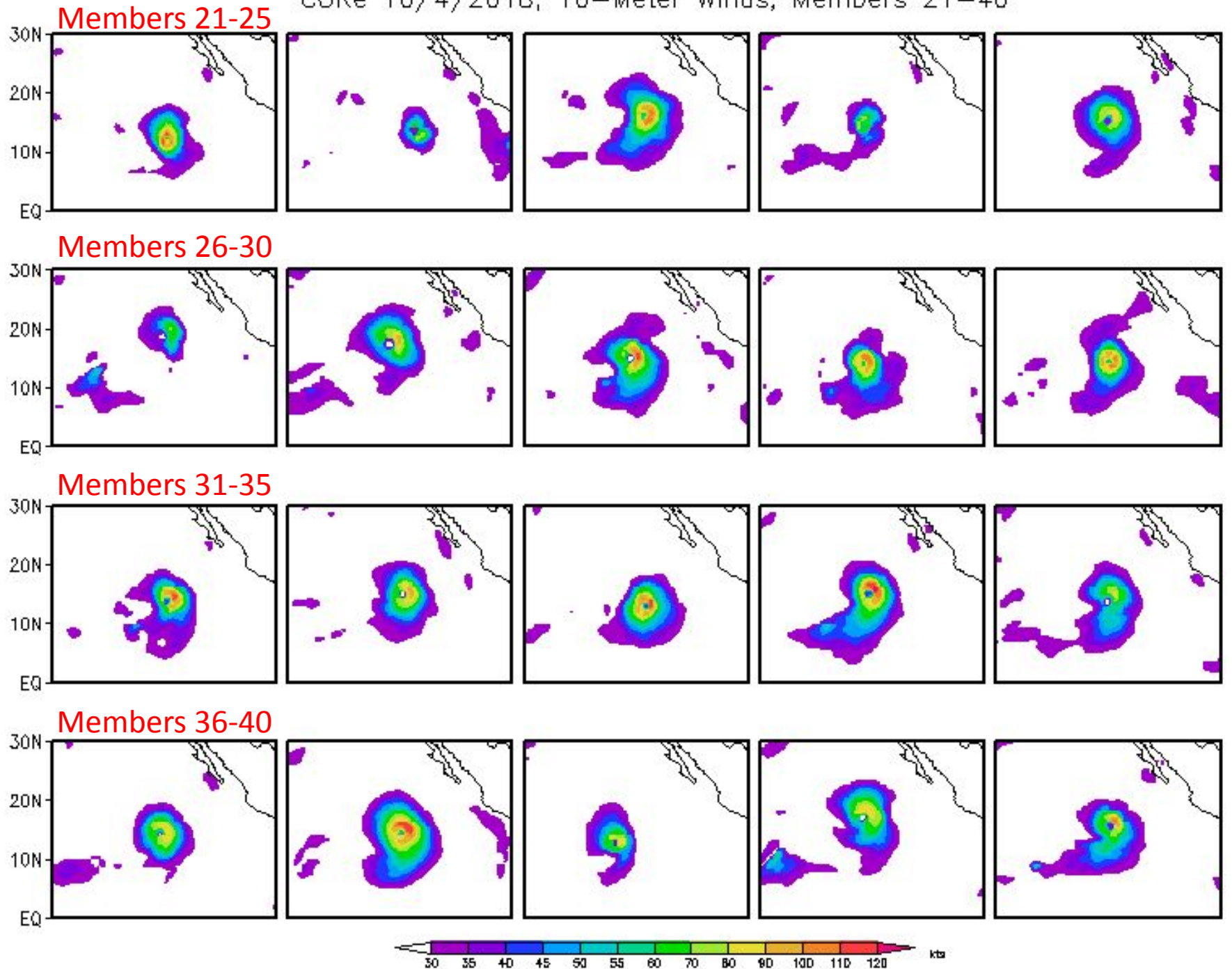


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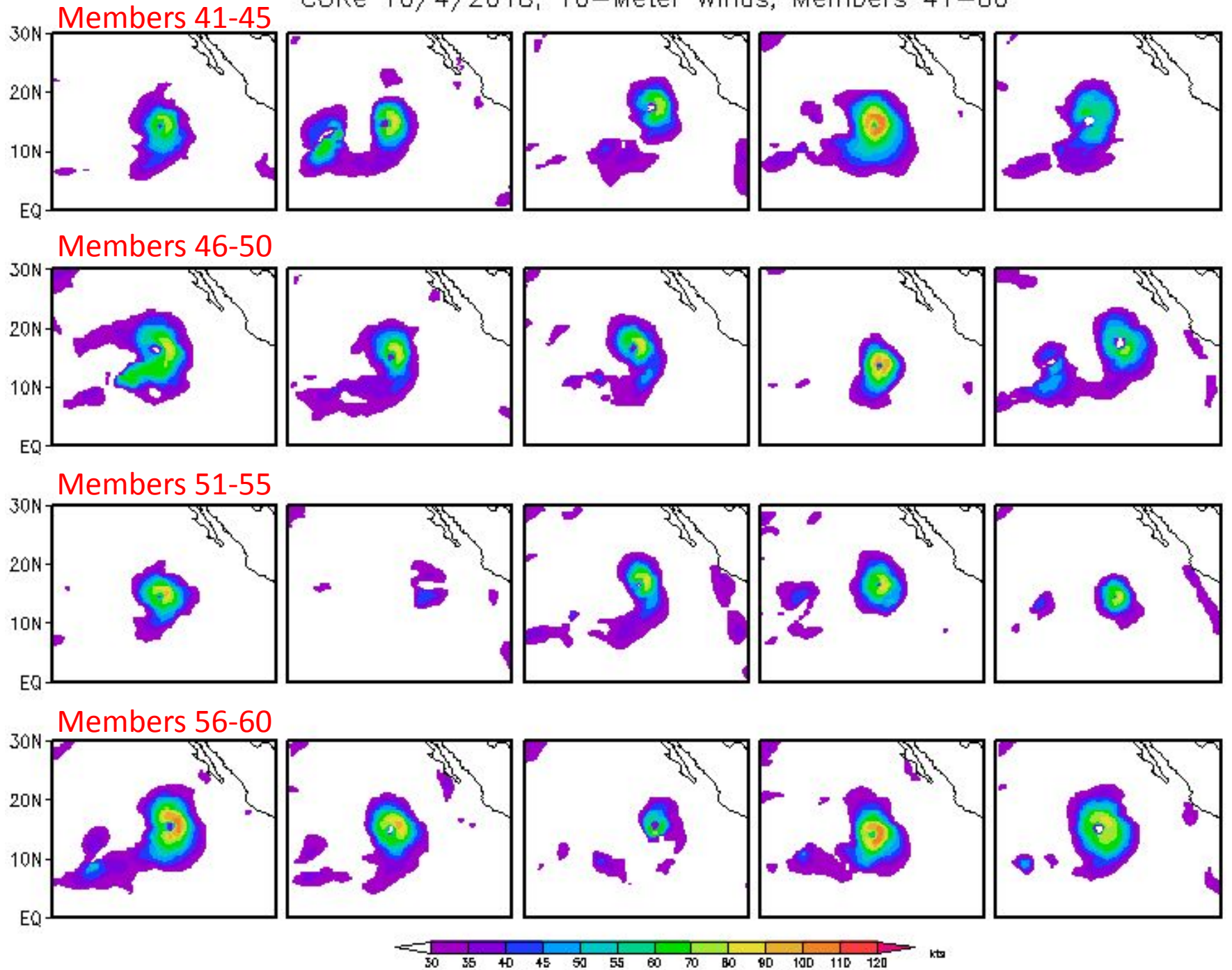


