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Global MCS Data Quality Check

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U.S. DEPARTMENT OF ENERGY BATTELLE

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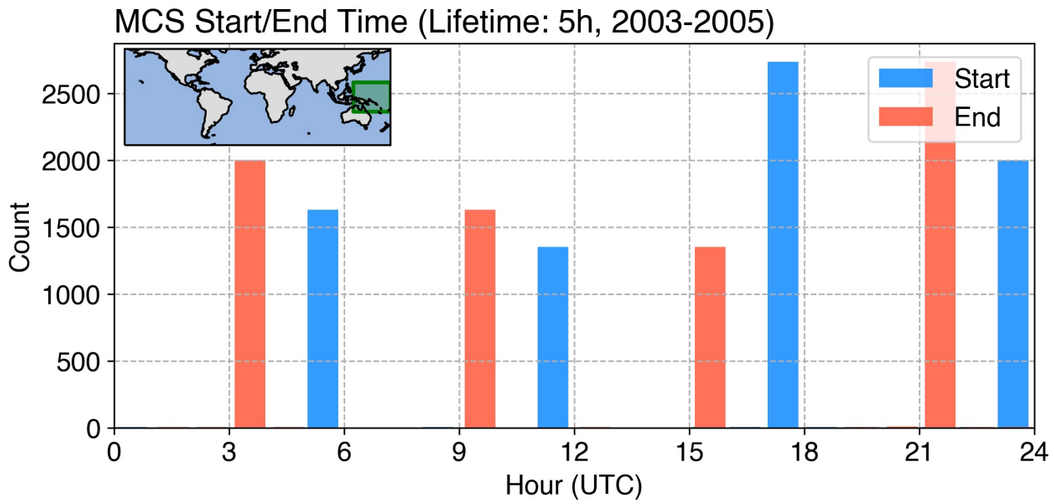
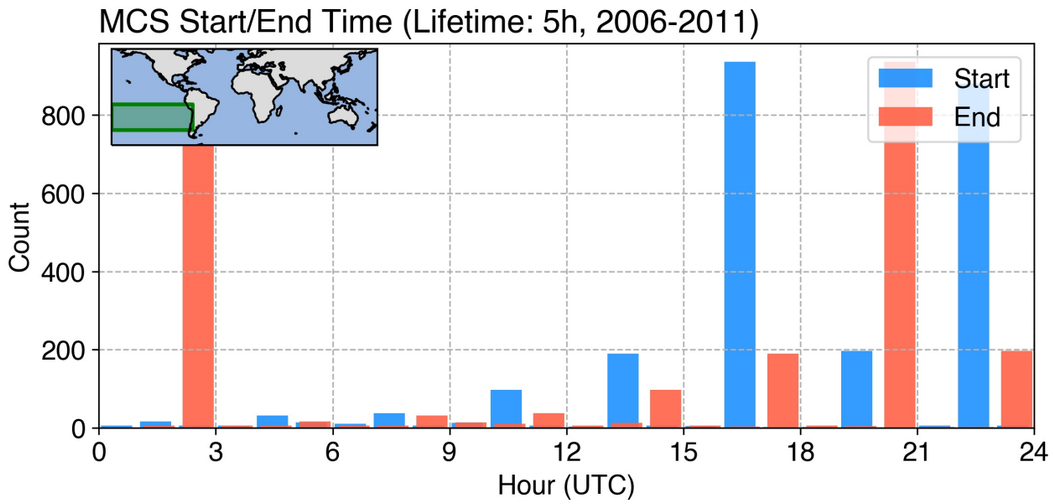
Summary

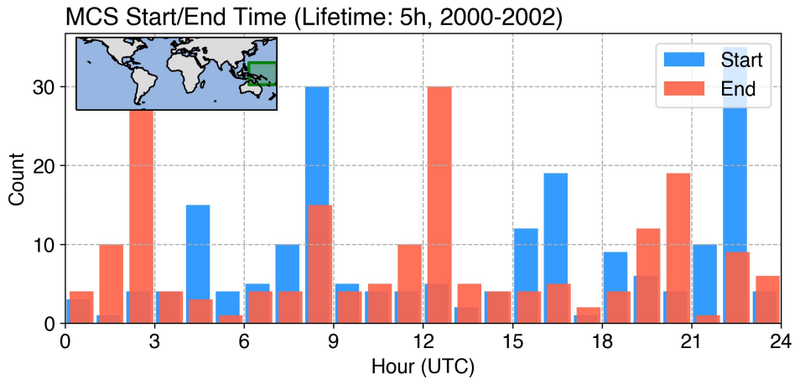
- During **2003-2005**, East Asia (130°E-180°E) has frequent missing IR T_b data at 4 specific hours of the day, artificially increasing MCS number with 5-hour lifetime significantly, while reducing the number of longer-lived MCSs
  - The impact on MCSs in east Maritime Continent is significant
- During **2006-2011**, S.E. Pacific has more frequent missing IR T_b data at 2 specific hour of the day, artificially increasing MCS number with 5-hour lifetime
  - The impact on MCS statistics is relatively smaller as further east of 180°W, MCSs are less frequent

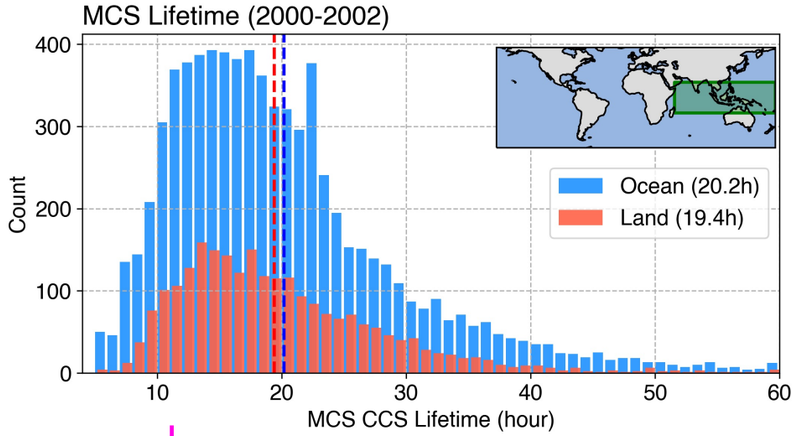


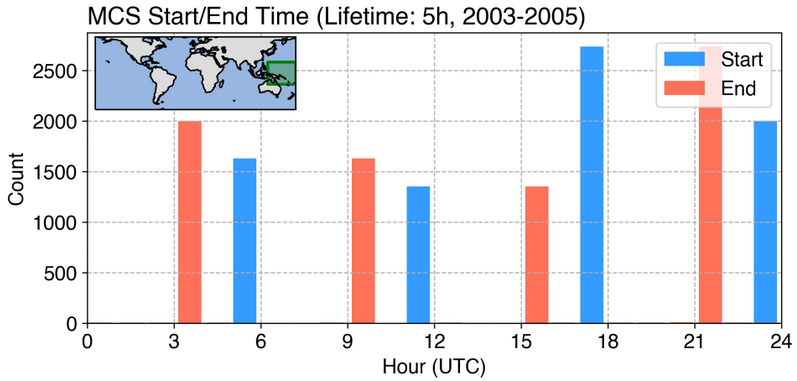


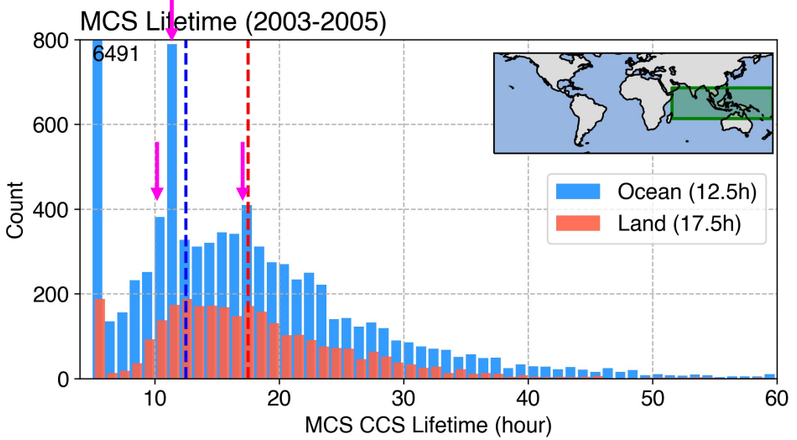
Missing IR Data Hours

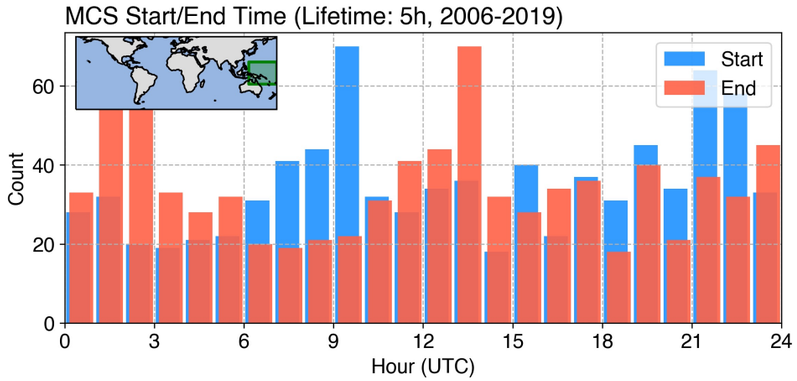
- During 2003-2005, E Asia missing IR data frequently occurs at regular 5 hourly intervals
  - 5-h long MCSs are excessively increased
  - 10, 11, 17 h MCSs are also noticeably more
- While other years also have missing data, the impact is much smaller

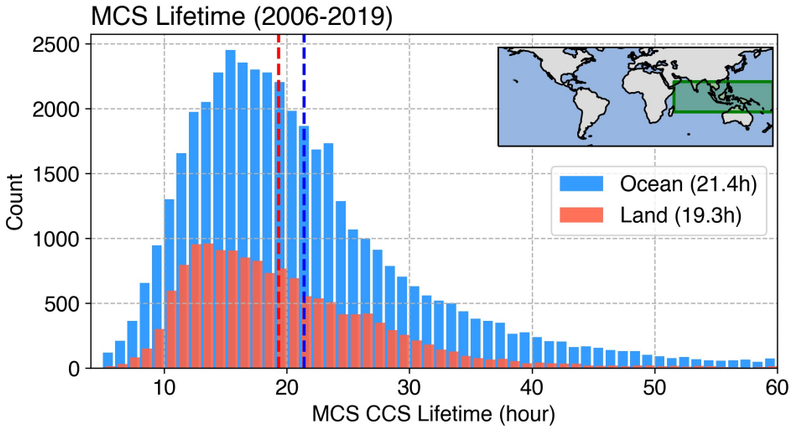












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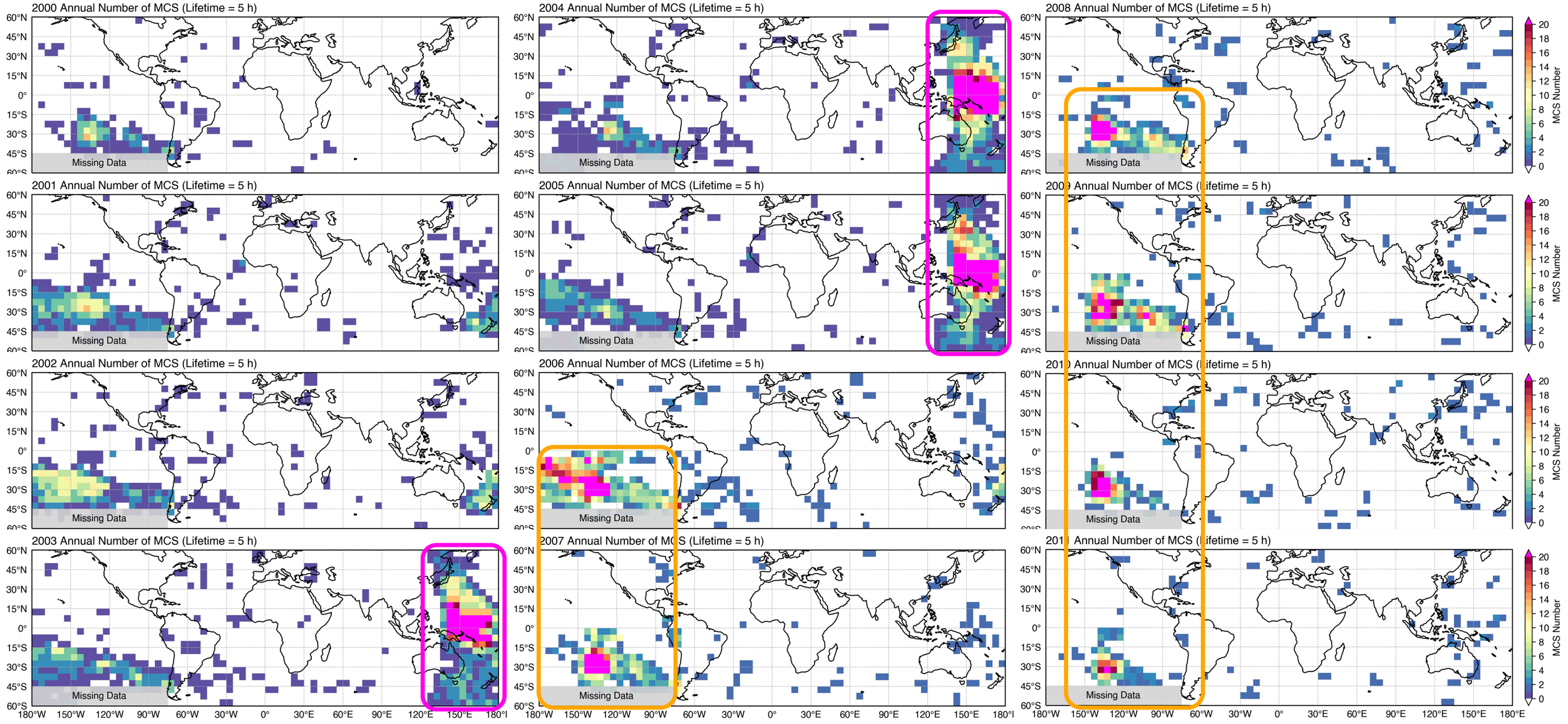
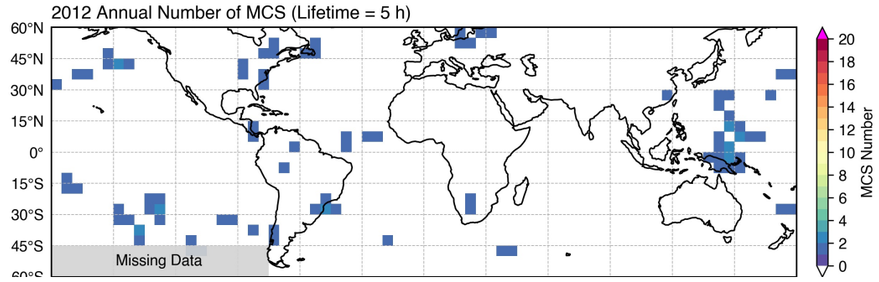
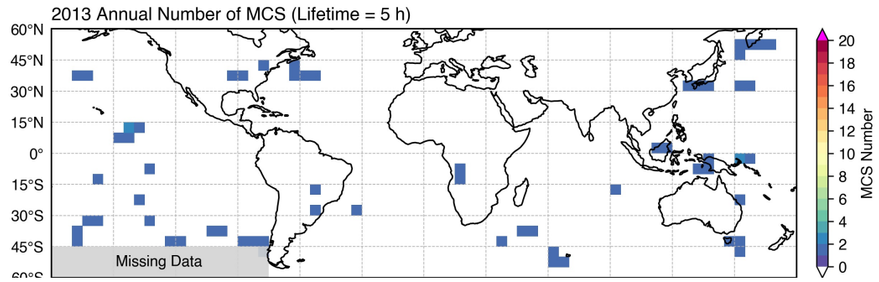
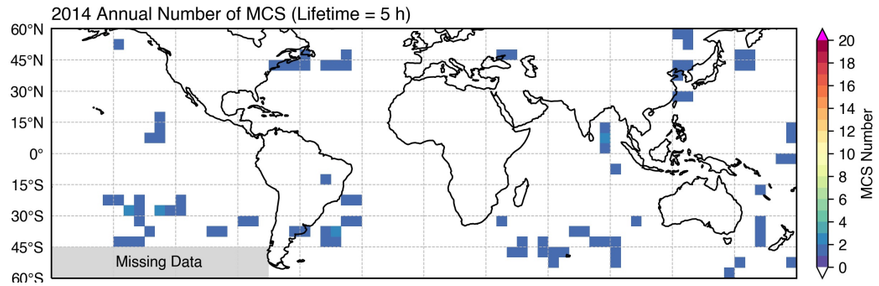
5-h MCS Number (2000-2011)

