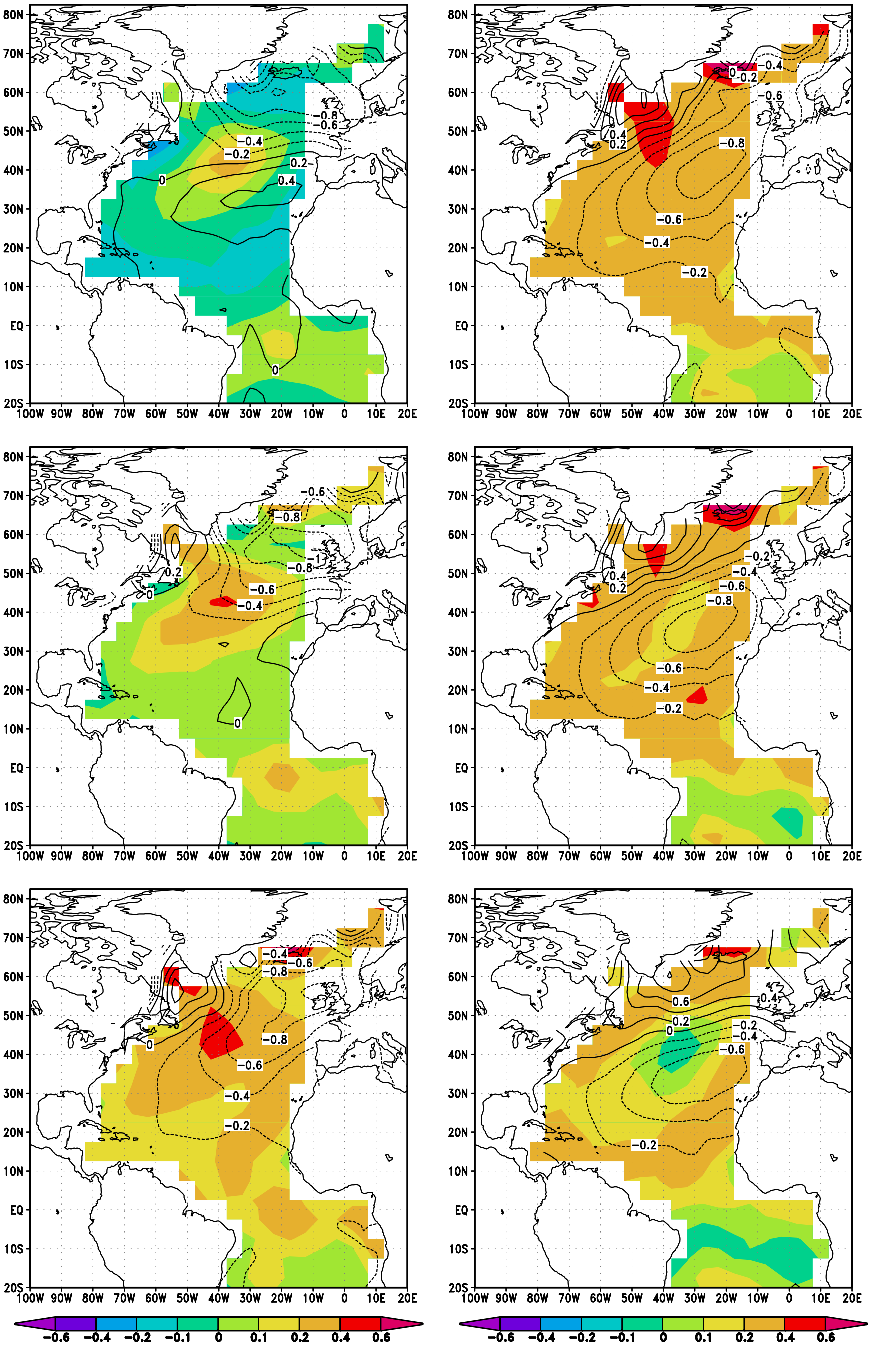


Figure 1

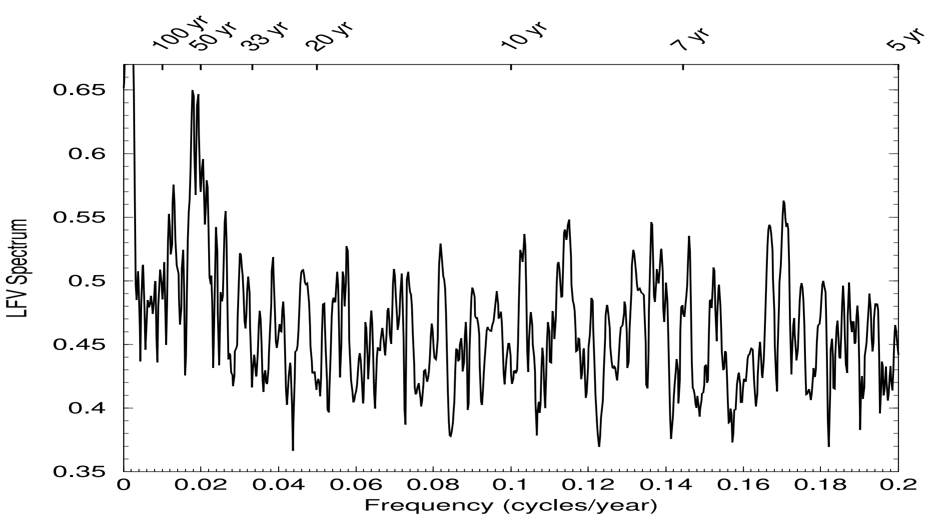

100 yr
50 yr
33 yr
20 yr
10 yr
7 yr
5 yr
LFV Spectrum
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