A comparison of 10-meter wind speeds for all 80 members (over next 4 slides).

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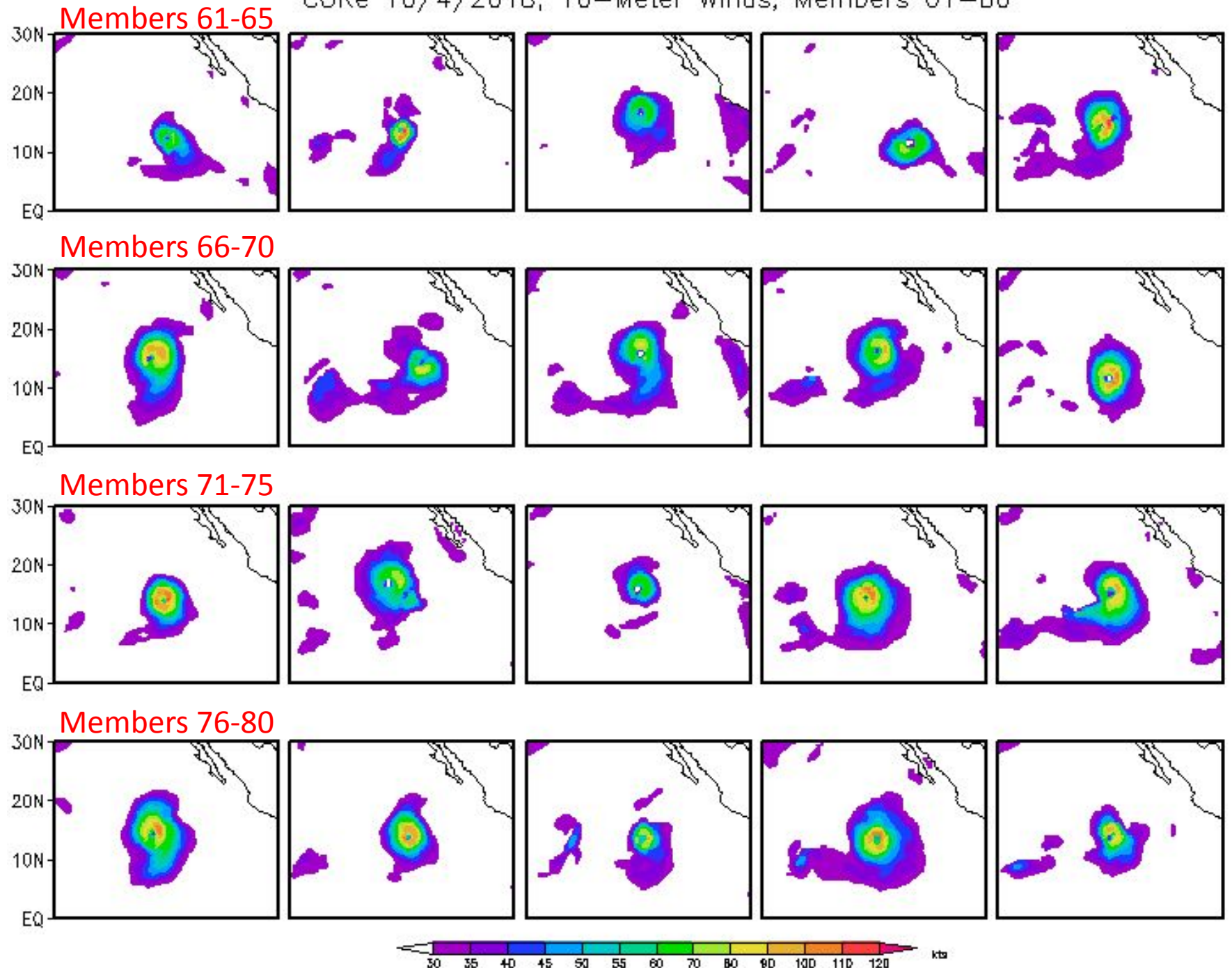


A comparison of 10-meter wind speeds for all 80 members (over next 4 slides).