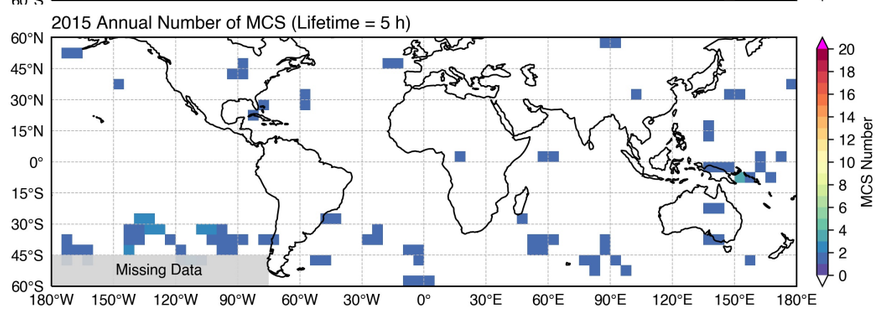


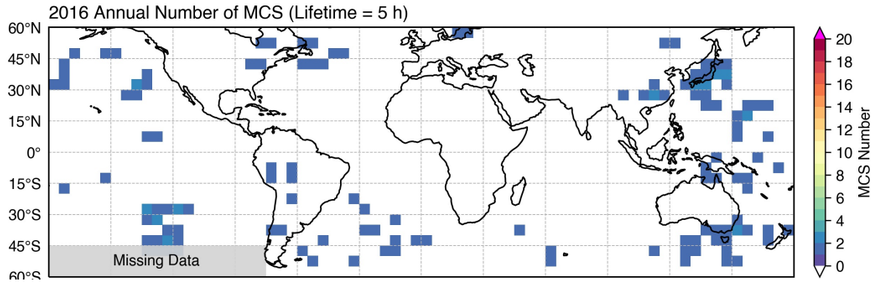
5-h MCS Number (2012-2019)

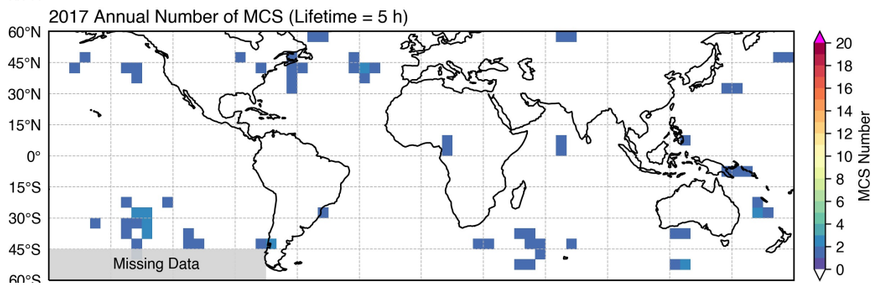


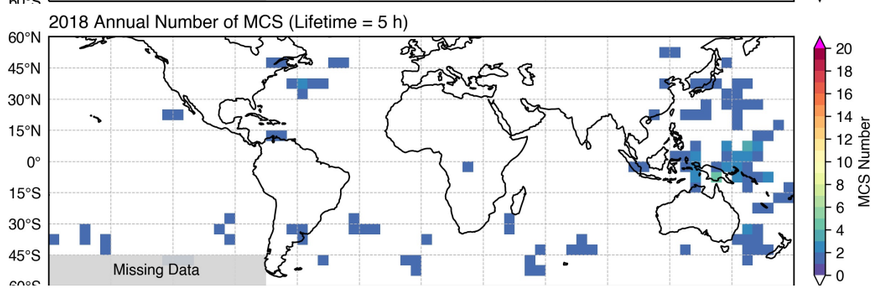


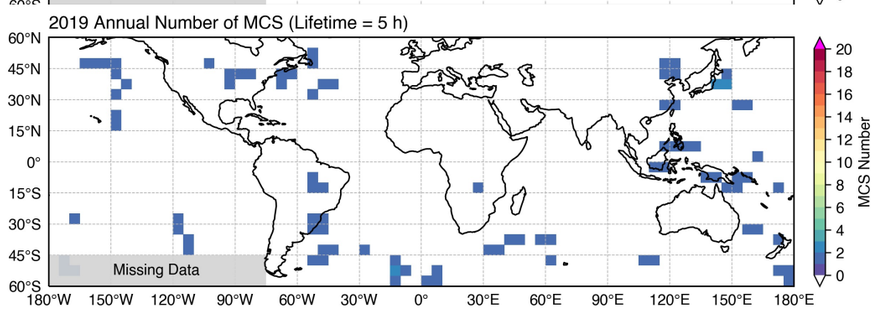












- Number of 5-h MCS are small during these years

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5-h vs. 6-60 h MCS Number Annual Map

5-h MCS Number (2000-2003)

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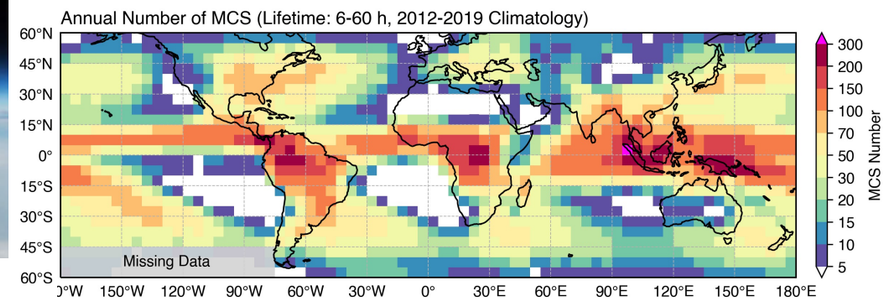
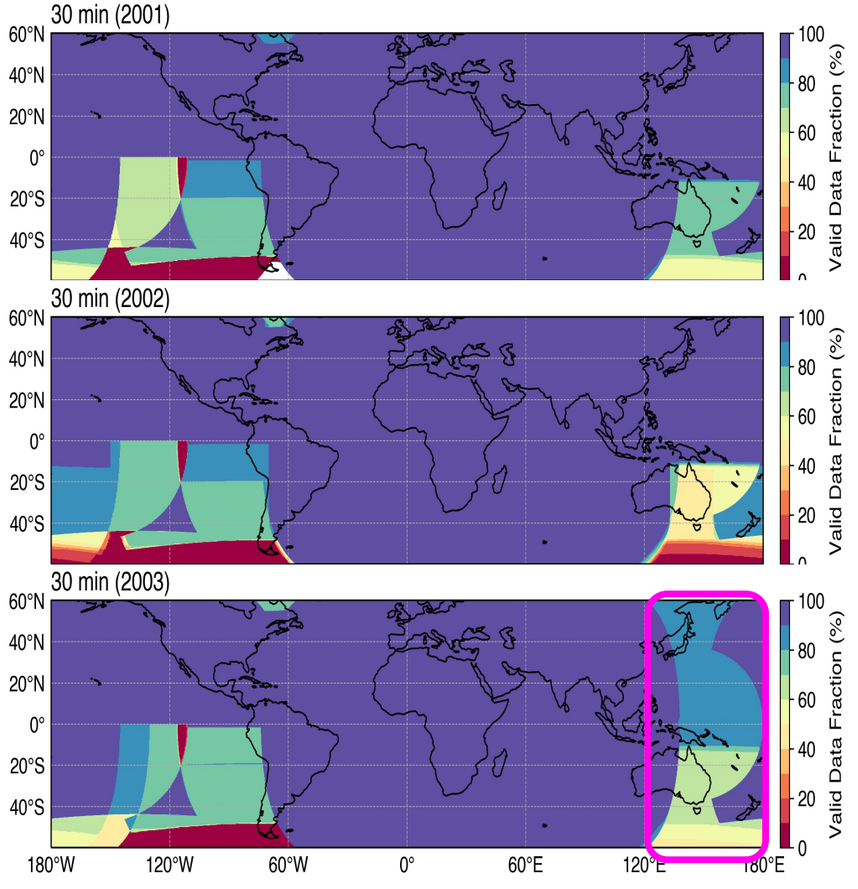
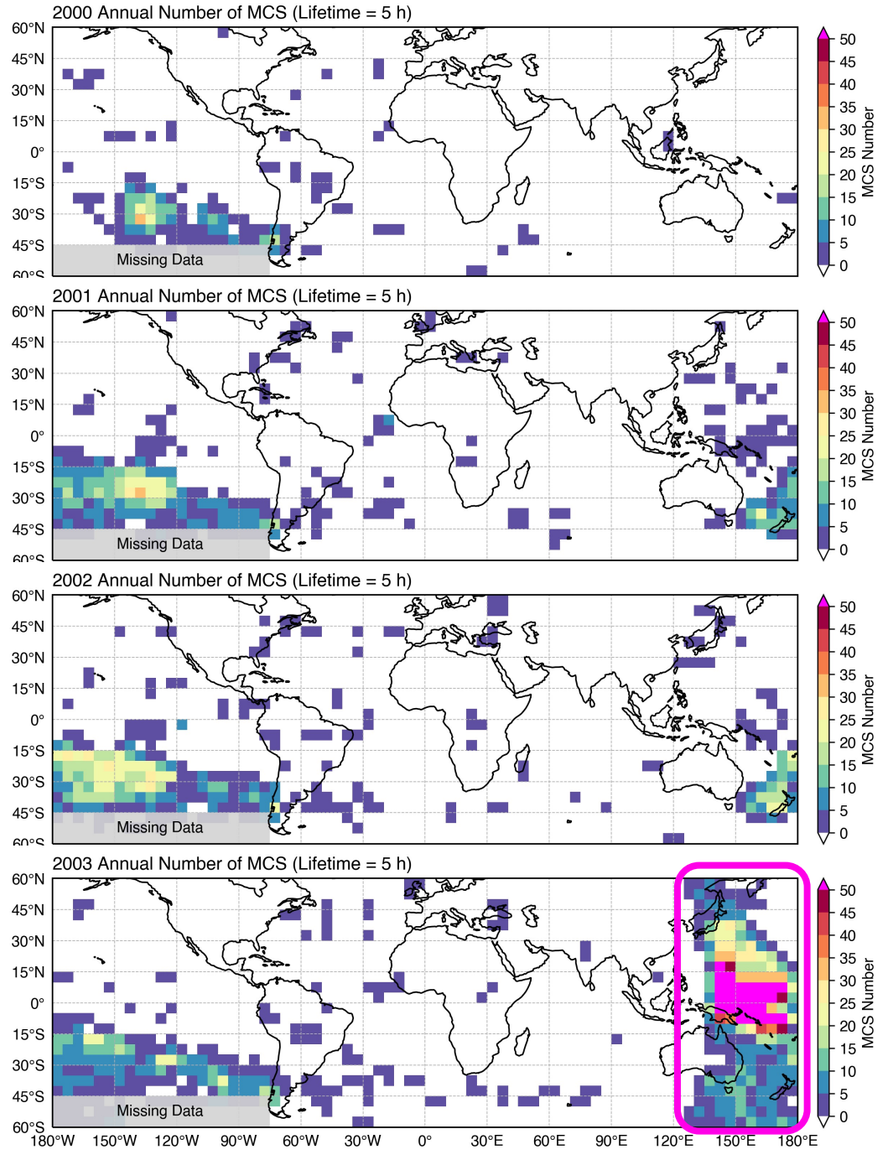
5-h MCS Number



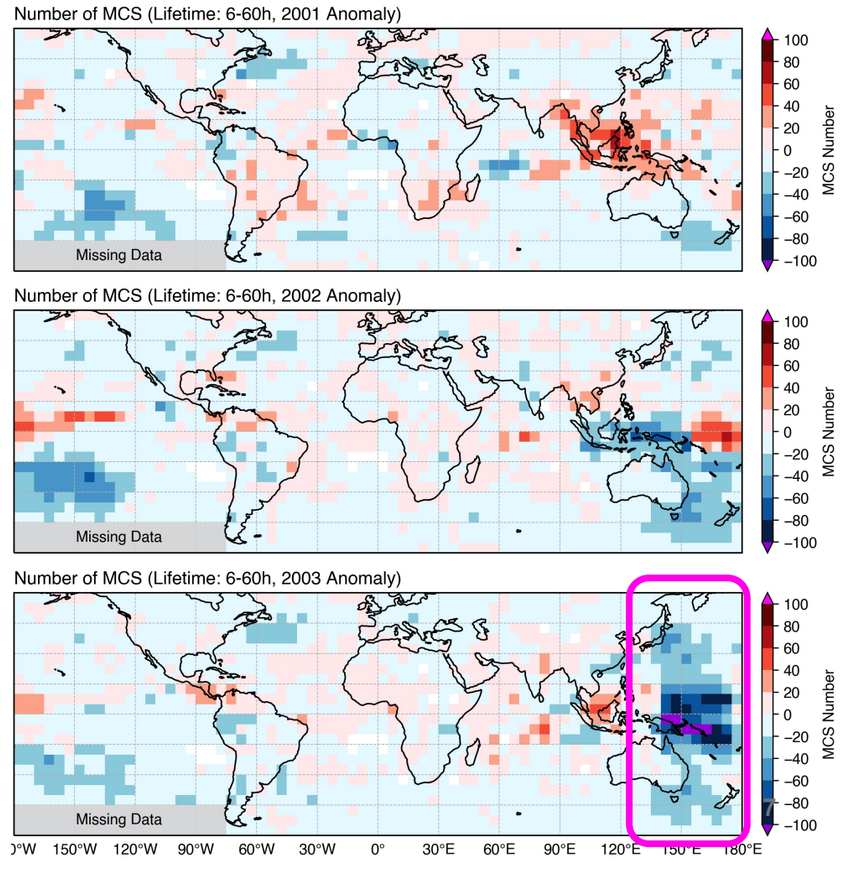
Valid IR Data Frequency

30 min IR T_b is used for tracking





6-60 h MCS Number Anomaly



MCS Number (2004-2007)

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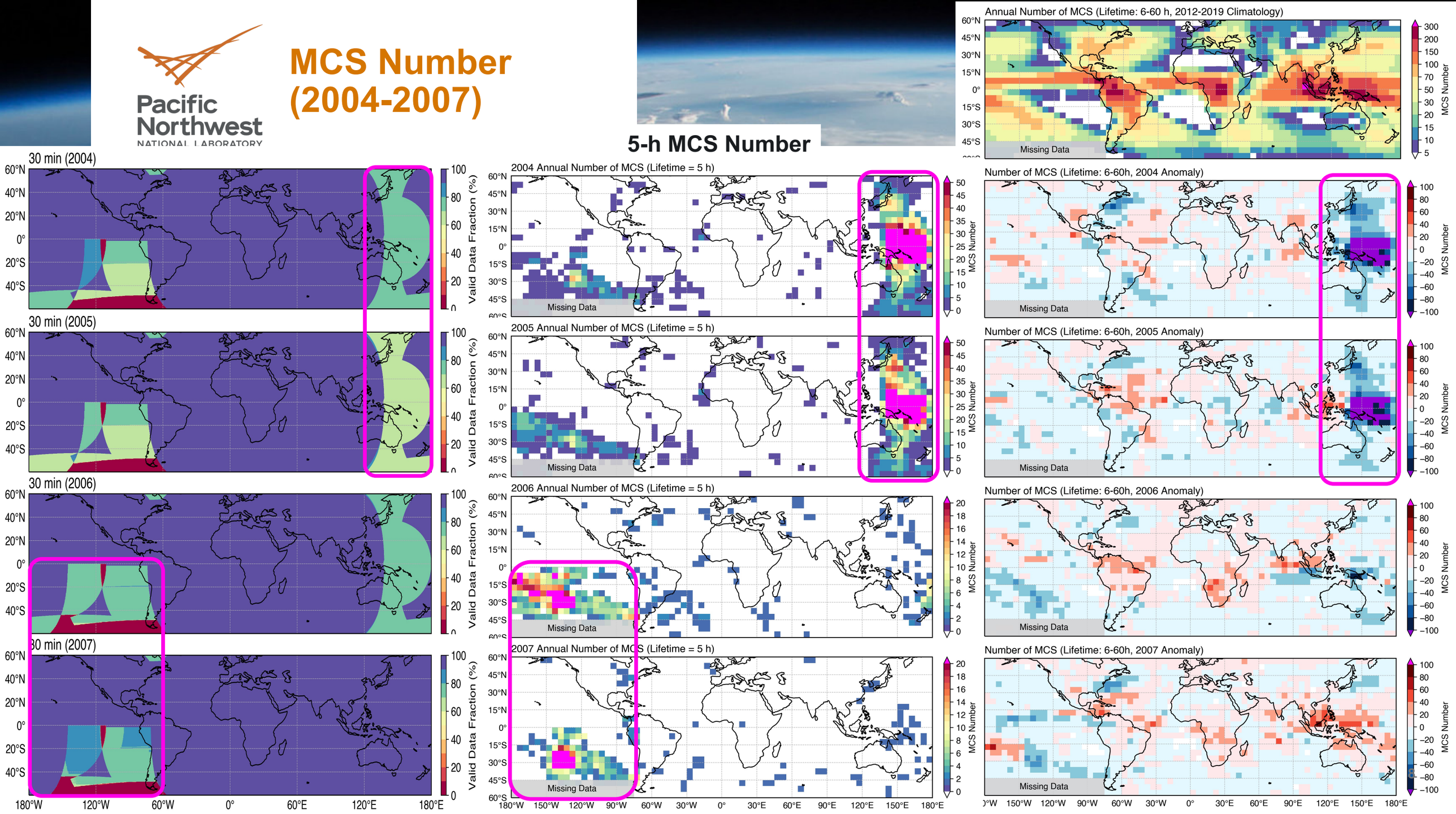
5-h MCS Number



