Synoptic Dry Air Surges and Intrusion

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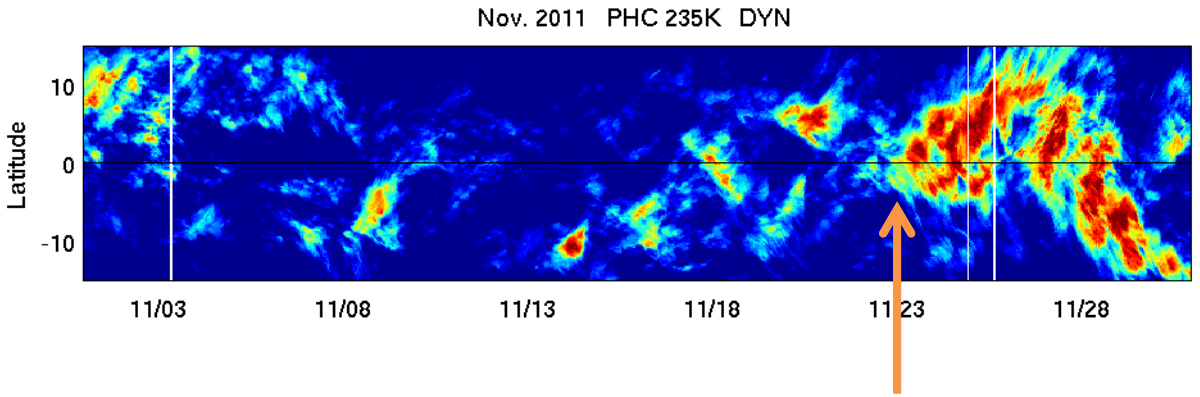
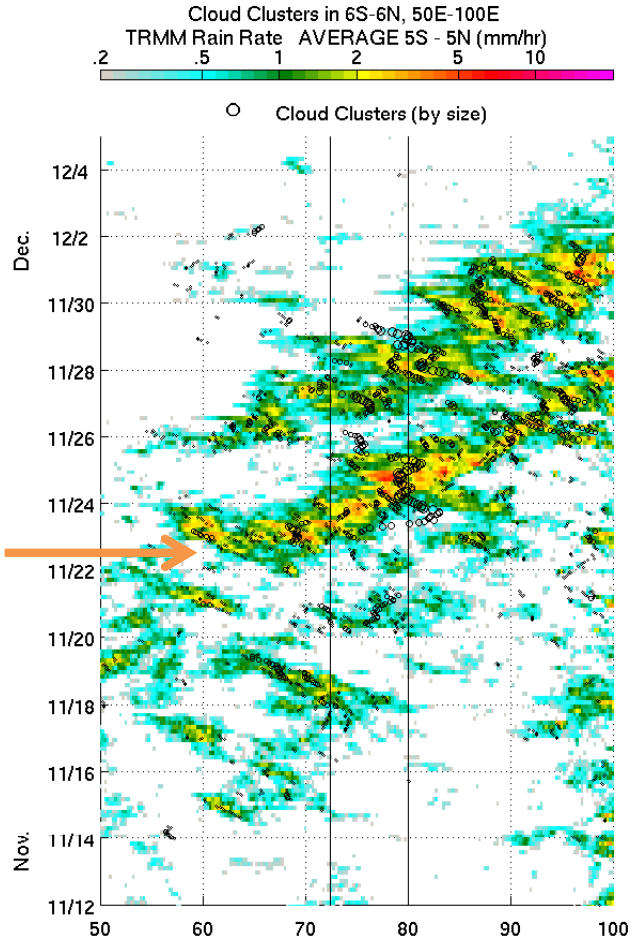
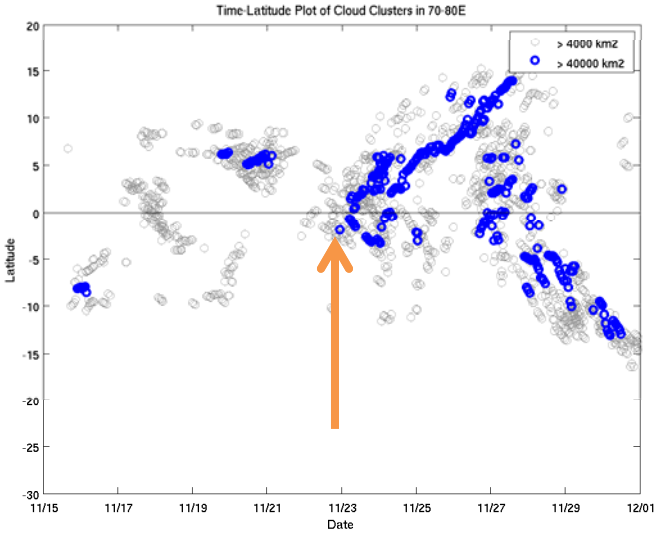
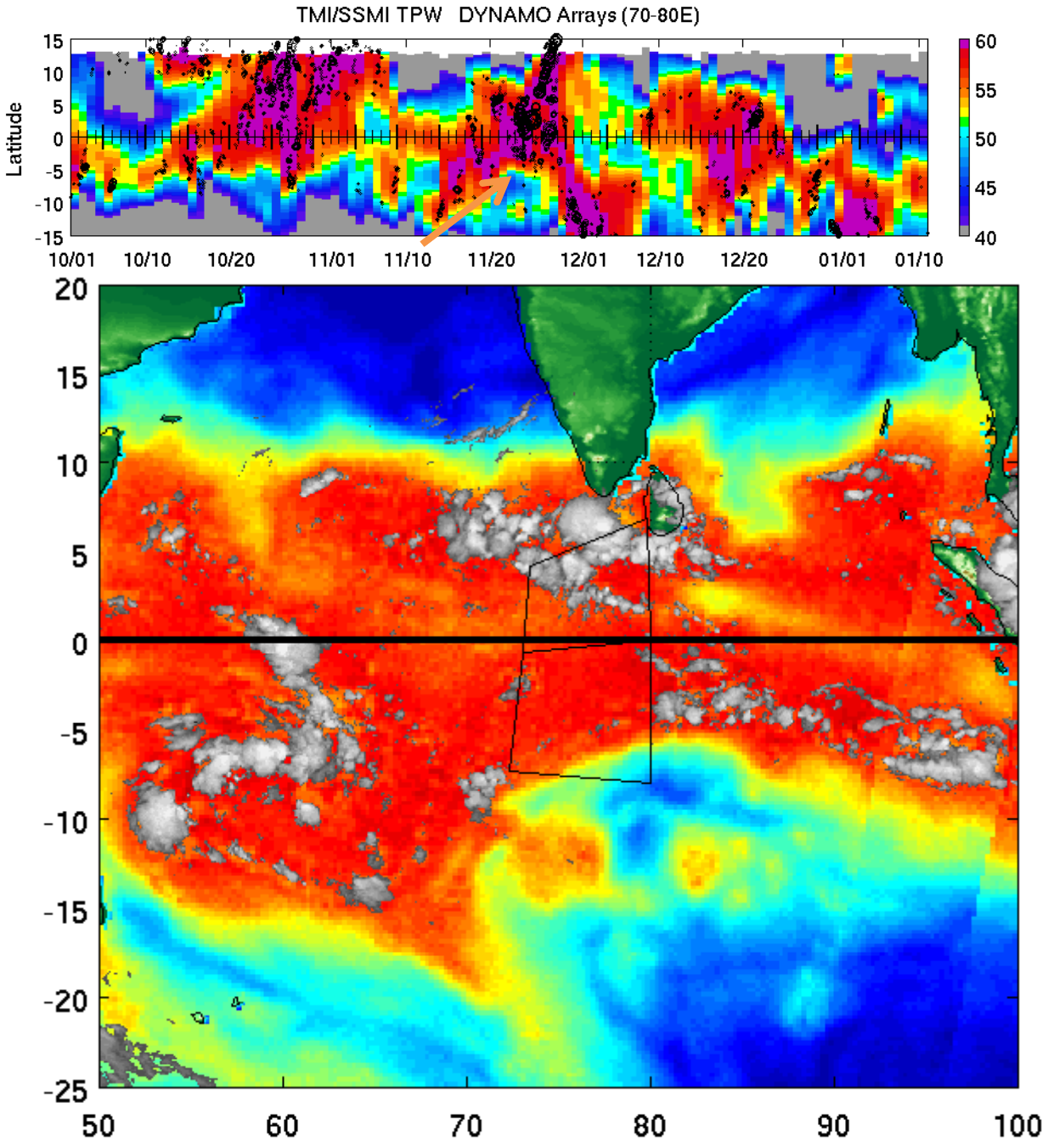




Cloud Clusters




TMI/SSMI TPW DYNAMO Arrays (70-80E)