The scale goes to 120 kts (pink), the max speed reach by Sergio on this day/time.

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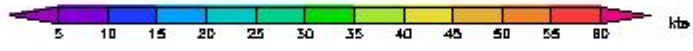
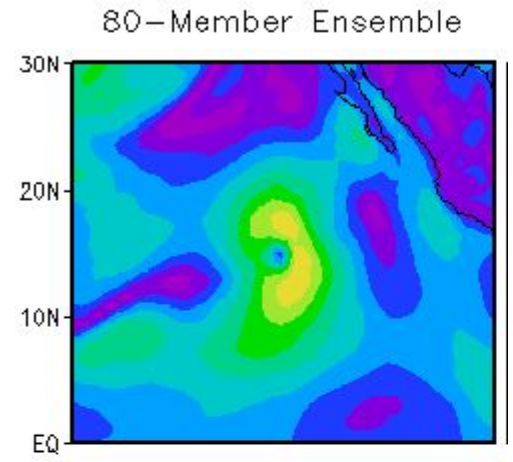
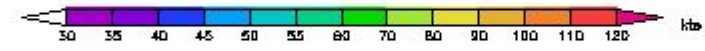
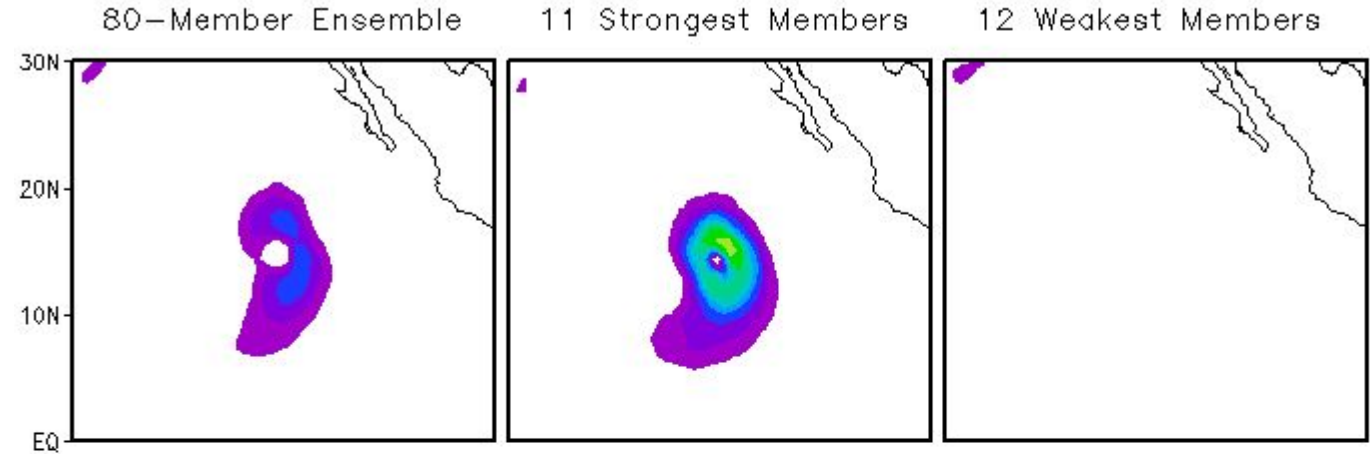


Strongest 11 members (#5, 8, 21, 28, 31, 33, 34, 37, 62, 65, 71)

Weakest 12 Members (#1, 7, 9, 14, 22, 26, 45, 52, 58, 61, 63, 73) do not reach Hurricane strength (>64 kts).

Even the strongest 11 members only reach between 70-80 kts due to differences in track location.

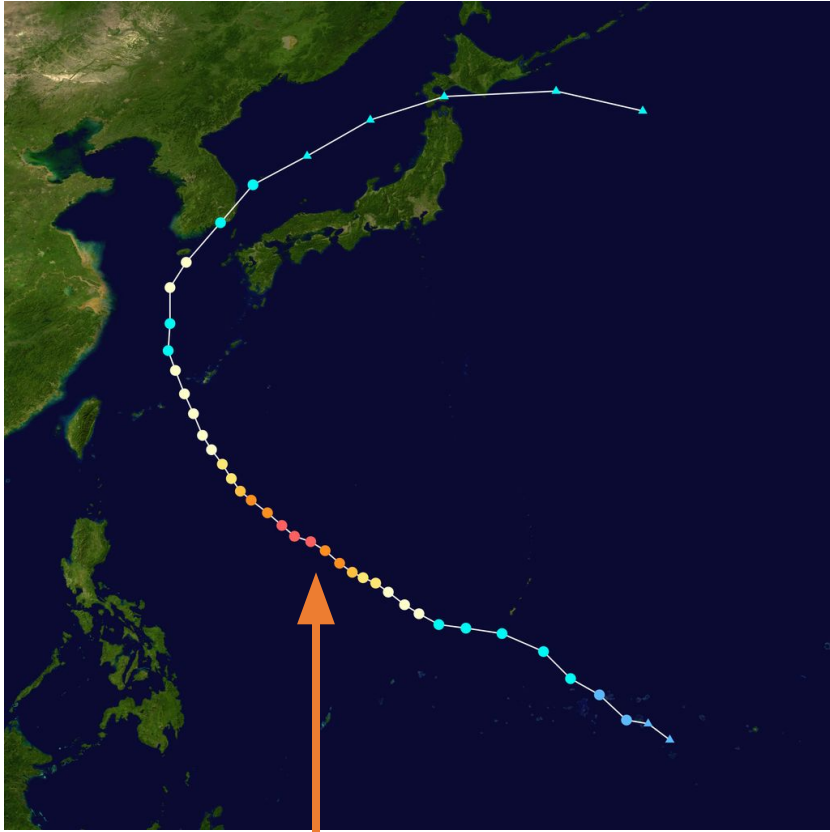
The combination of lower wind speeds in some members and the slight track differences are contributing to the low storm strength in the ensemble.