MCS Number (2008-2011)

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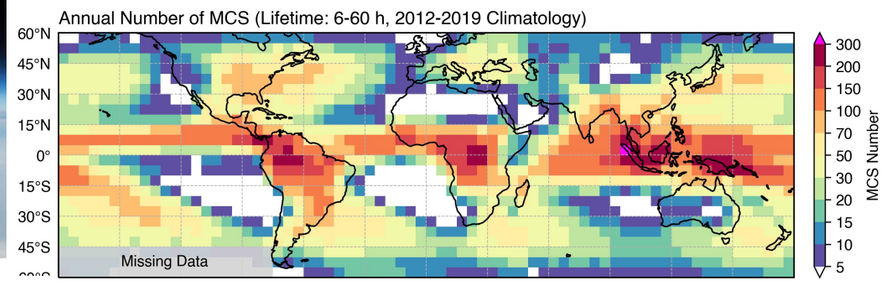
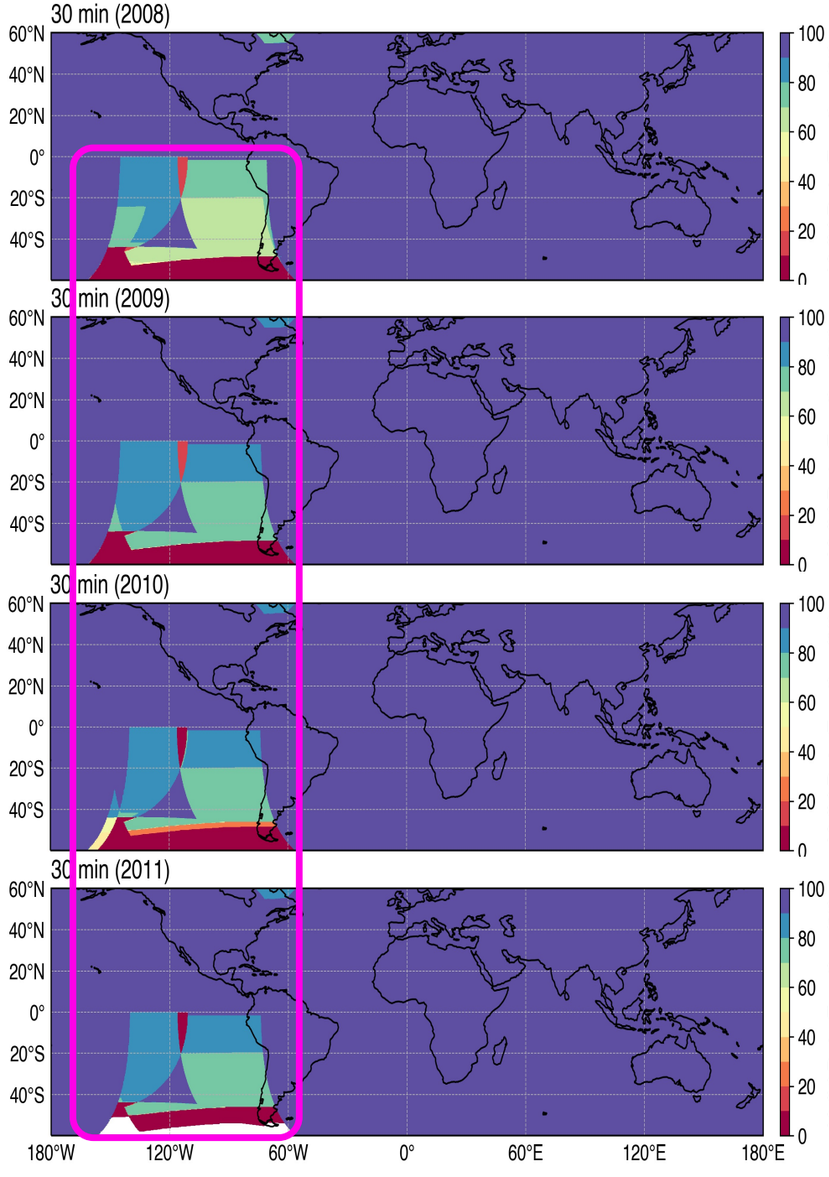
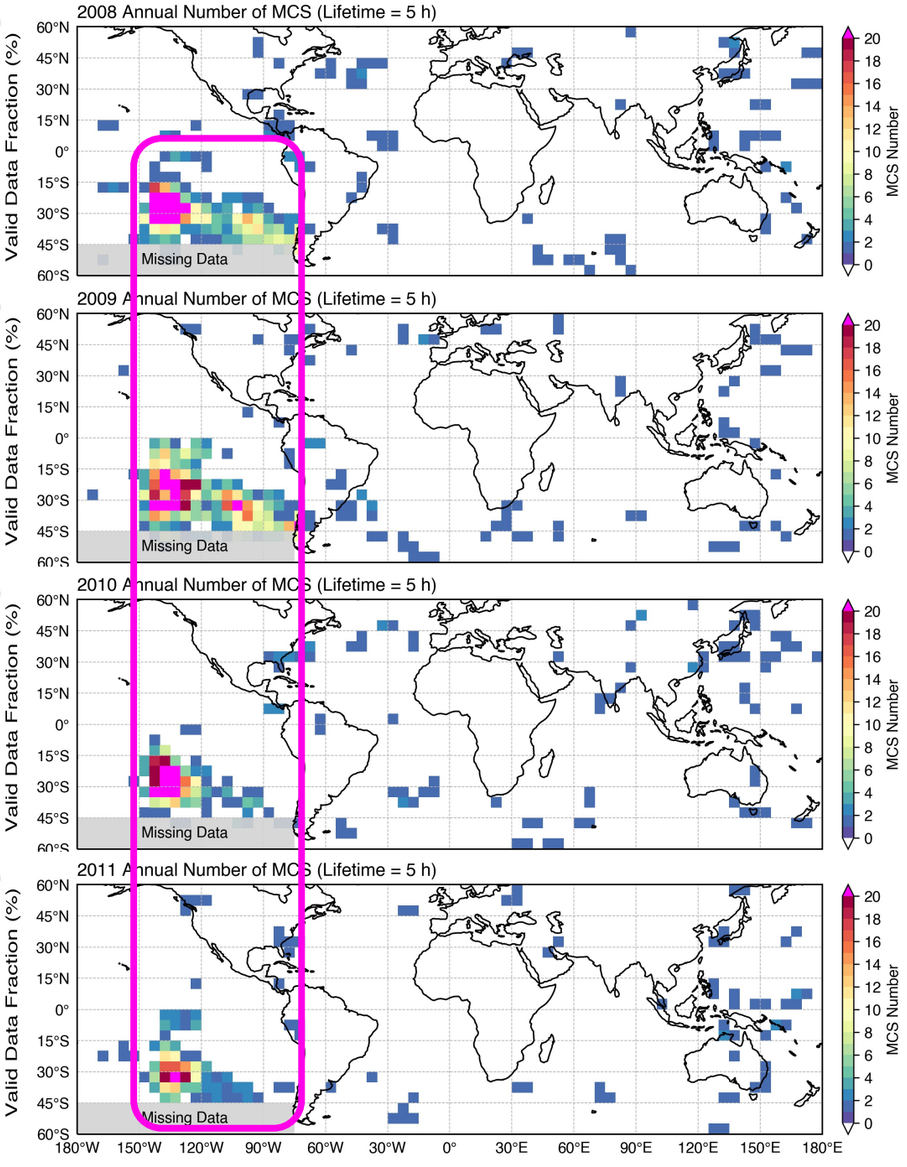
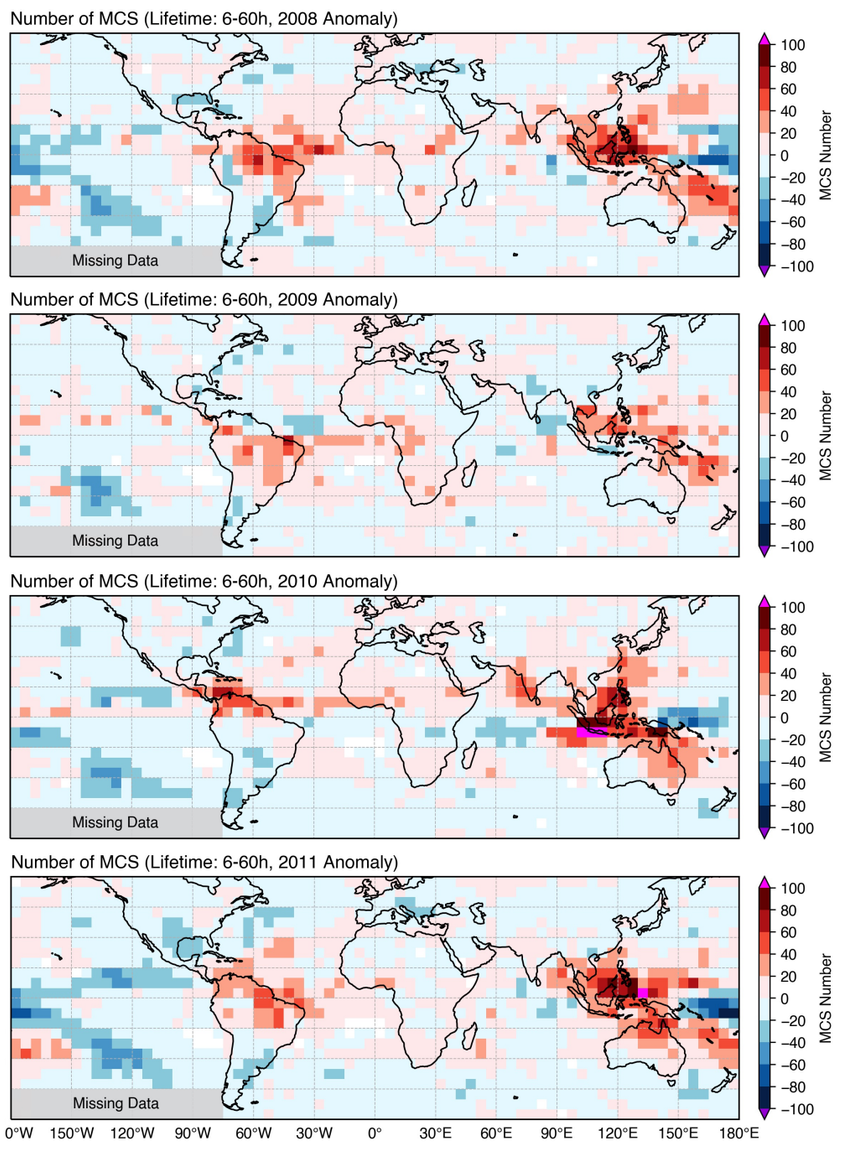
5-h MCS Number









MCS Number (2012-2015)

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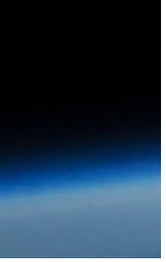
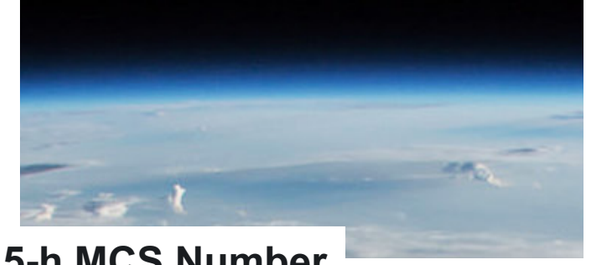
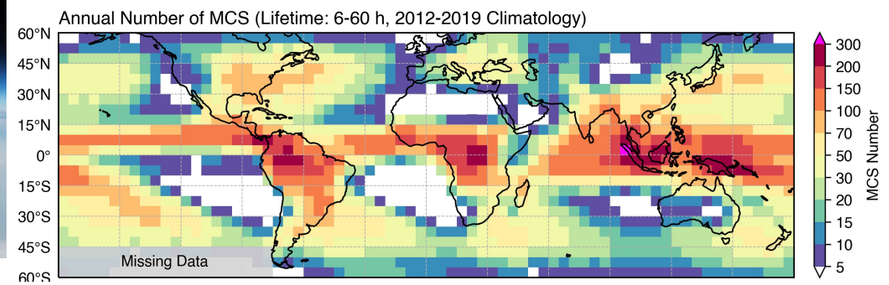
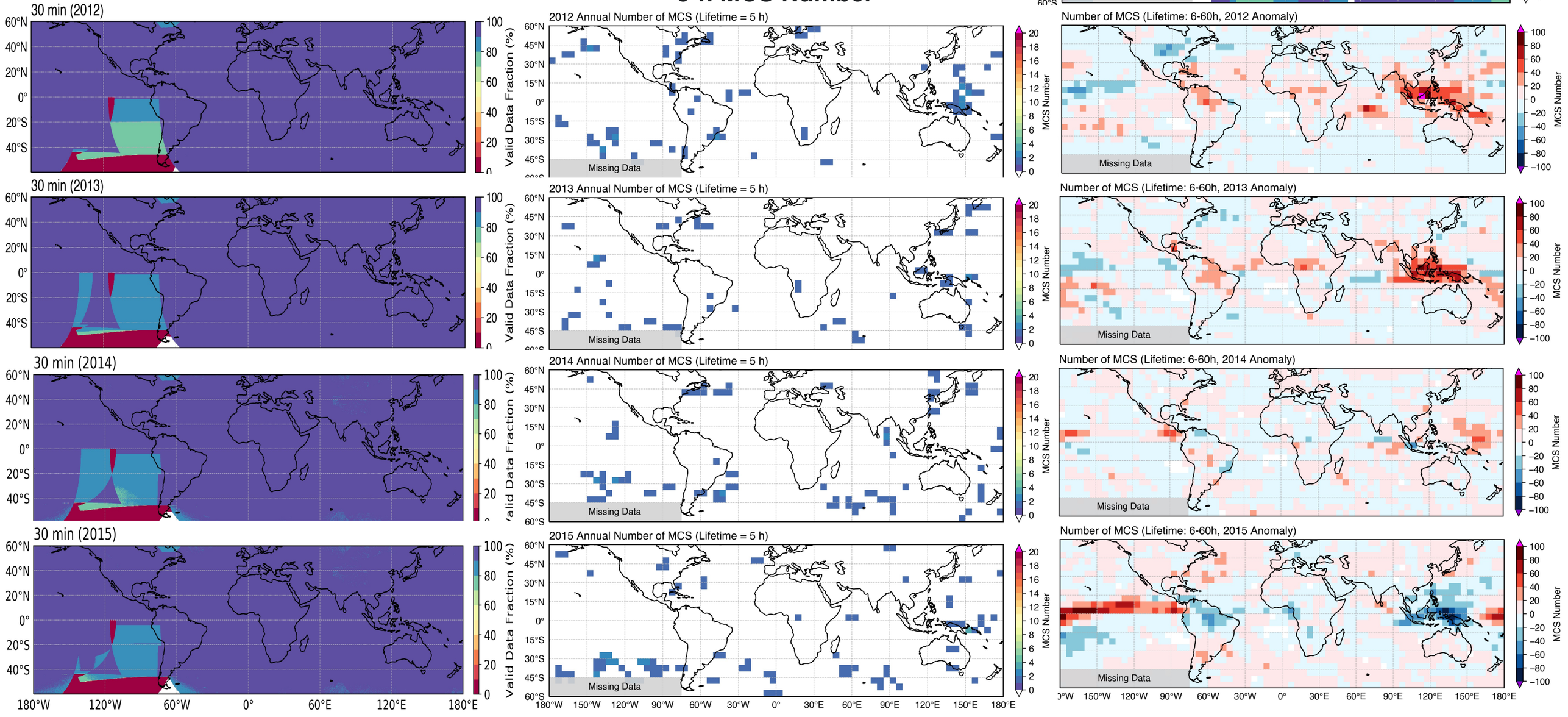
5-h MCS Number









MCS Number (2016-2019)