Frequency (cycles/year)

Fig. 2(a)

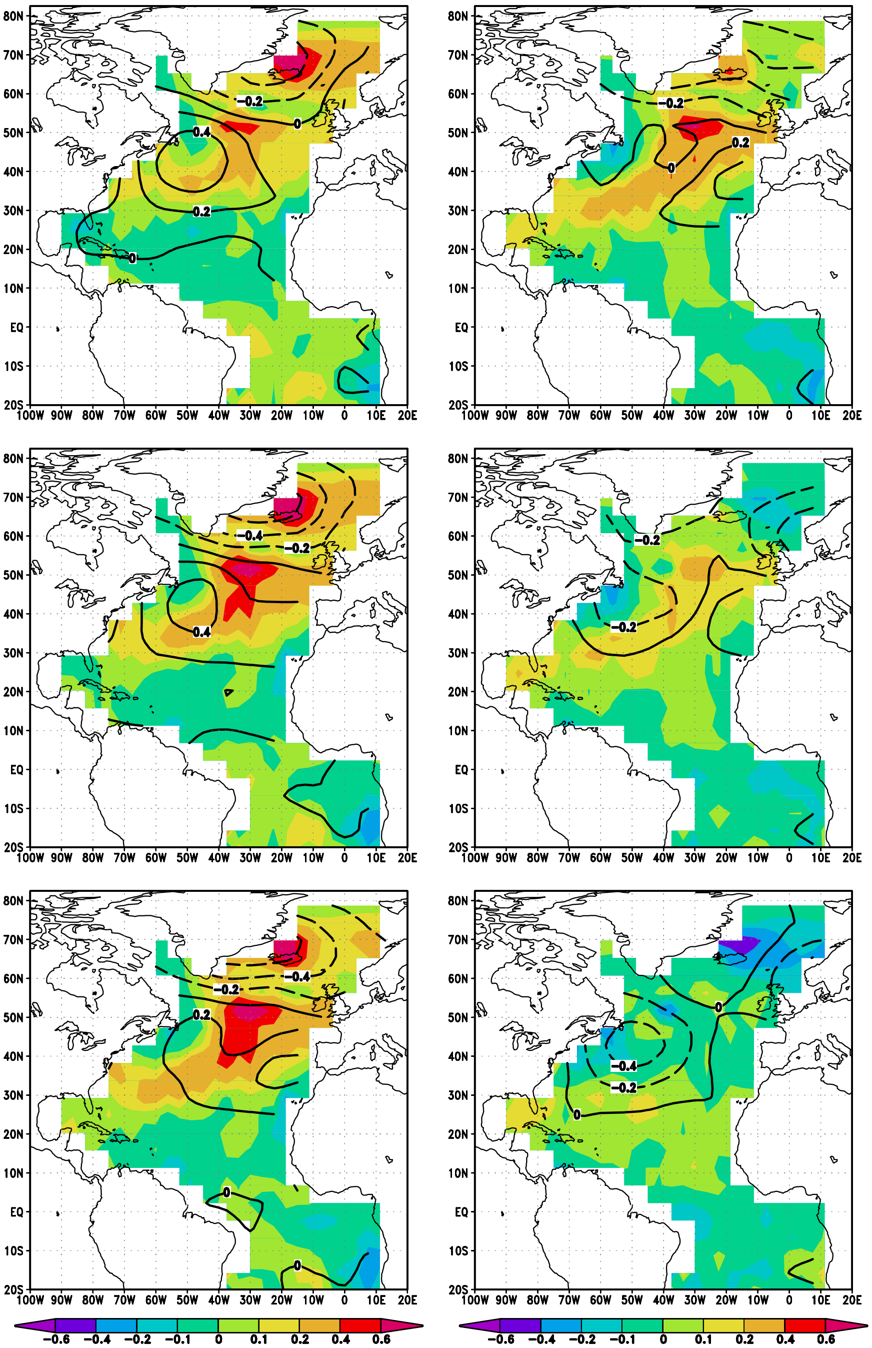

80N 70N 60N 50N 40N 30N 20N 10N EQ 10S 20S
100W 90W 80W 70W 60W 50W 40W 30W 20W 10W 0 10E 20E
−0.6 −0.4 −0.2 −0.1 0 0.1 0.2 0.4 0.6