Same scale as original plot in Slide 2. Confirms the ensembles are equivalent.

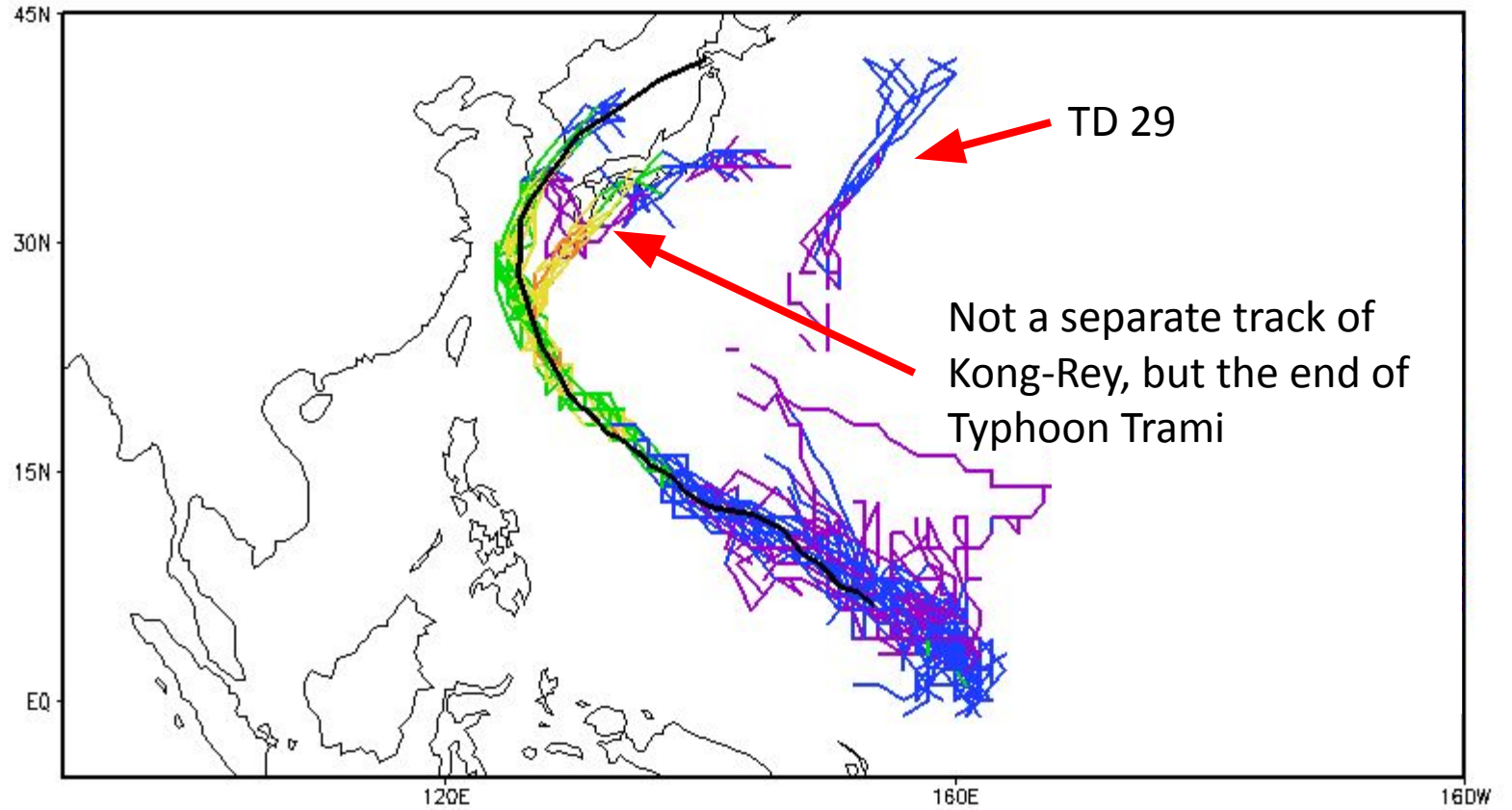
A closer look at **Kong-Rey** a few days earlier. The track of all 80 models, plus the observed track (black).

This storm track is much more consistent compared to Sergio.



The following analysis is based on this point in the storm track.
Cat 5 winds are red.

CORe 9/26/18 - 10/9/2018 - All members



A comparison of 10-meter wind speeds for all 80 members (over next 4 slides).

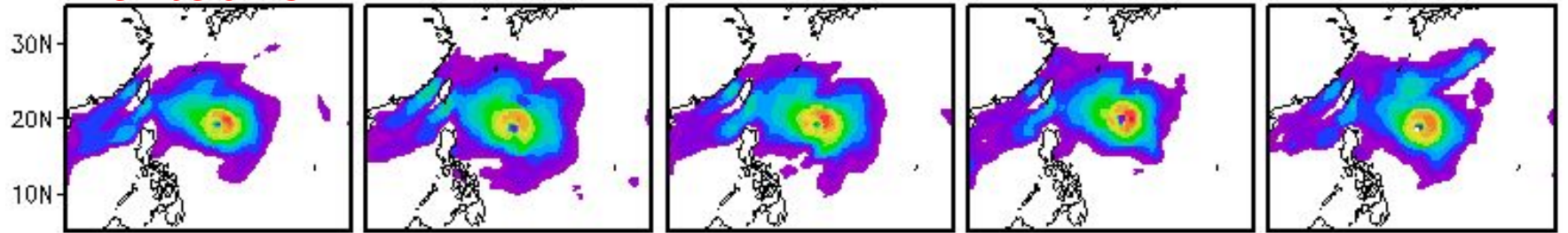
The scale goes to 130 kts (pink), the max speed reach by Kong-Rey is 145.