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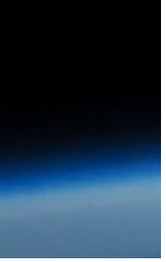
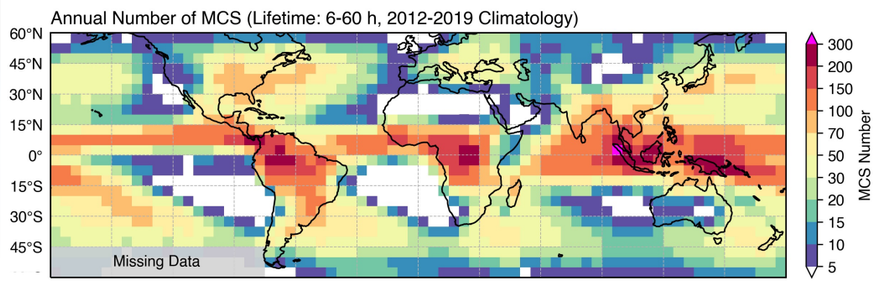
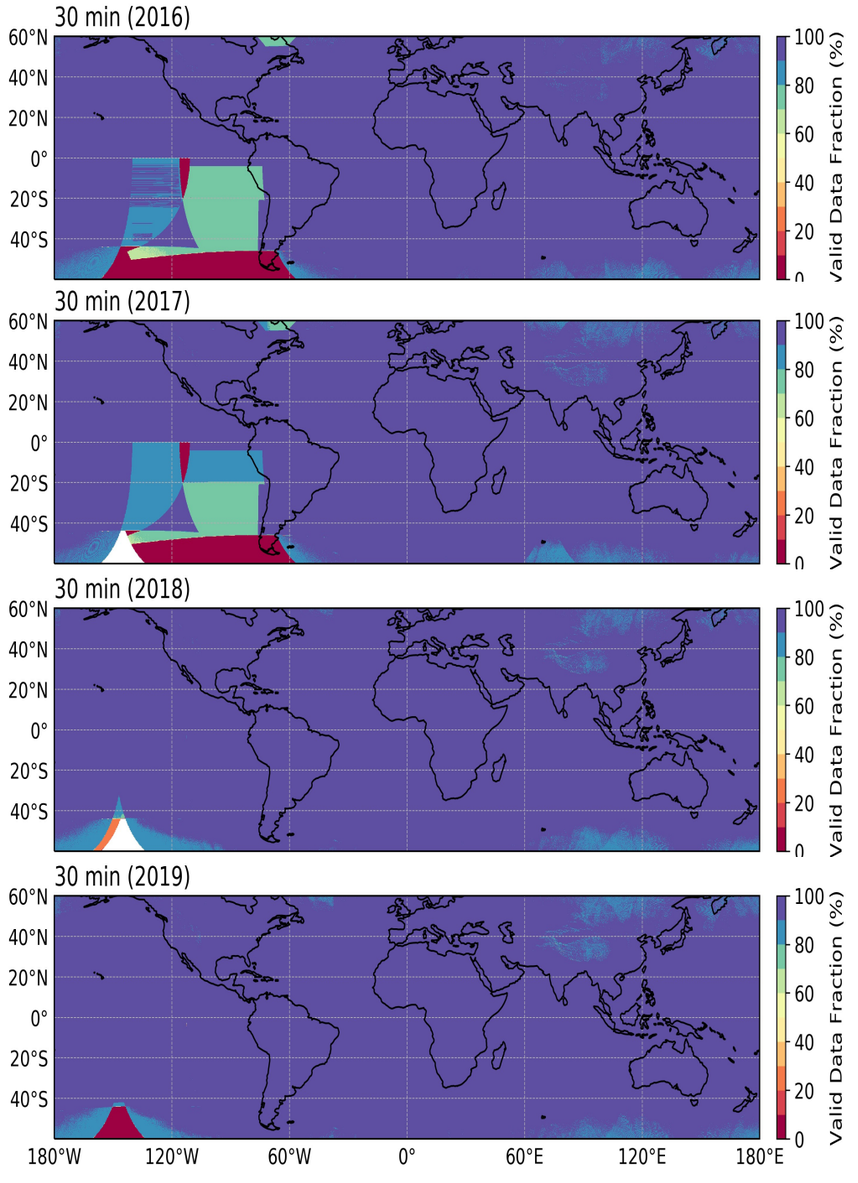
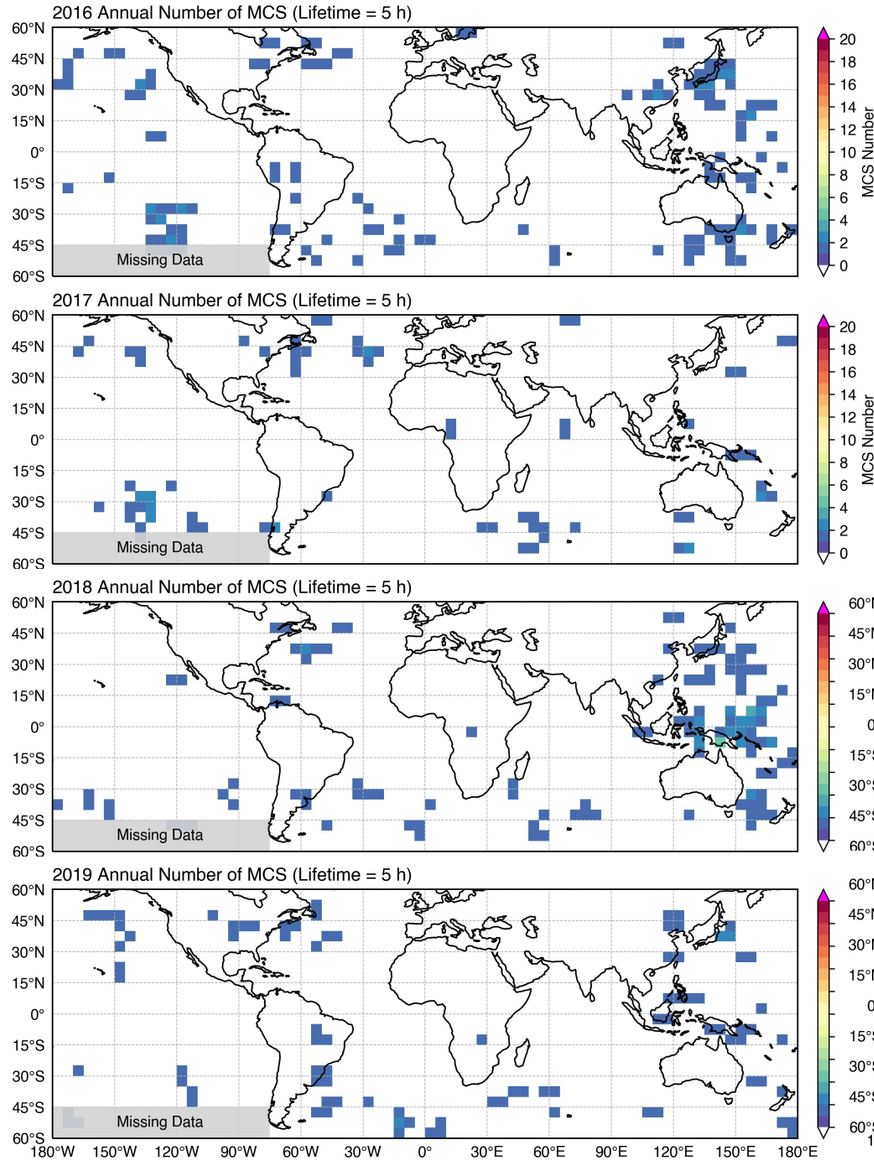
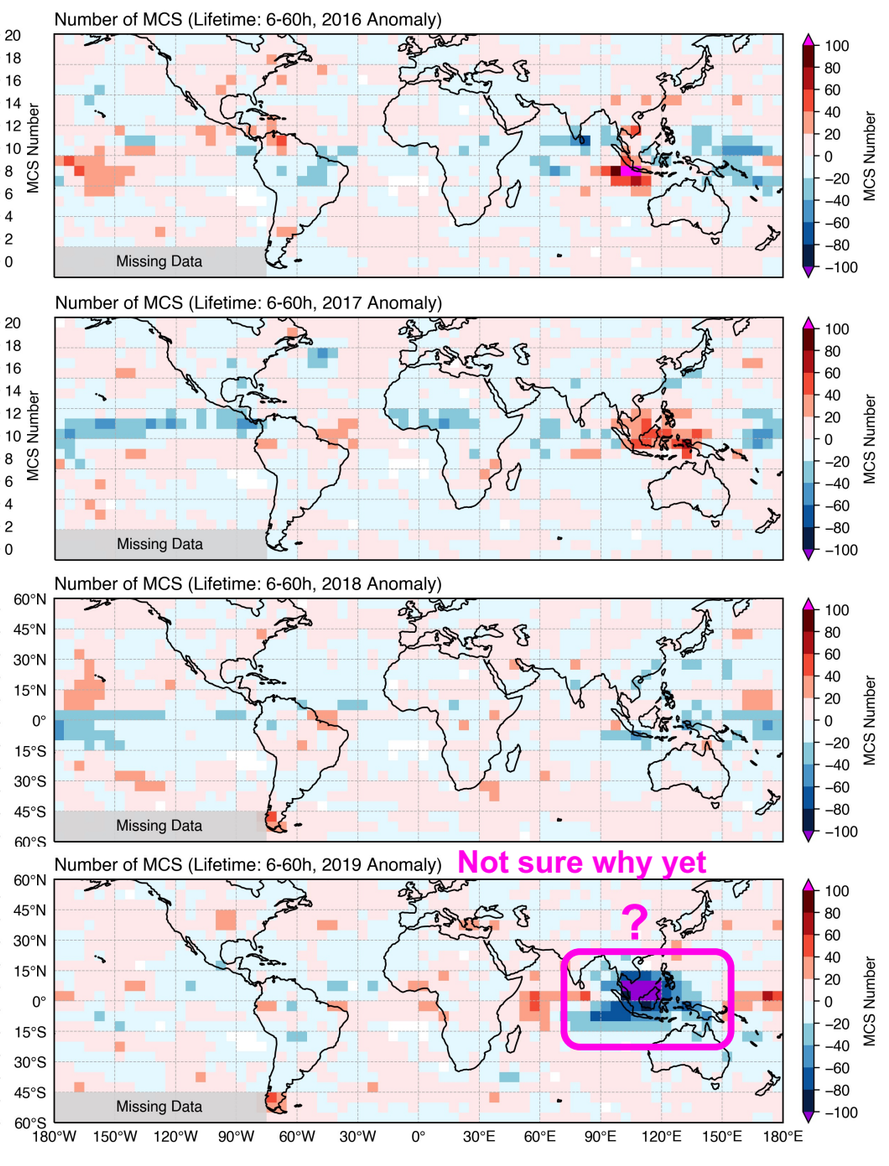
5-h MCS Number











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Monthly Anomaly

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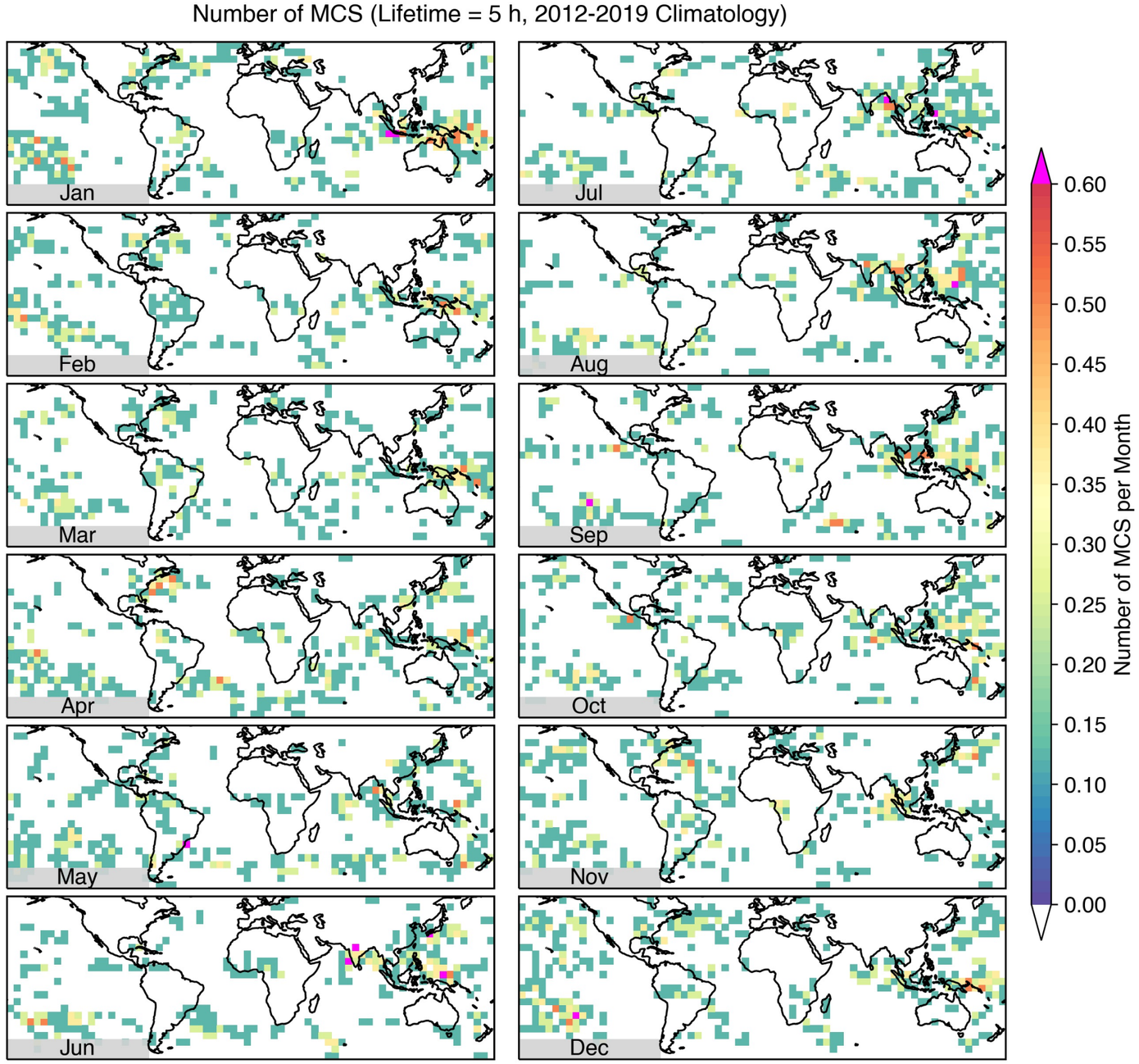

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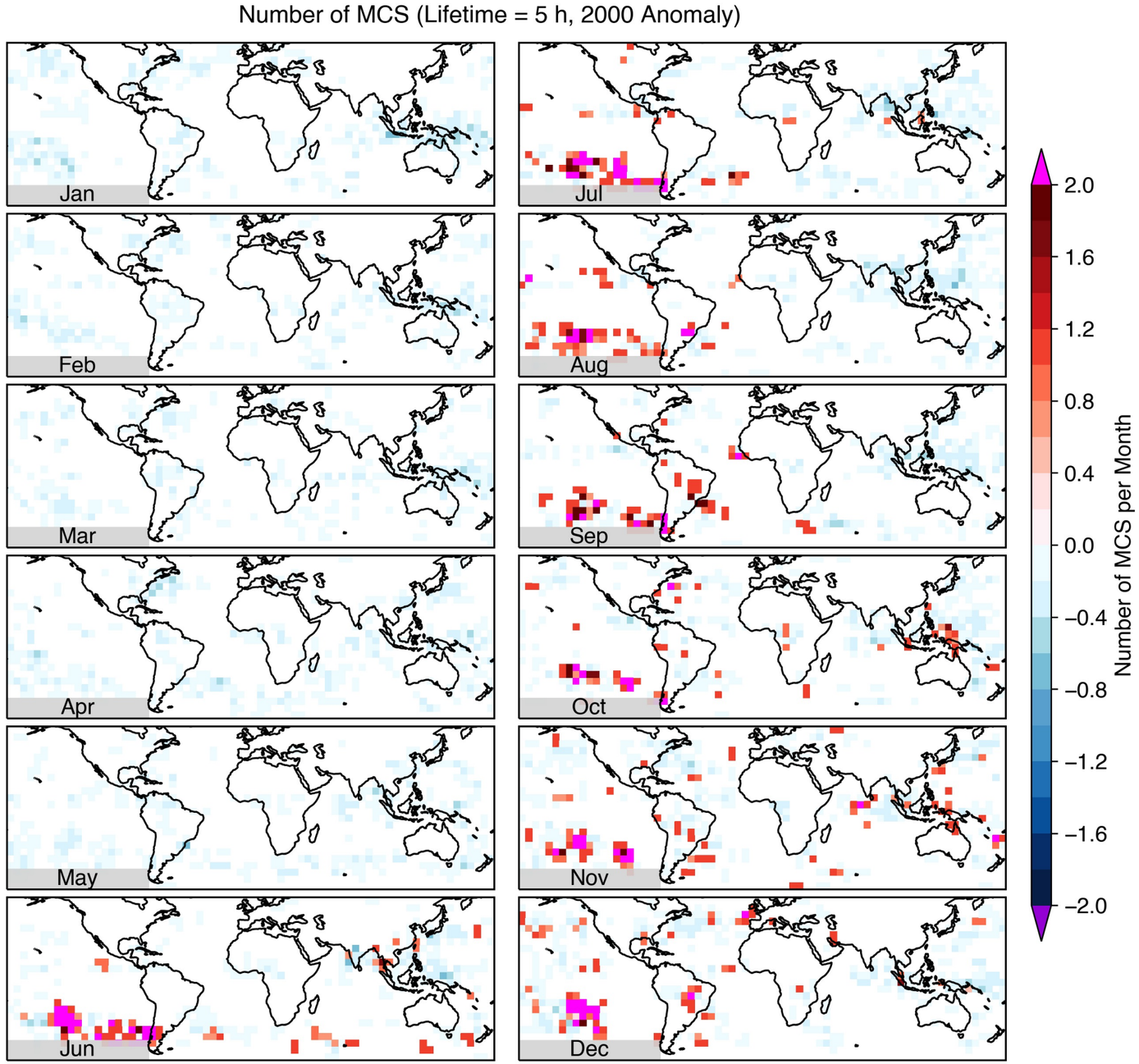