Latitude
15
10
5
0
-5
-10
-15
10/01
10/10
10/20
11/01
11/10
11/20
12/01
12/10
12/20
01/01
01/10
60
55
50
45
40
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15
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5
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-5
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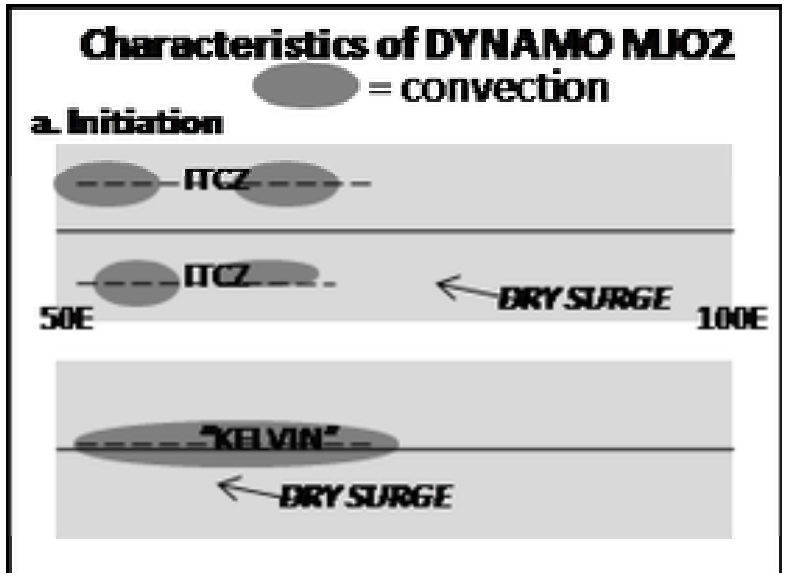
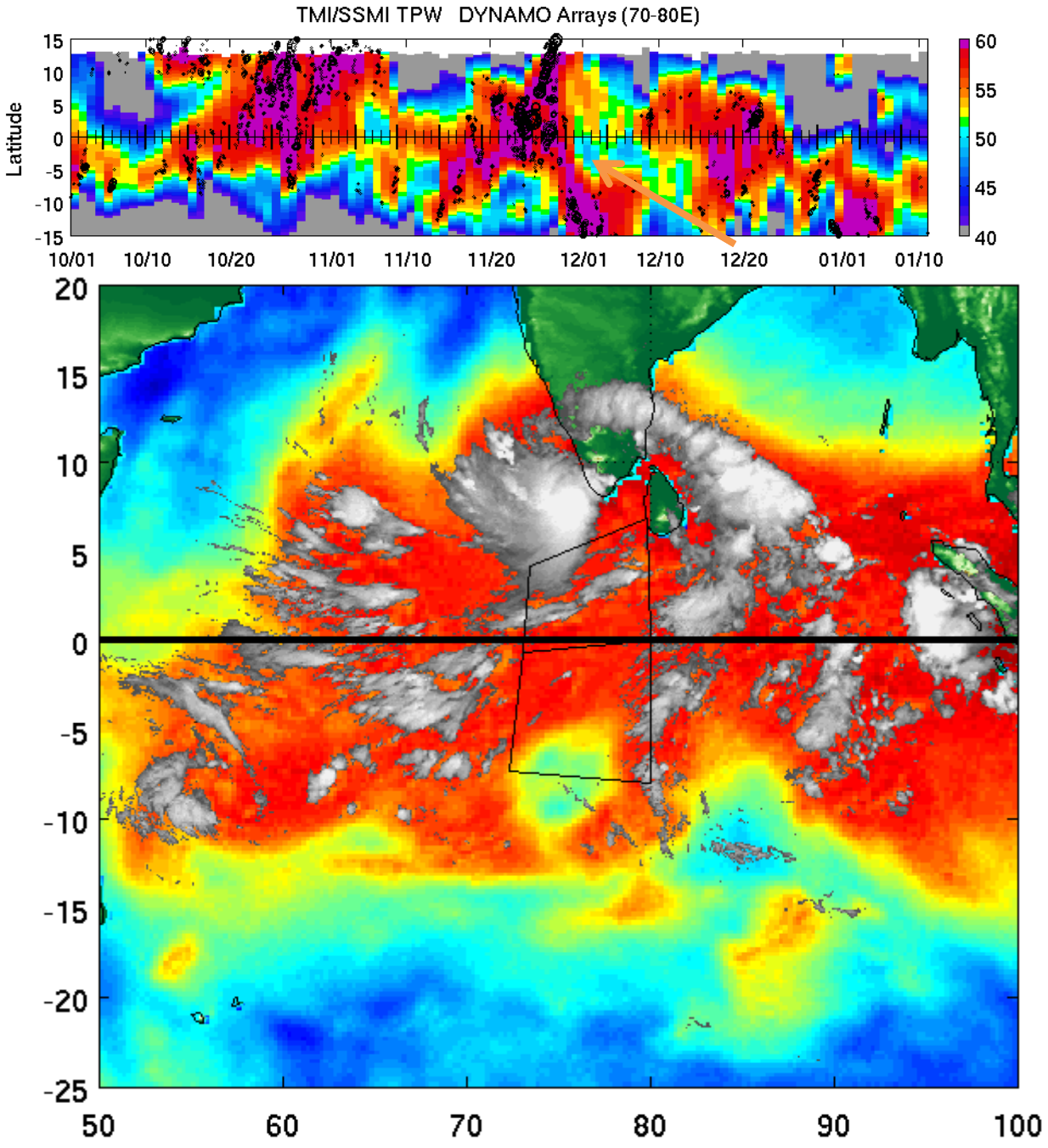
-15
-20
-25
50
60
70
80
90
100



- Pre-MJO: off-equator “Double ITCZ”
- Dry air surge from subtropics penetrates close to the Equator, disrupting the off-Equator convection.
