Interannual variability of the occurrence of MJO at different phases and its association with two ENSO modes

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## Supplementary Figures



**Supplementary Figure 1**. CP type and EP type ENSO seasons from 1979-2018. Each bar represents a three-month season (i.e., DJF, MAM, JJA, SON).

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**Supplementary Figure 2**. Mean and standard deviation of MJO frequency in DJF, MAM, JJA and SON.



**Supplementary Figure 3.** **(a)** Time evolution of EOF1 of MJO frequency from 1979-1989 to 1979-2018. **(b)** Time evolution of EOF2 of MJO frequency from 1979-1989 to 1979-2018. (c) Time evolution of percentage of variance explained by EOF1 and EOF2 from 1979-1989 to 1979-2018.

**Supplementary Table 1:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Positive CP ENSO**  | **Negative CP ENSO**  | **Positive EP ENSO**  | **Negative EP ENSO**  |
| 1980-MAM, 1987-DJF, 1990-SON, 1990-DJF, 1991-MAM, 1991-SON,1994-JJA, 1994-SON, 1994-DJF, 1997-MAM, 2002-MAM, 2002-JJA,2002-SON, 2002-DJF, 2003-MAM, 2004-JJA, 2004-SON, 2004-DJF,2005-MAM, 2006-SON, 2006-DJF, 2009-SON, 2009-DJF, 2010-MAM,2014-MAM, 2014-DJF, 2015-MAM, 2016-MAM, 2018-SON | 1983-SON, 1984-MAM, 1985-MAM, 1988-SON, 1988-DJF, 1989-MAM,1989-JJA, 1998-JJA, 1998-SON, 1998-DJF, 1999-MAM, 1999-JJA,1999-DJF, 2000-MAM, 2000-DJF, 2007-DJF, 2008-MAM, 2008-SON,2008-DJF, 2010-SON, 2010-DJF, 2011-DJF, 2012-MAM | 1982-SON, 1982-DJF, 1983-MAM, 1983-JJA, 1986-DJF, 1987-MAM,1987-JJA, 1987-SON, 1991-DJF, 1992-MAM, 1993-MAM, 1997-JJA,1997-SON, 1997-DJF, 1998-MAM, 2008-JJA, 2012-JJA, 2015-JJA,2015-SON, 2015-DJF | 1988-JJA, 1995-MAM, 1995-JJA, 1995-SON, 1996-DJF, 1999-SON,2001-SON, 2001-DJF, 2007-MAM, 2007-JJA, 2007-SON, 2013-JJA,2017-SON, 2017-DJF |