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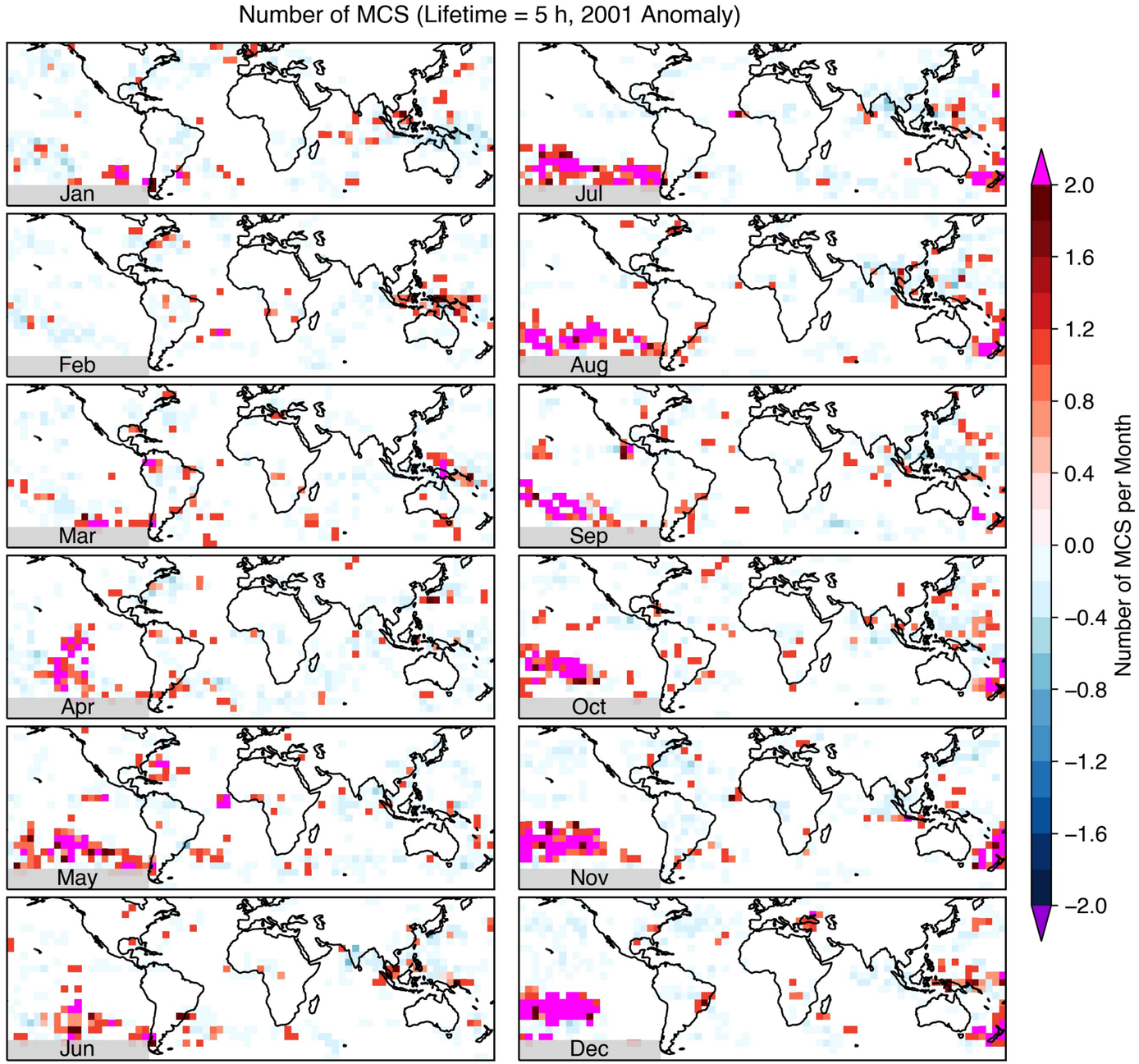

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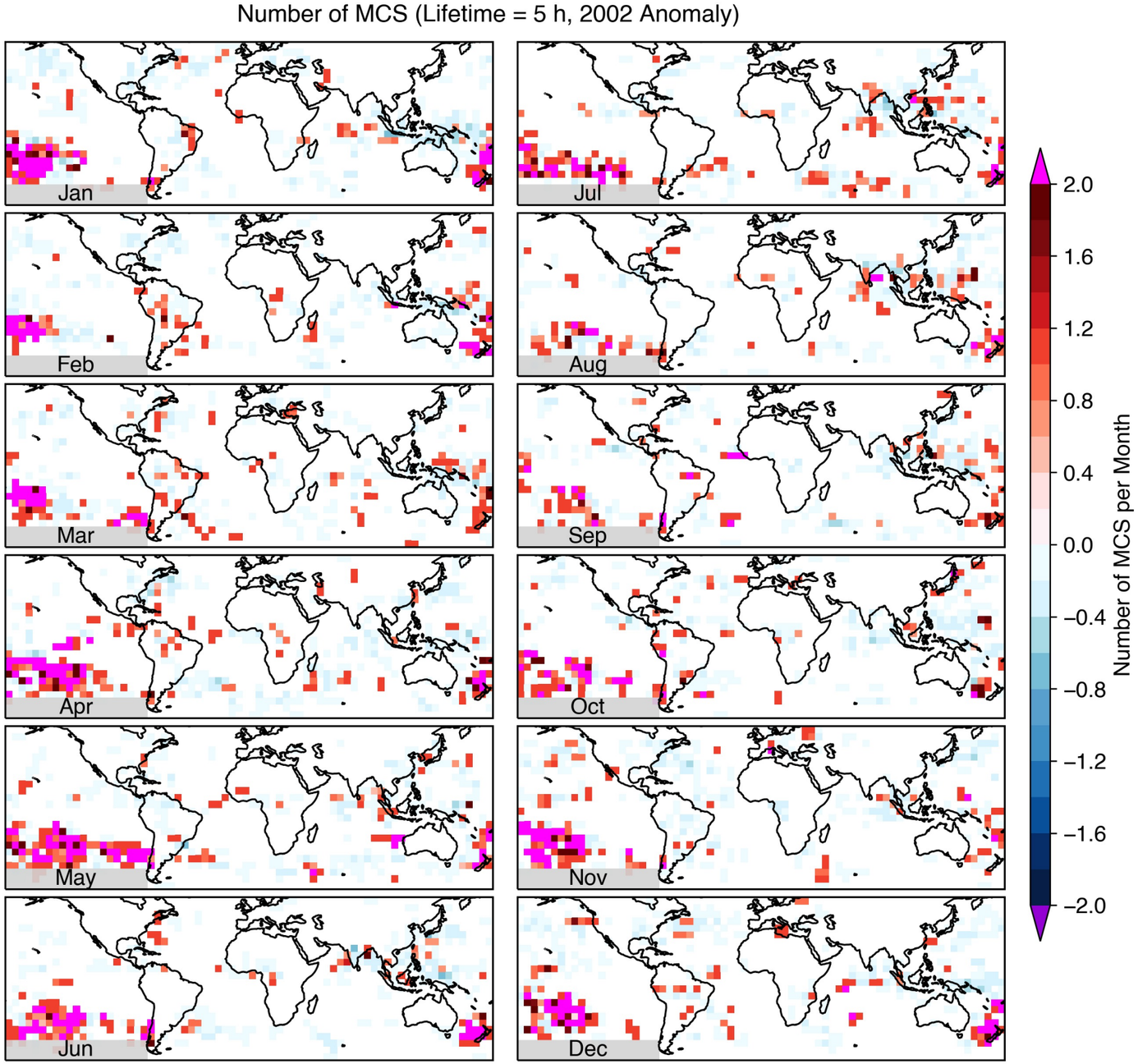

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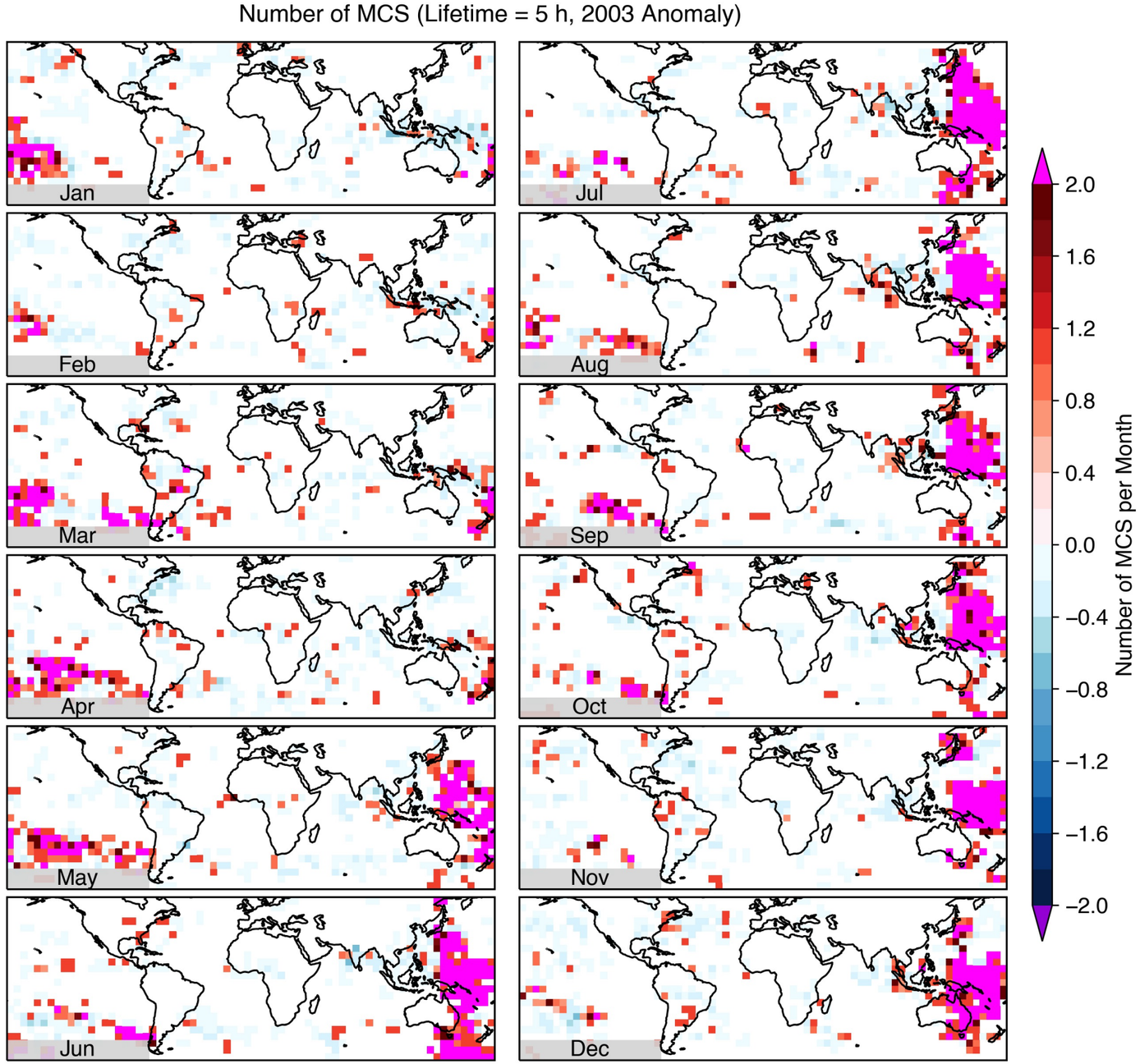

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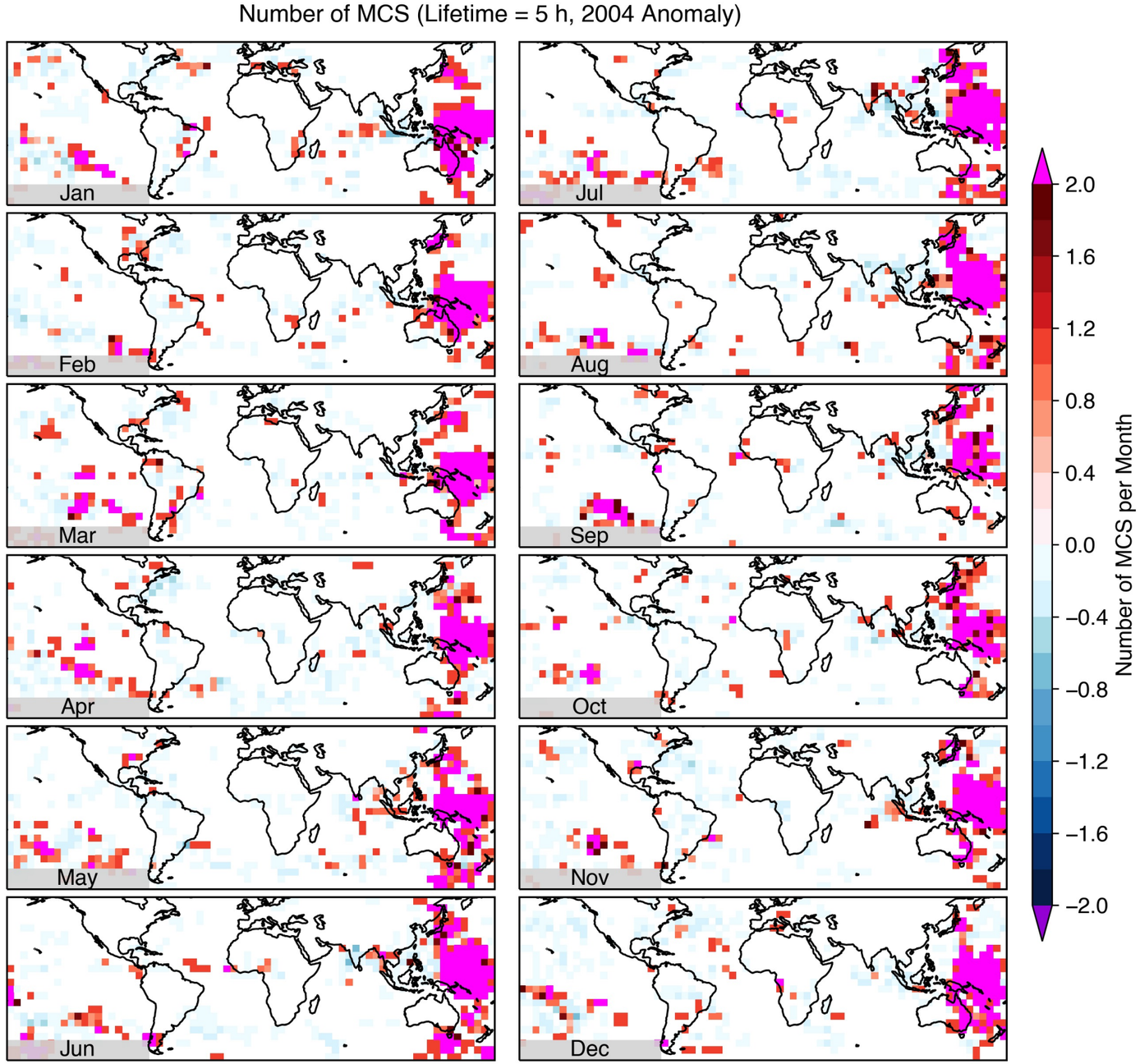