15 strongest members
 #4,12,16,17,21,25,28,29,30,34,36,39,42,46,48,49,55,58,67,72,74,77

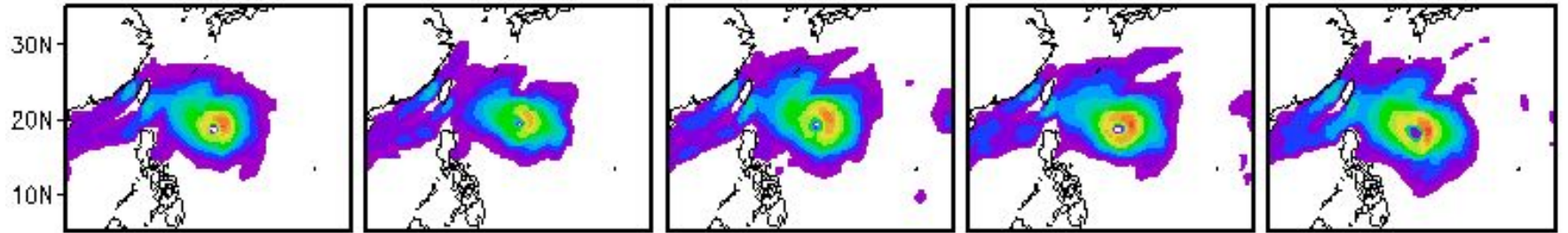
10 weakest members
 #2,7,18,24,35,41,53,57,68,75

All members capture the TC.

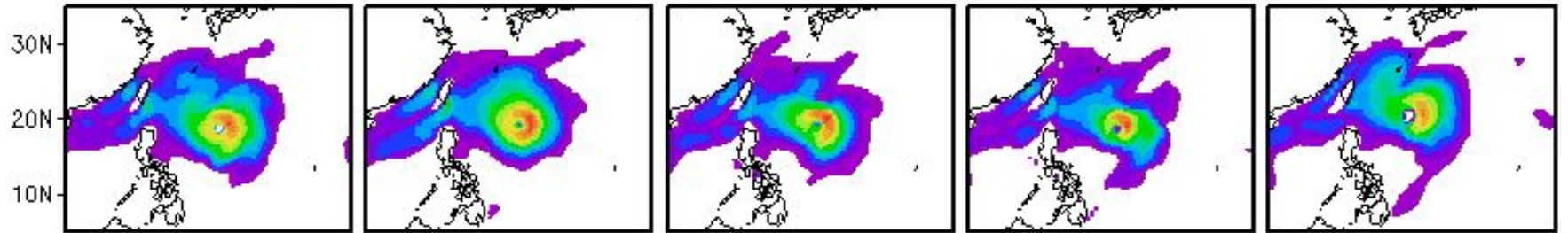
Members 1-5



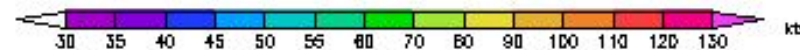
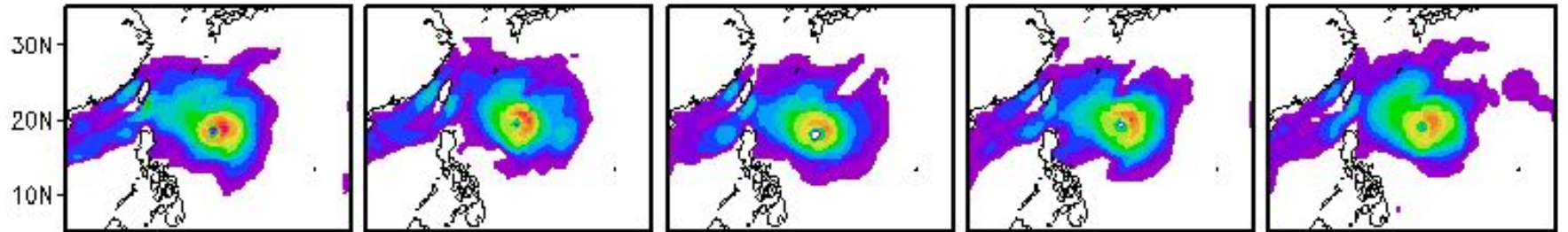
Members 6-10



Members 11-15



Members 16-20



A comparison of 10-meter wind speeds for all 80 members (over next 4 slides).

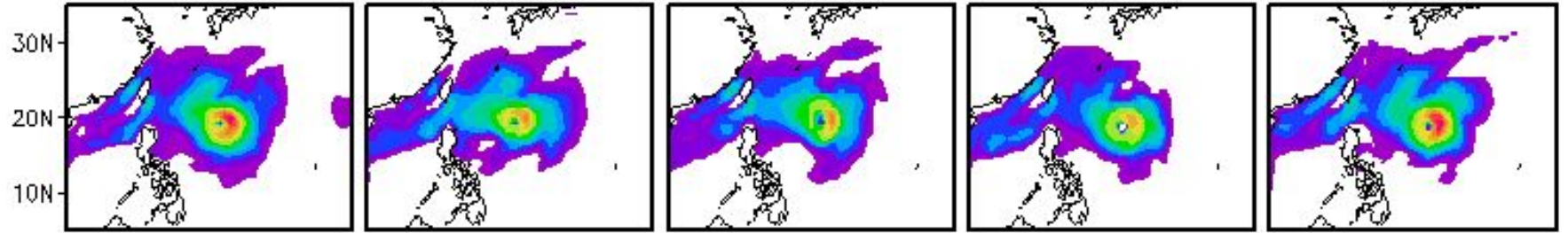
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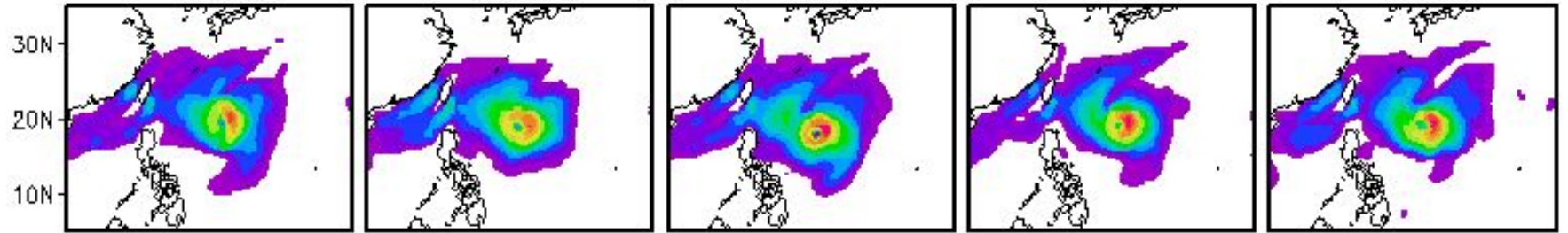
10 weakest members
 #2,7,18,24,35,41,53,57,68,75

