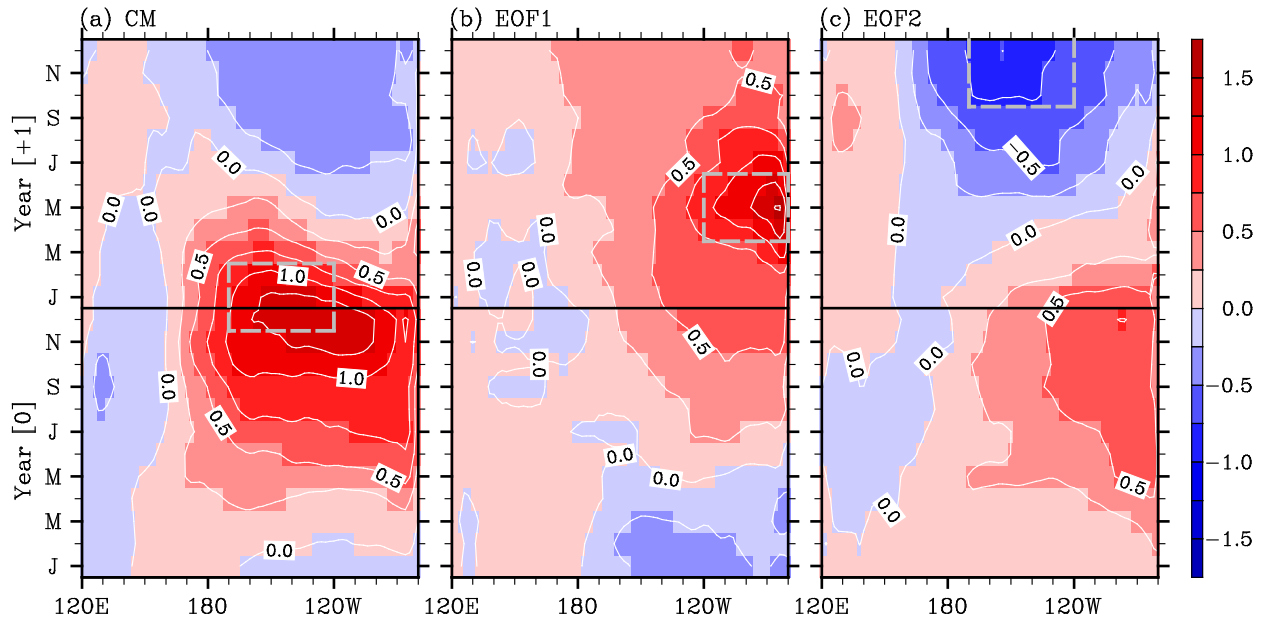


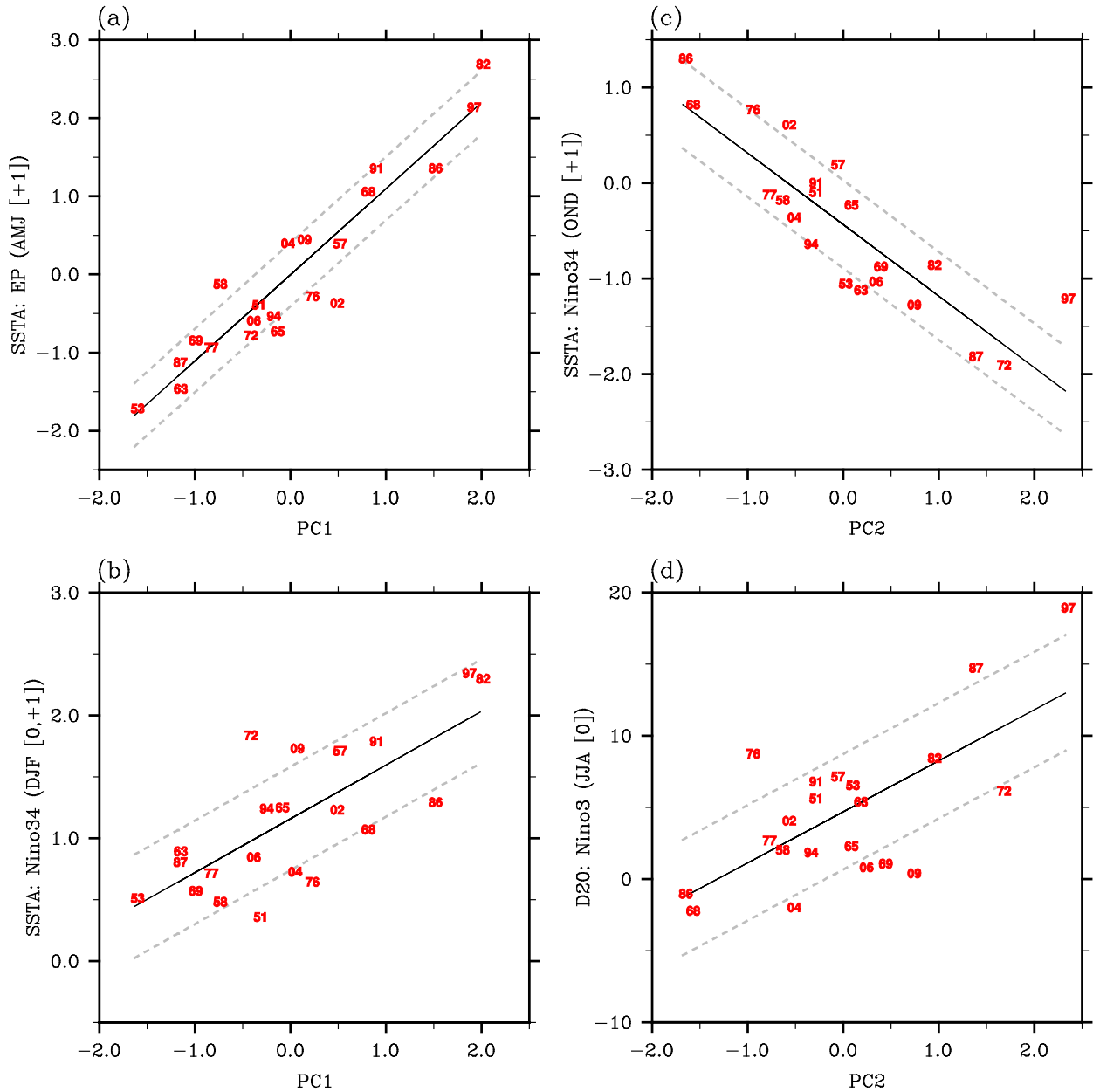
Two Leading Modes of Inter-El Niño Variability