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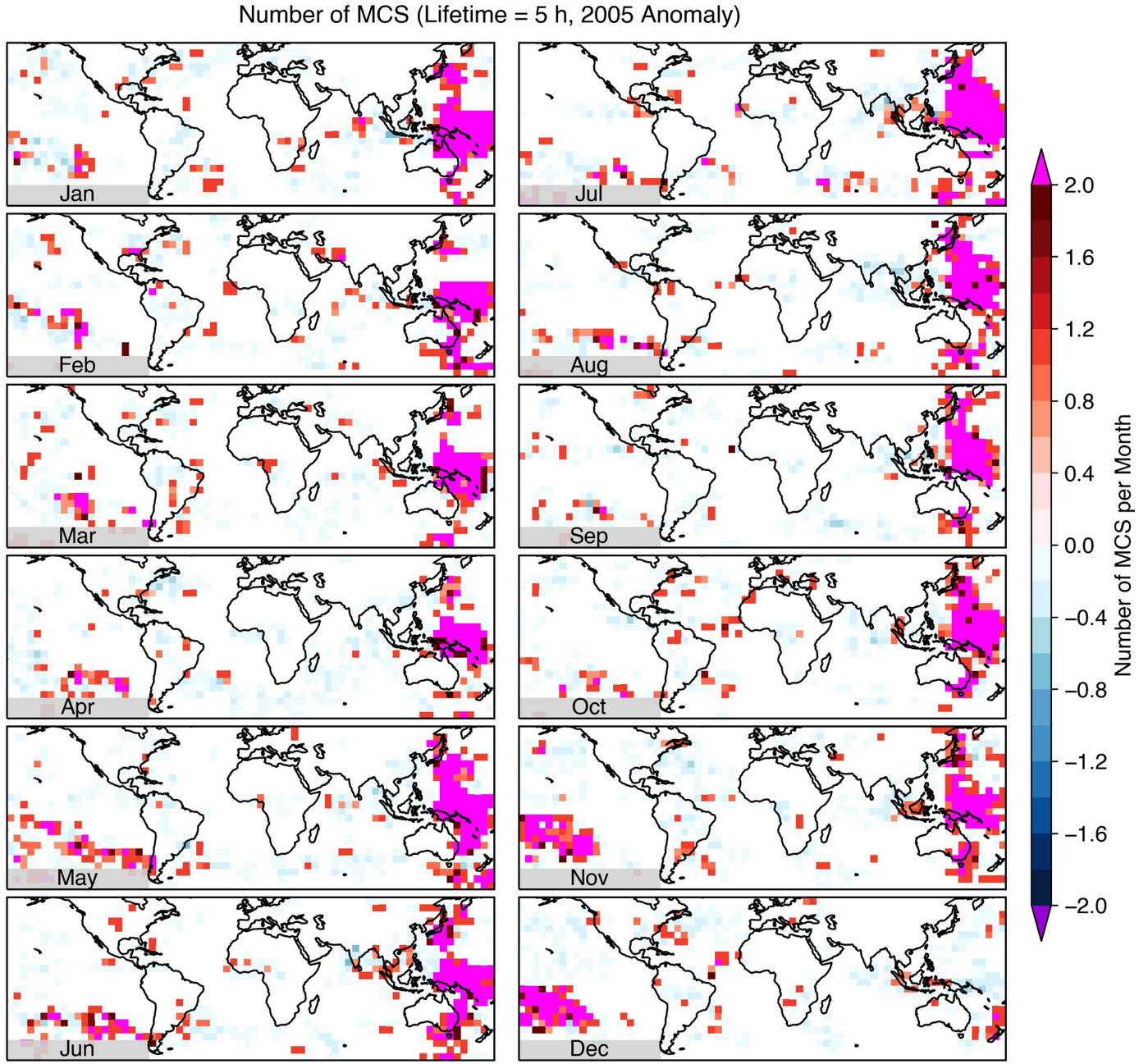

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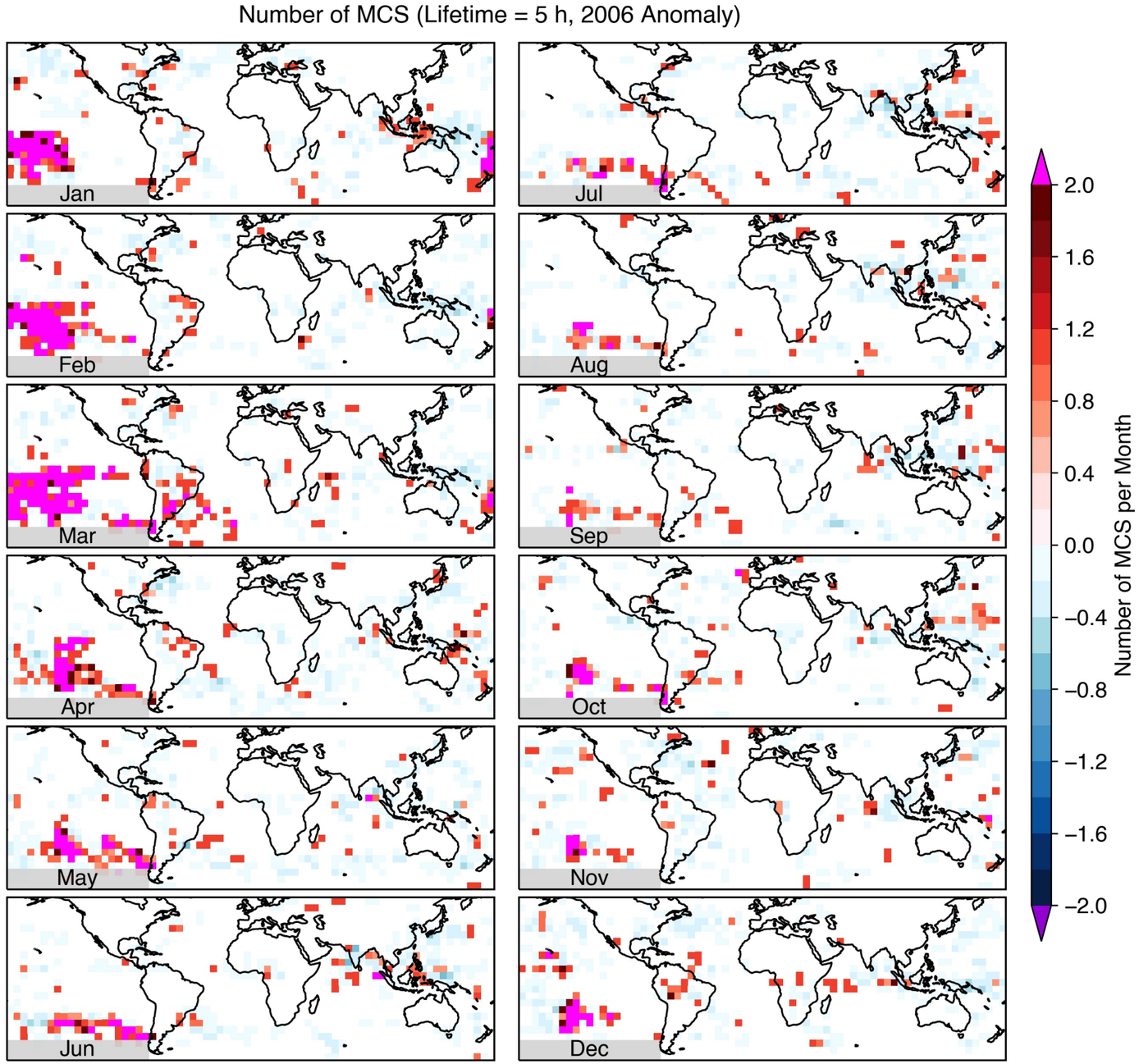

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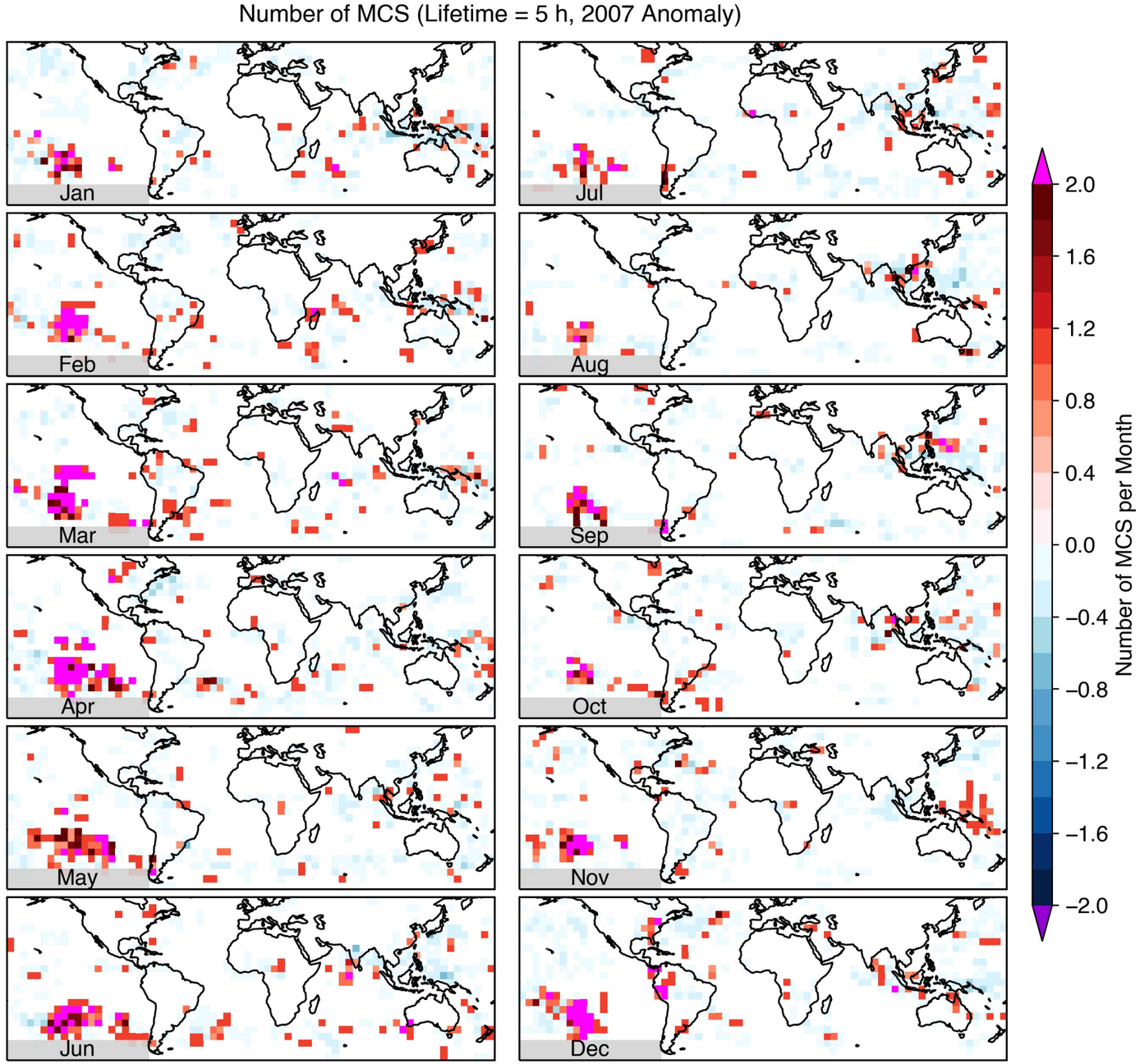

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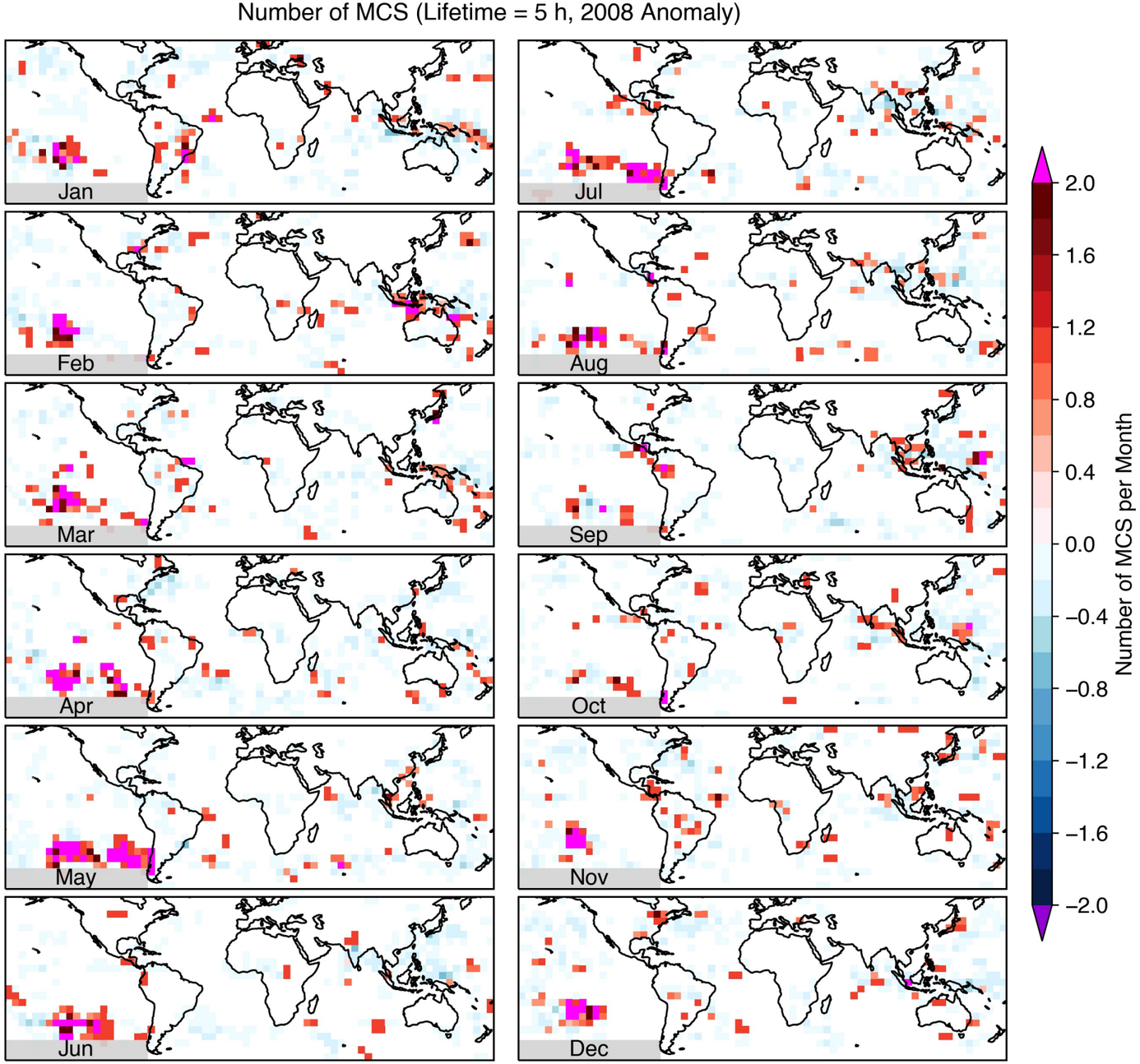

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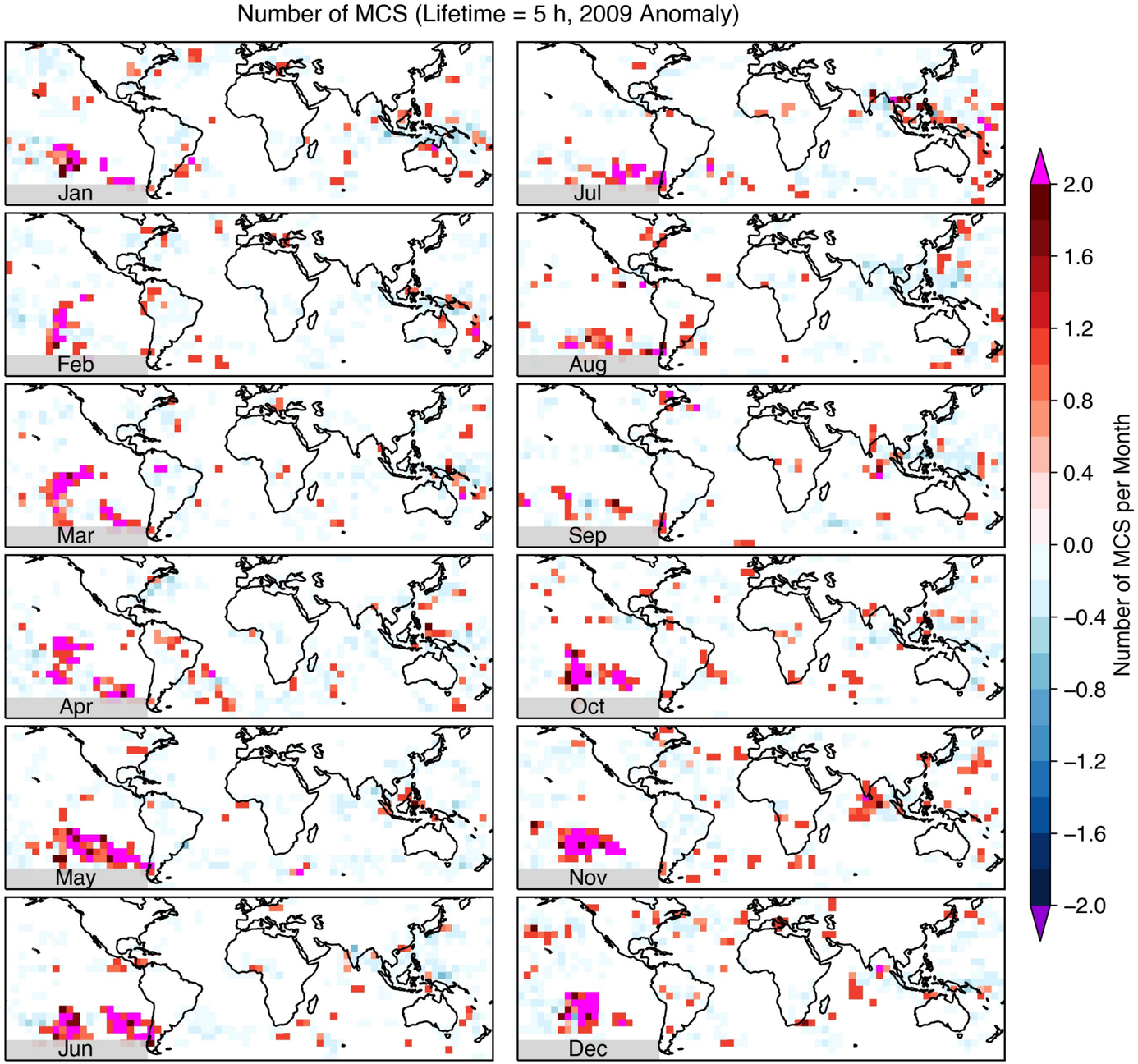