All members capture the TC.

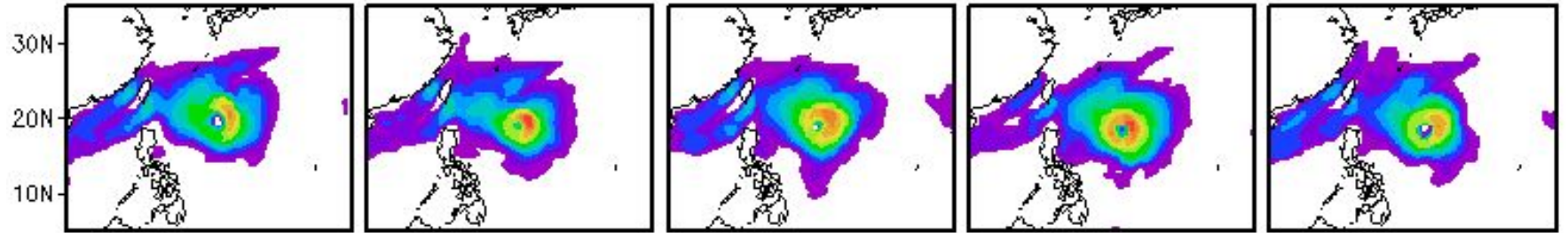
Members 21-25



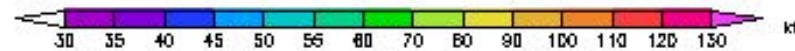
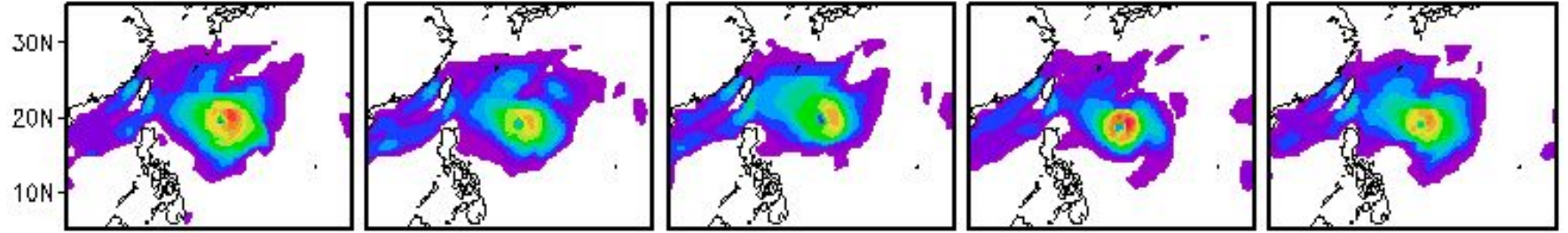
Members 26-30



Members 31-35



Members 36-40



A comparison of 10-meter wind speeds for all 80 members (over next 4 slides).

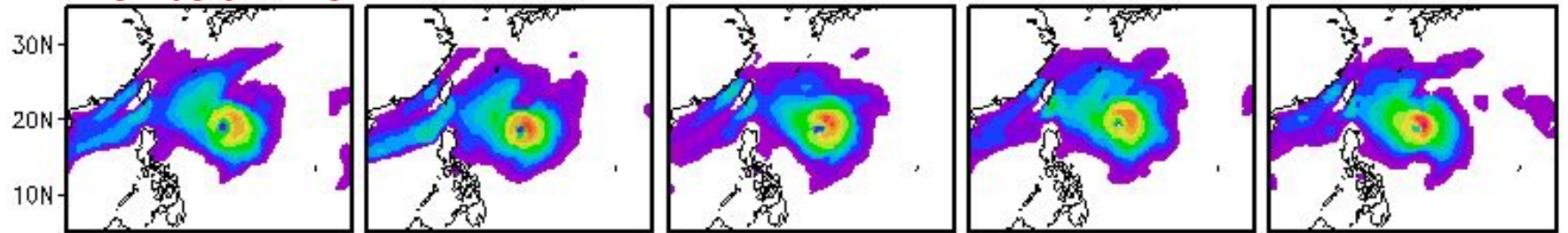
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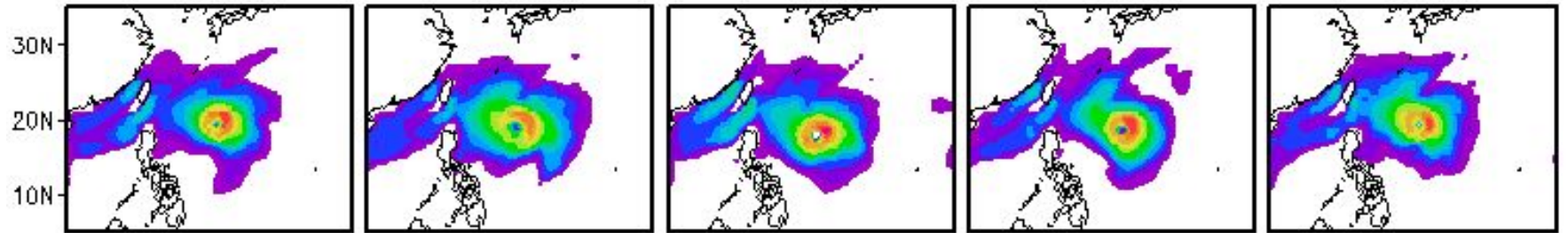
10 weakest members
 #2,7,18,24,35,41,53,57,68,75

All members capture the TC.