- Convection re-develops on the Equator—MJO initiation occurs.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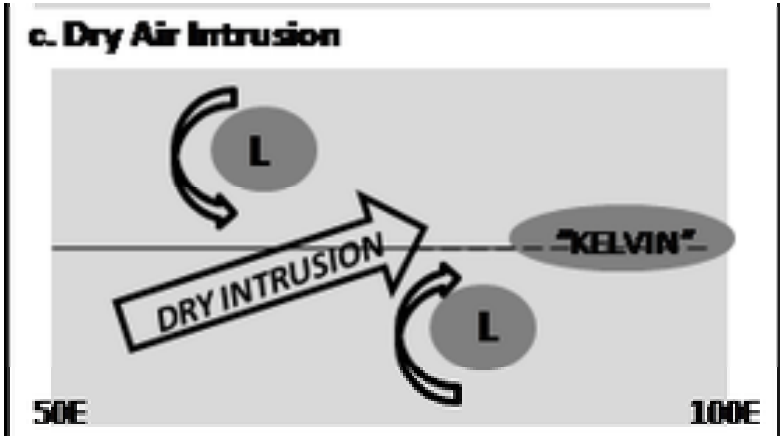

- Dry air intrusion is strongly influenced by the circulations of Rossby Gyres.
- Dry air intrusion eventually leads to the suppressed phase conditions.