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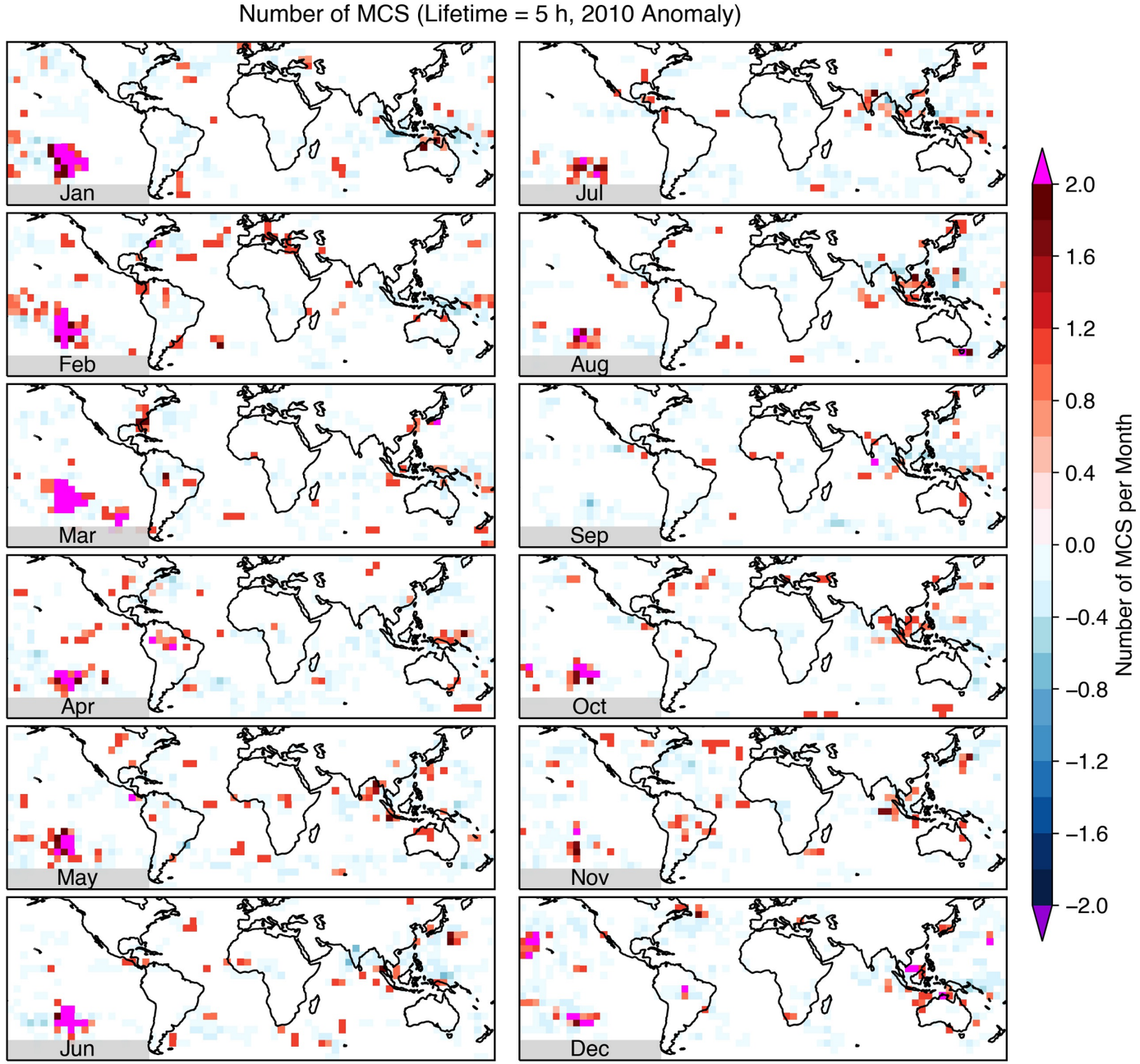

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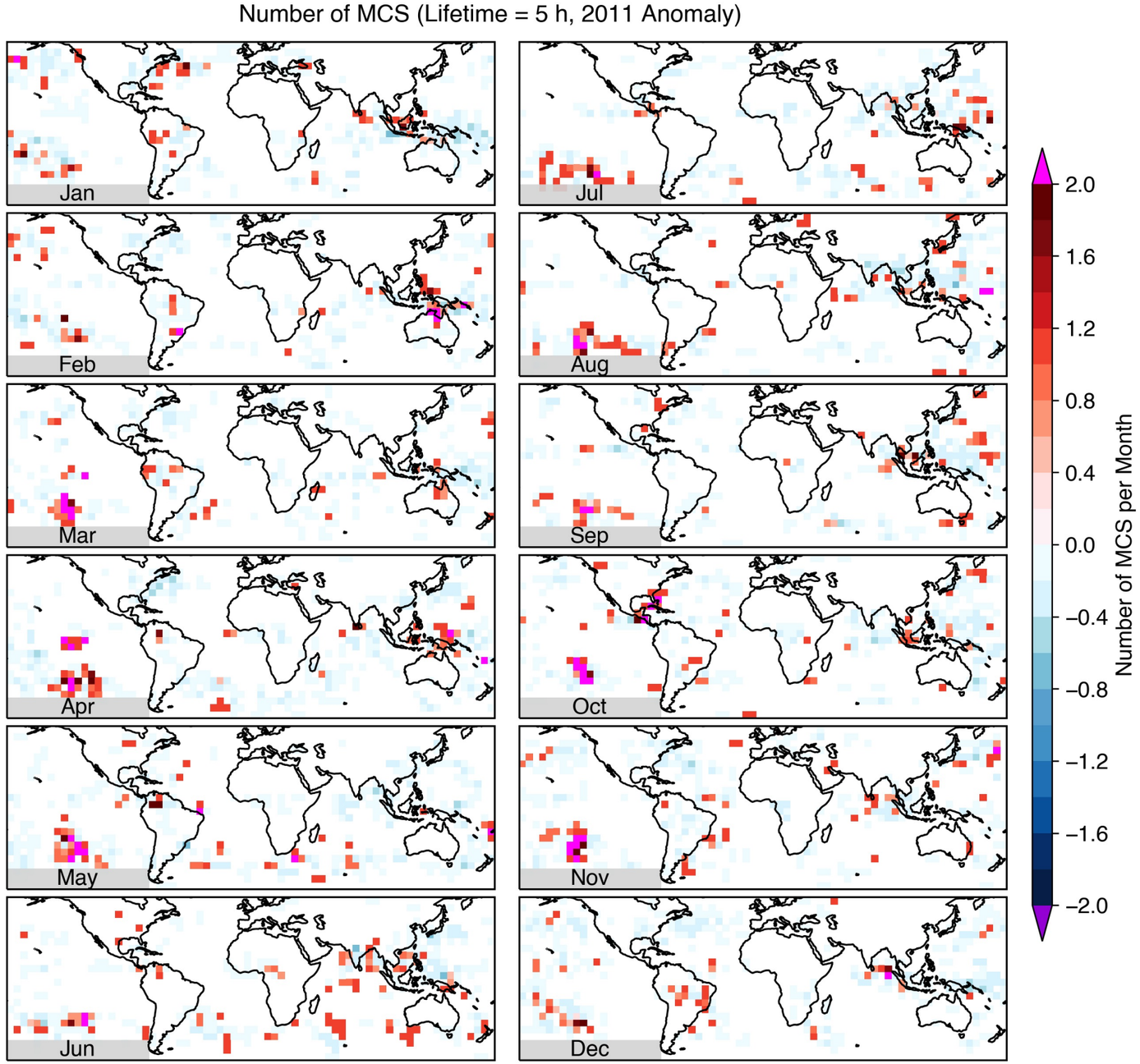

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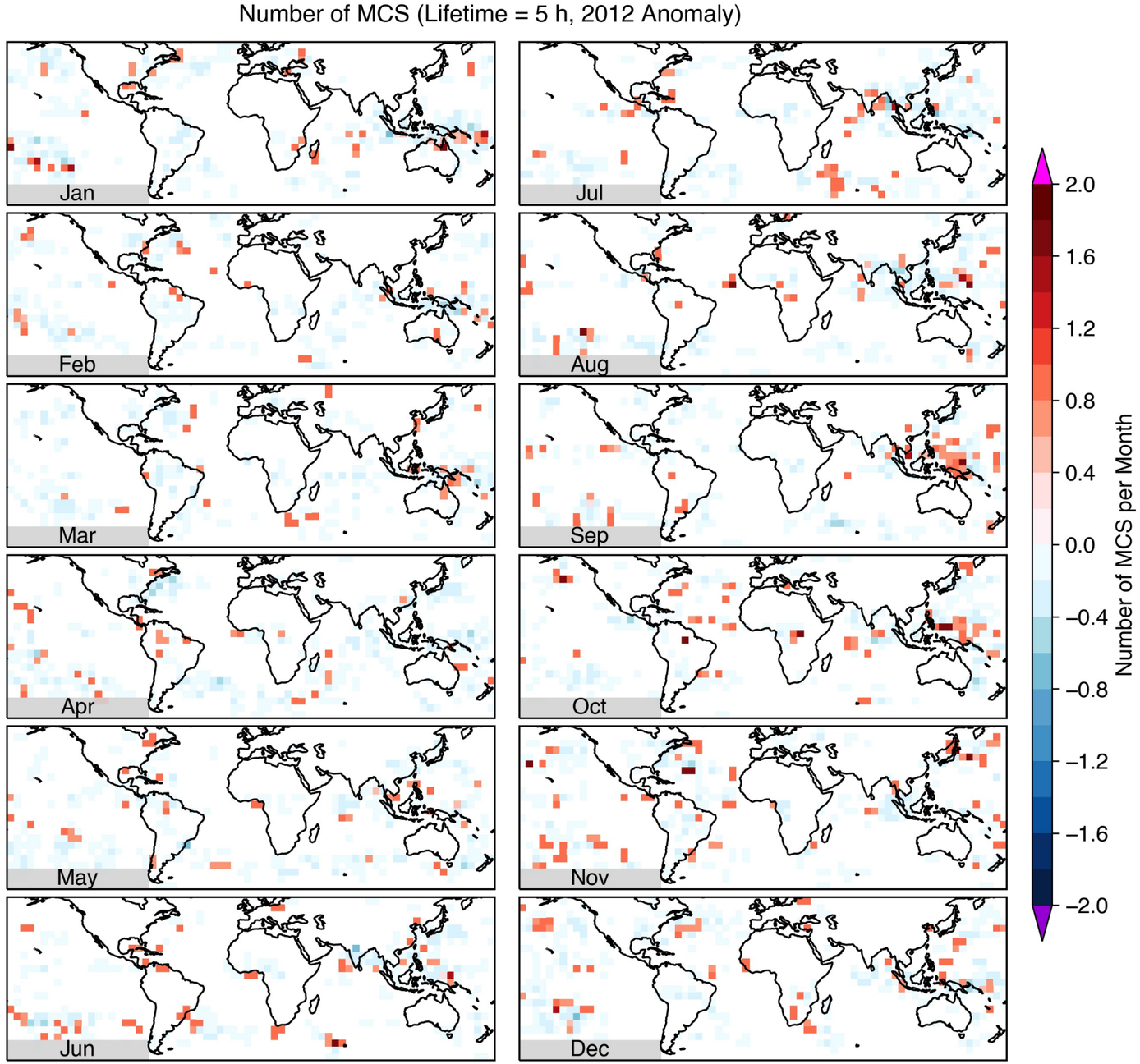

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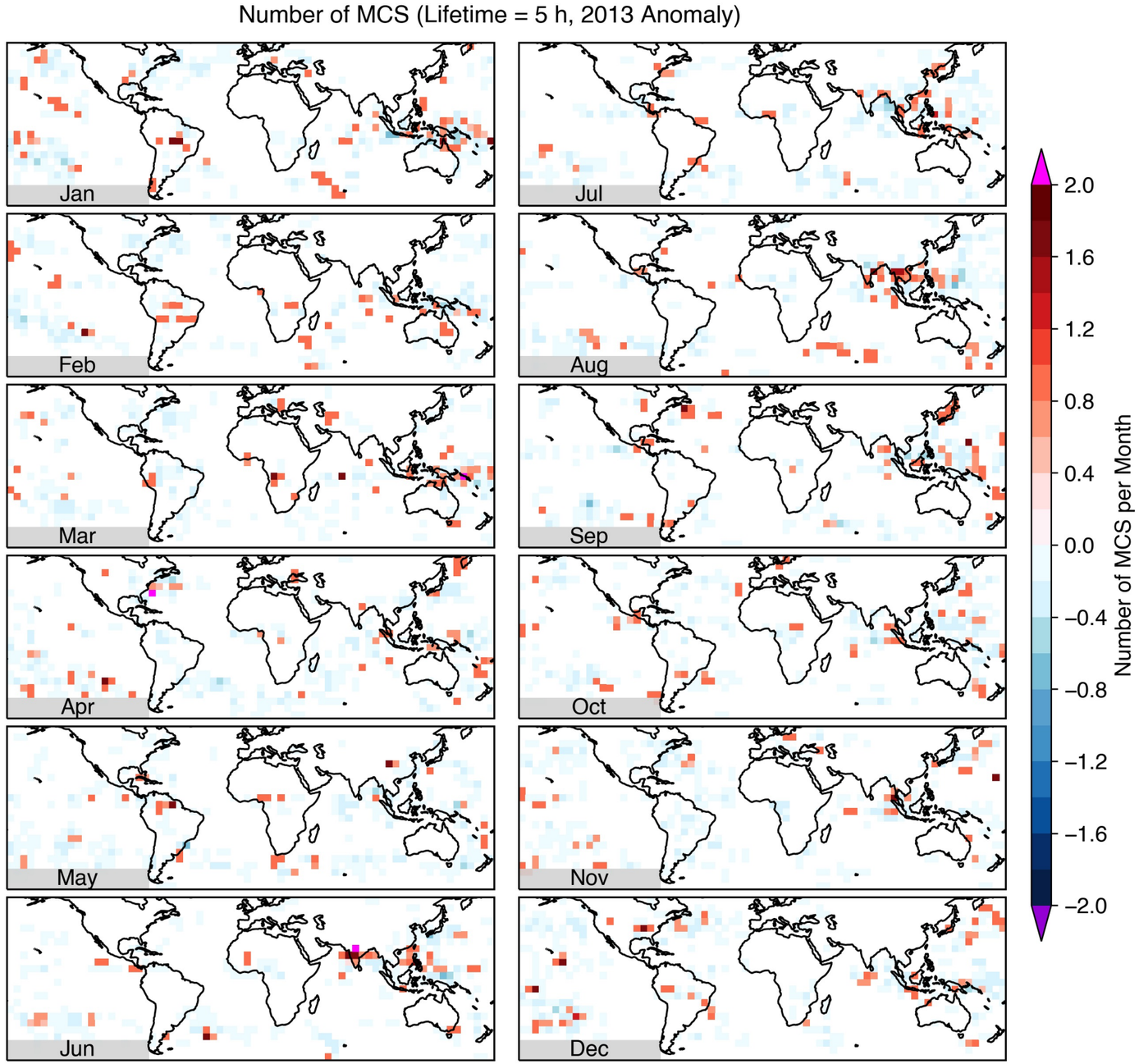

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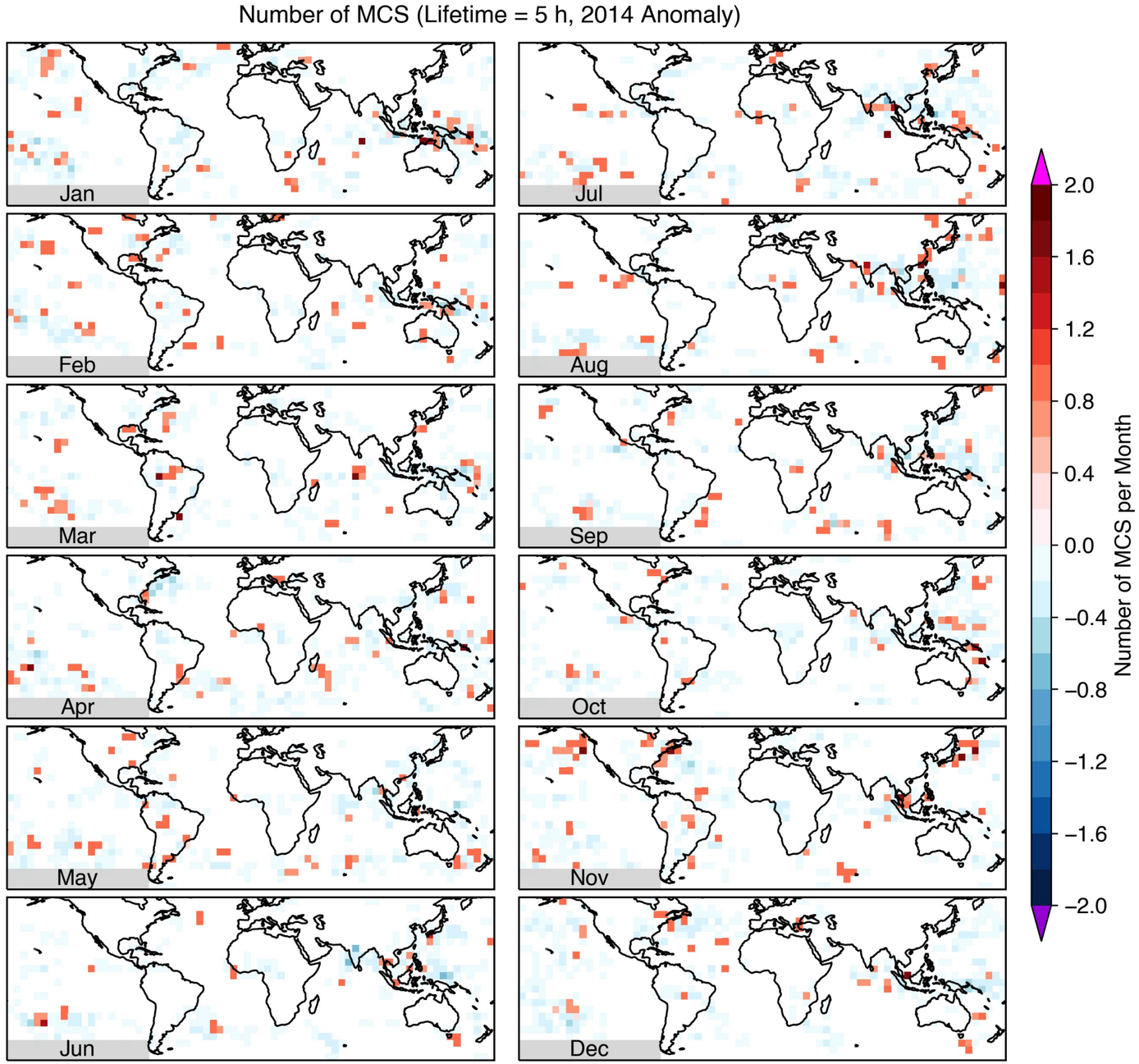