1
2 **Figure 1.** Time-longitude plots of (a) CM and (b and c) the two leading inter-event EOFs of the
3 tropical Pacific SSTAs averaged between 5°S and 5°N, for 21 El Niños during 1949–2013. Units
4 are in °C. The dashed gray boxes indicate (a) Niño 3.4 in DJF (0,+1); (b) far eastern tropical
5 Pacific (120°W–80°W and 5°S–5°N) in AMJ (+1); (c) Niño 3.4 in OND (+1).

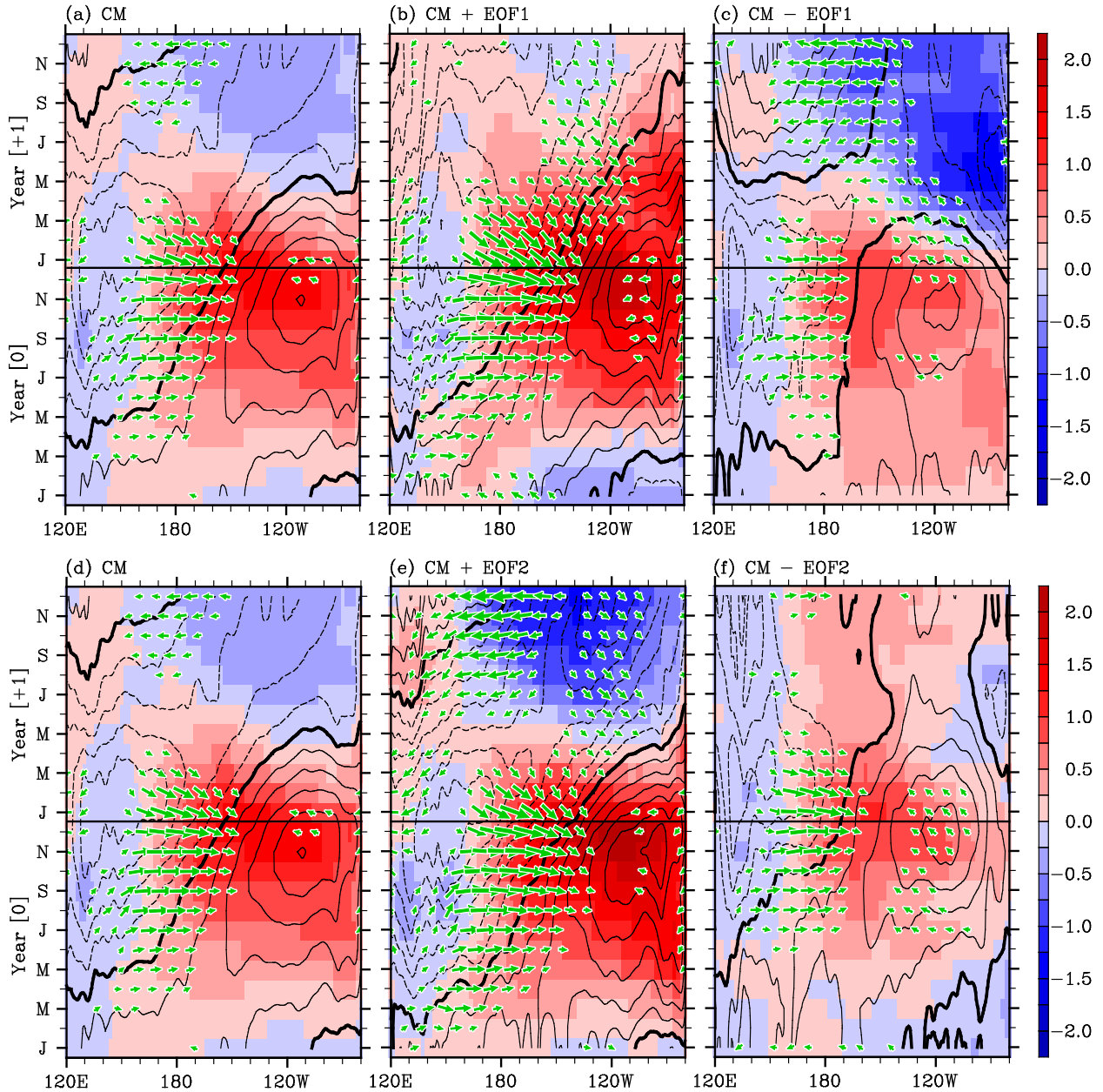
6
7
8
9
10
11
12
13
14

Two Leading Modes and ENSO Indices

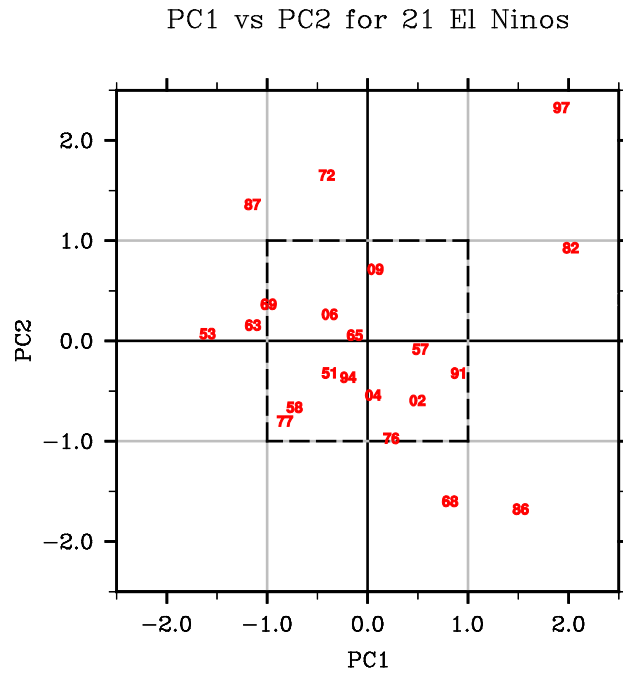


1
 2 **Figure 2.** Scatterplot of (a) SSTAs in Niño 3 (AMJ [+1]) versus PC1, (b) SSTAs in Niño 3.4
 3 (DJF [0,+1]) versus PC1, (c) SSTAs in Niño 3.4 (OND [+1]) versus PC2, and (d) D20 anomalies
 4 in the far eastern tropical Pacific (JJA [0]) versus PC2. The two digit numbers indicate the El
 5 Niño onset years. For each plot, the black solid line is the linear regression, whereas the two
 6 dashed gray lines show the standard error of the linear regression.

SST, D20 and Wind Stress Linked to Two Leading Modes



1
 2 **Figure 3.** Time-longitude plots of the equatorial Pacific SST (color shade), D20 (contour) and
 3 wind stress (vector) anomalies averaged between 5°S and 5°N, for (a, d) CM, (b) CM+EOF1, (c)
 4 CM-EOF1, (e) CM+EOF2, and (f) CM-EOF2 of the 21 El Niños during 1949–2013. The units
 5 are °C for SST, m for D20 and dyne cm^{-2} for wind stress. The contour interval for D20 is 3.0m.
 6 The longest wind stress vector corresponds to $0.34 \text{ dyne cm}^{-2}$.



1

2 **Figure 4.** Normalized PC1 versus PC2 for all 21 El Niño events. The two digit numbers indicate
 3 the El Niño onset years.

4

5

6

7

8

9

10

11

12

13

14

15