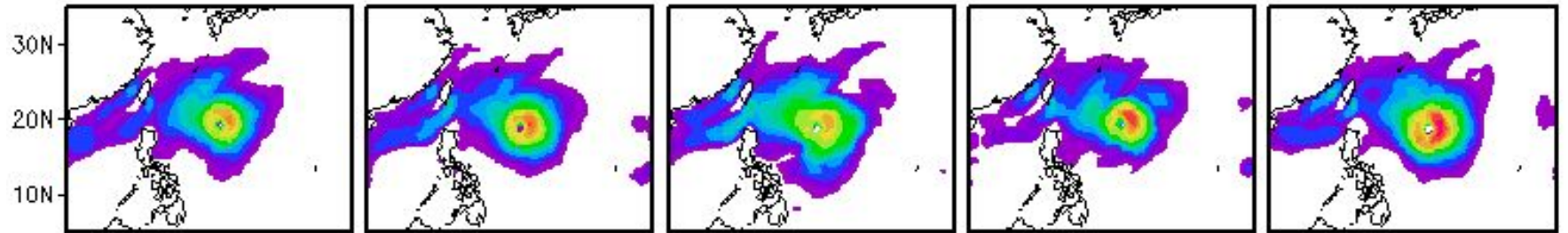
Members 41-45



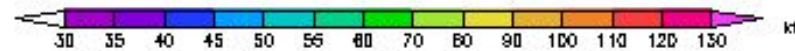
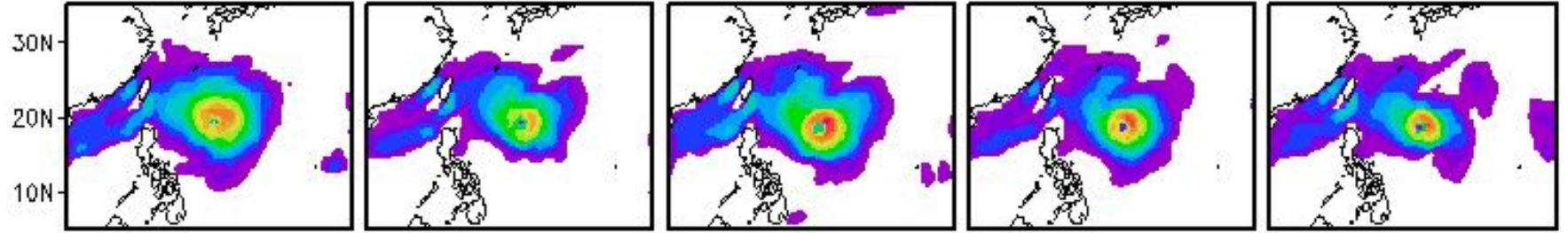
Members 46-50



Members 51-55



Members 56-60



A comparison of 10-meter wind speeds for all 80 members (over next 4 slides).

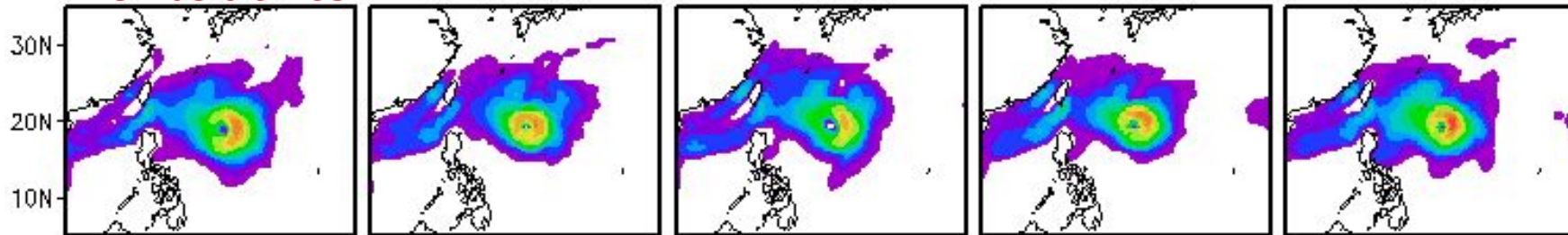
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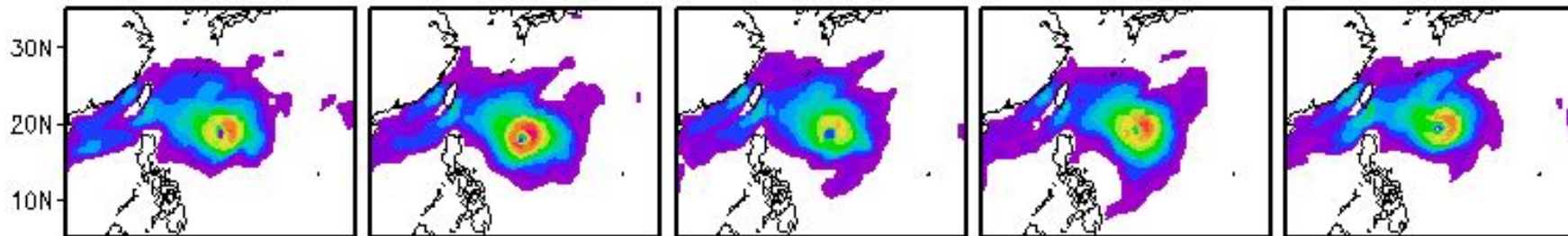
10 weakest members
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All members capture the TC.