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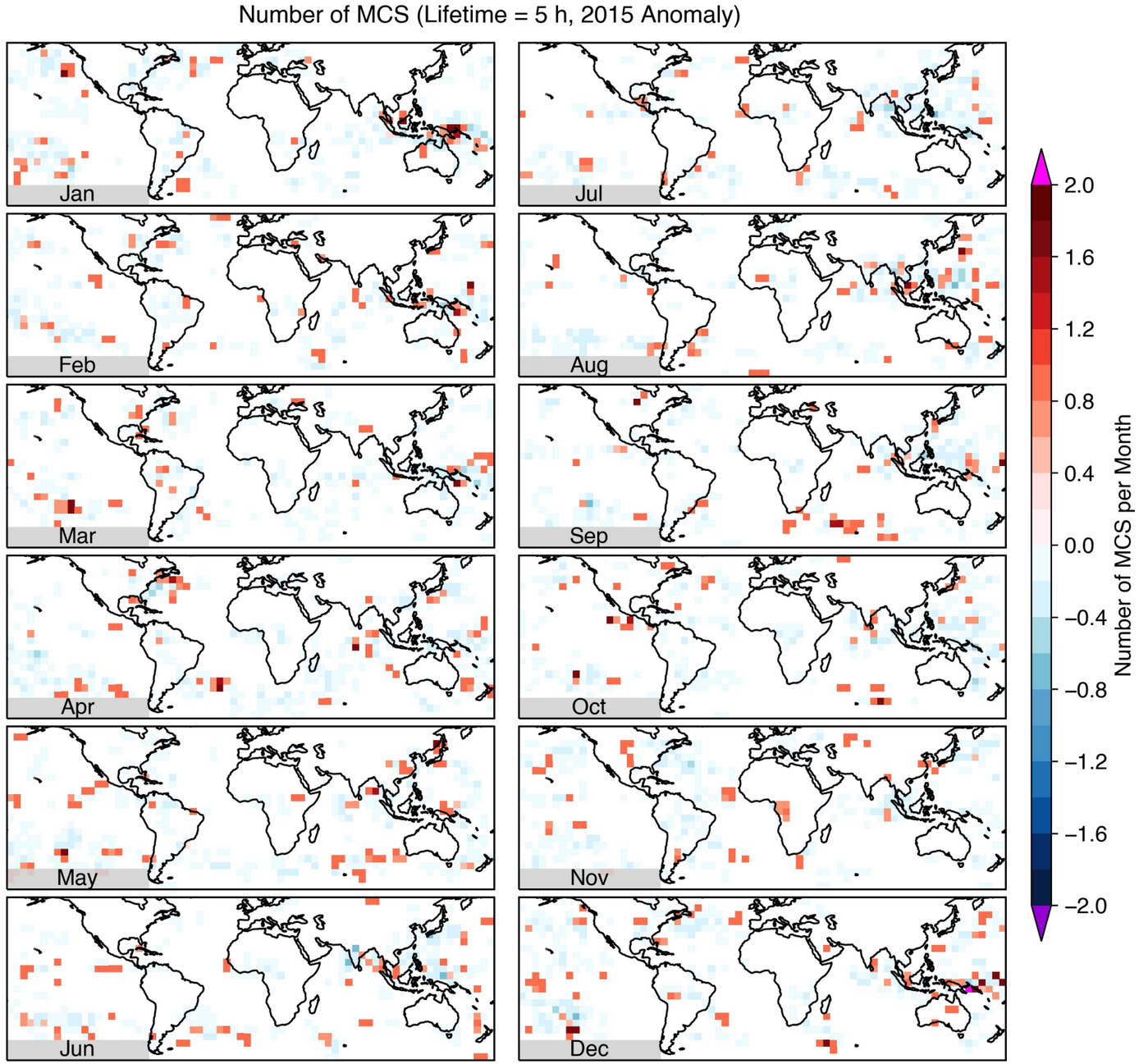

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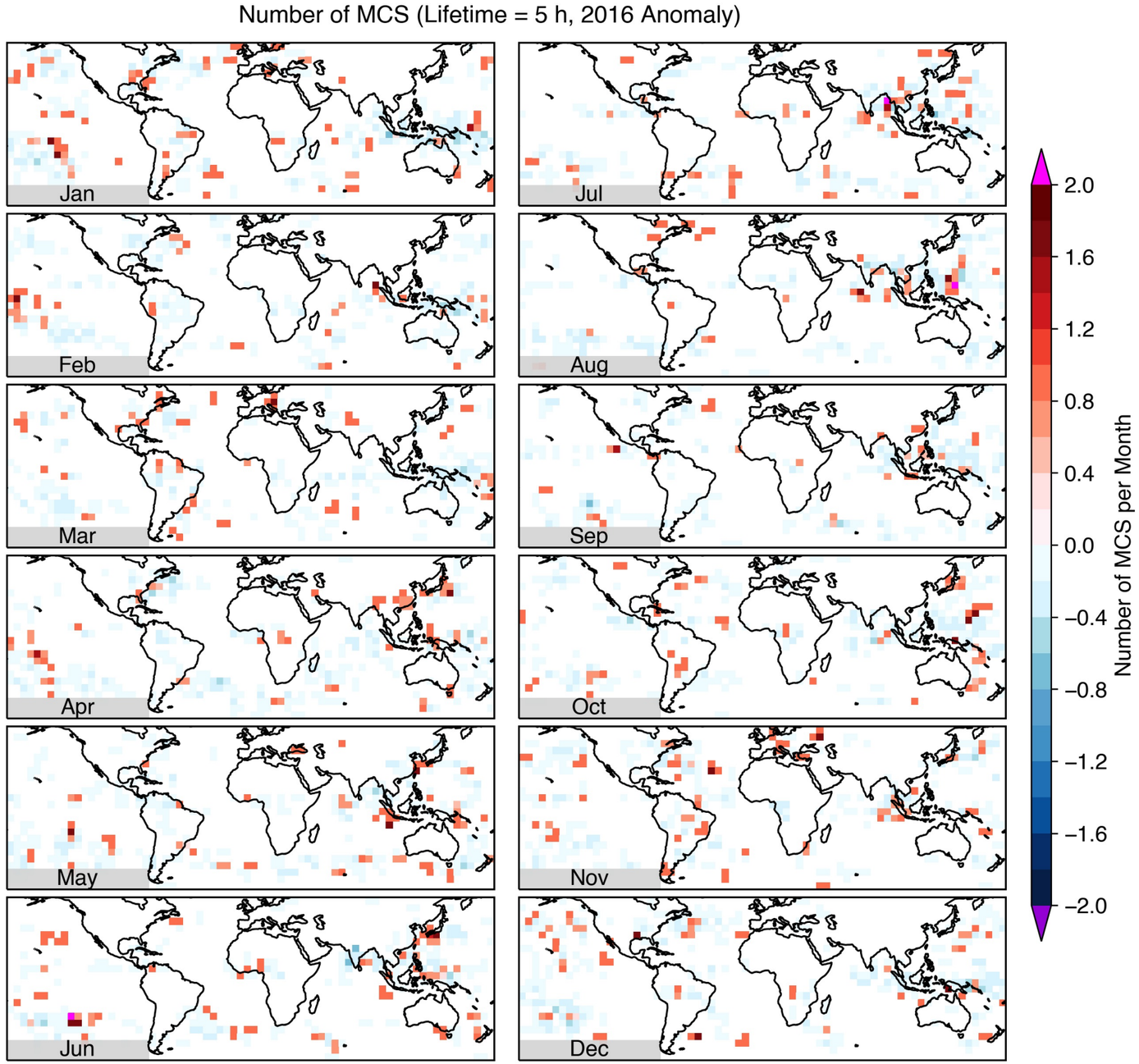

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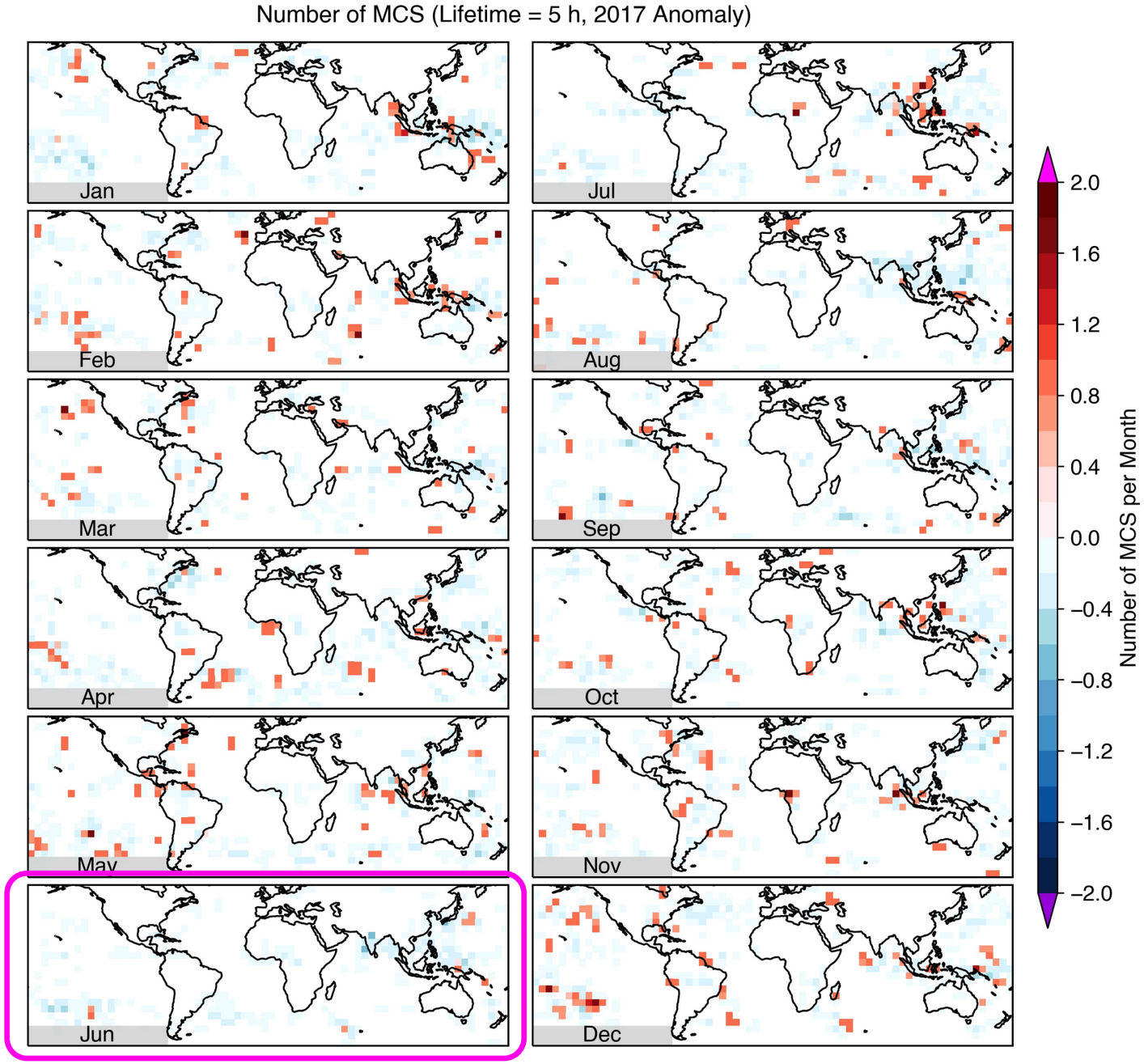

Global T_b data production were interrupted **June 11-30**, MCS data in this month should NOT be used

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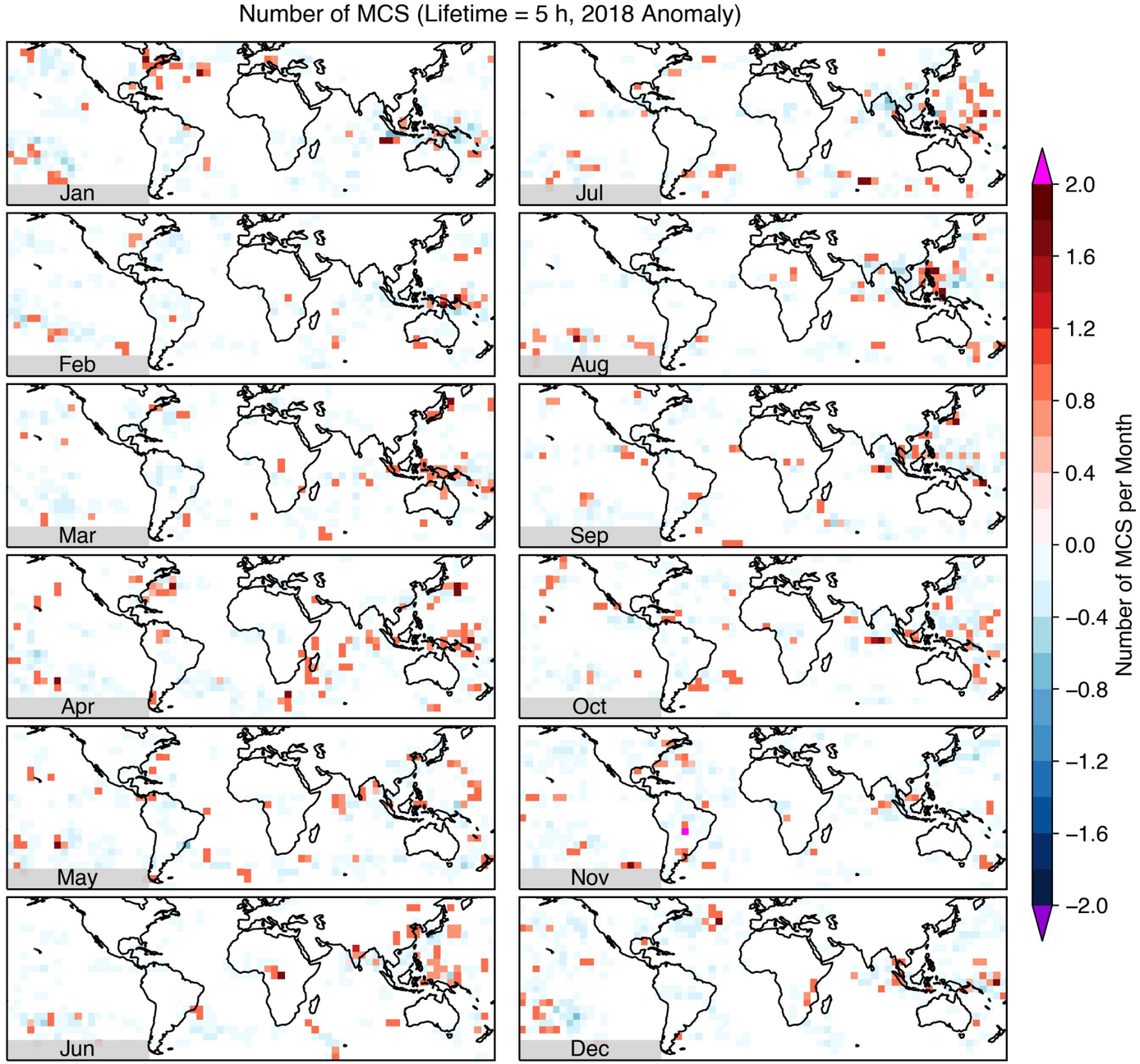

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