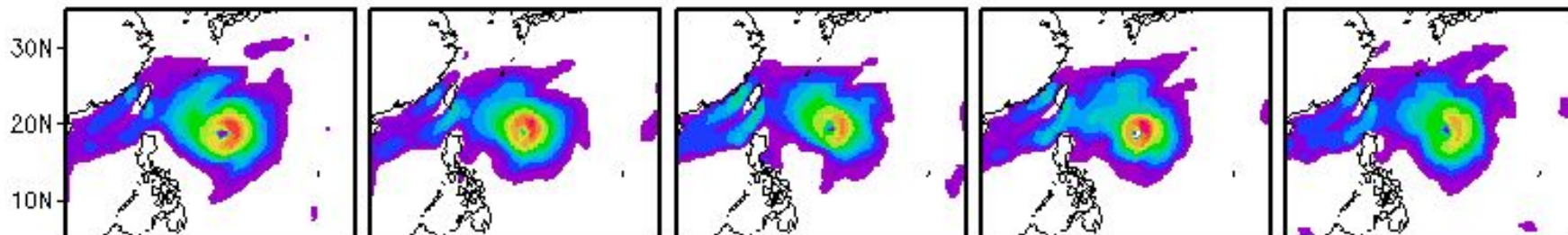
Members 61-65



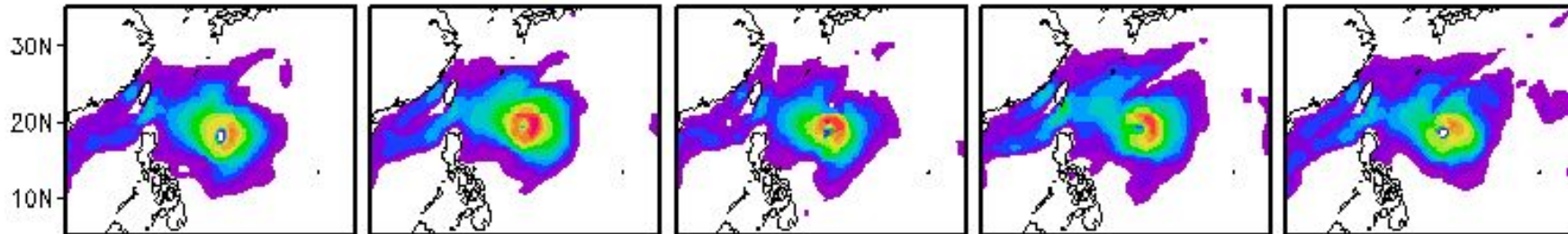
Members 66-70



Members 71-75



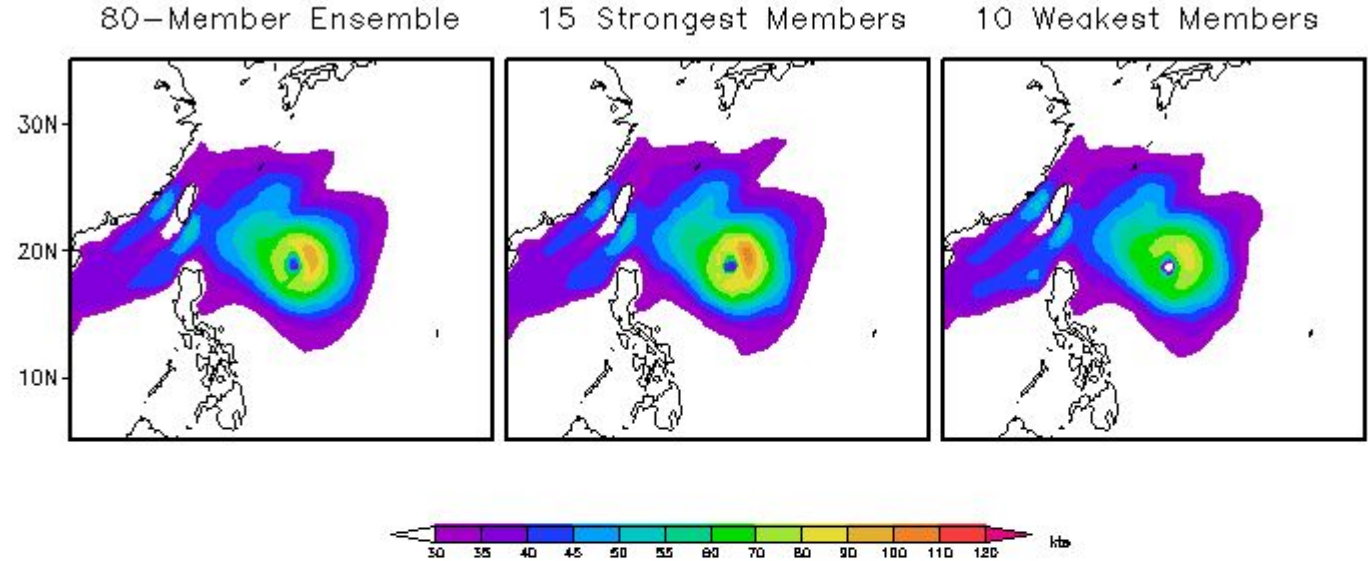
Members 76-80



All 80 members still maintain a maximum wind speed above 90 kts.

The 15 strongest reach over 100 kts while the weakest 10 drop to +80kts. But overall, they are fairly consistent.

The more consistent strength in the winds along with the much tighter track, keep the storm more realistic in the CORE analysis.



15 strongest members
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74,77

10 weakest members
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