Fig. 2(b)

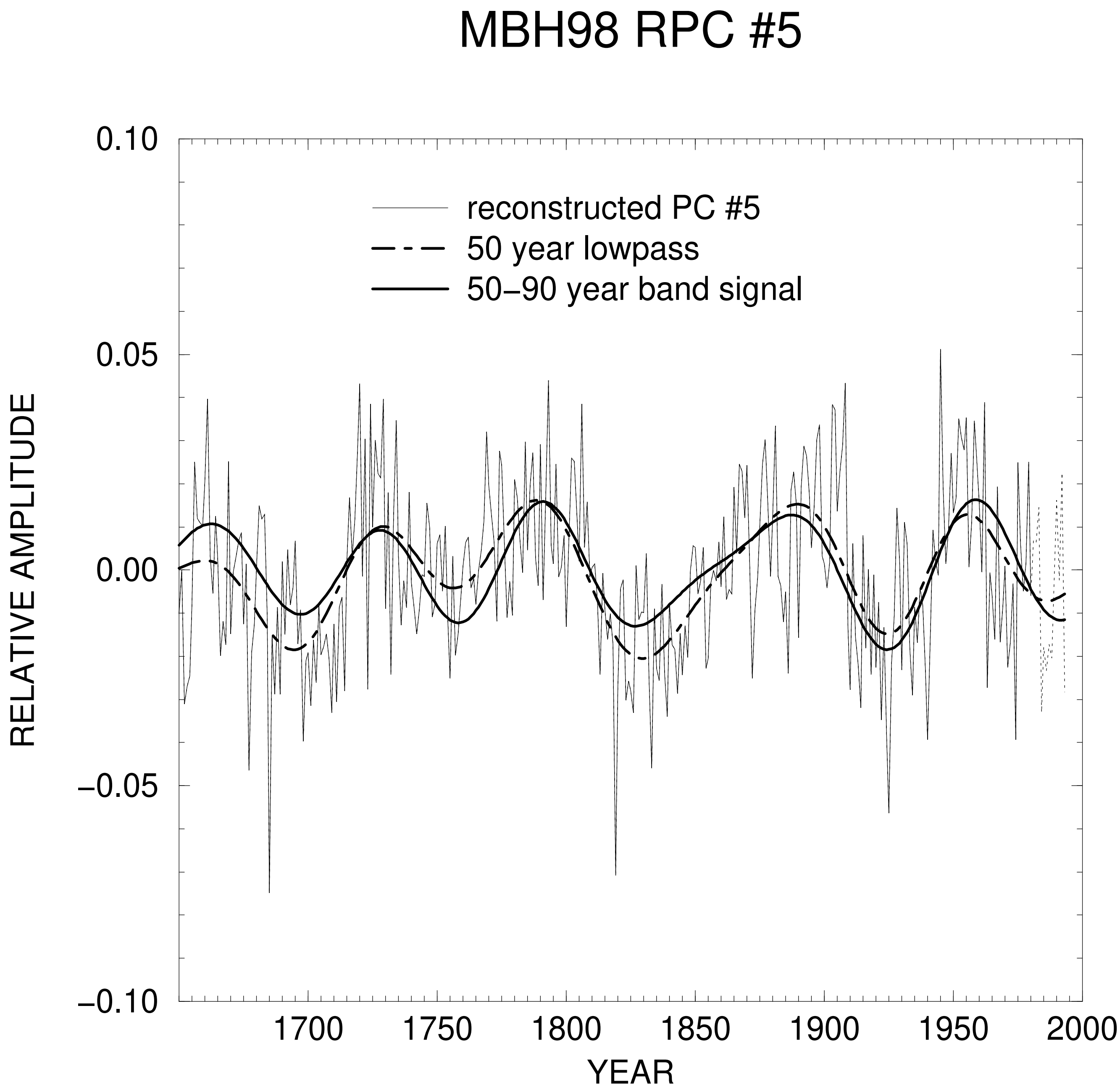
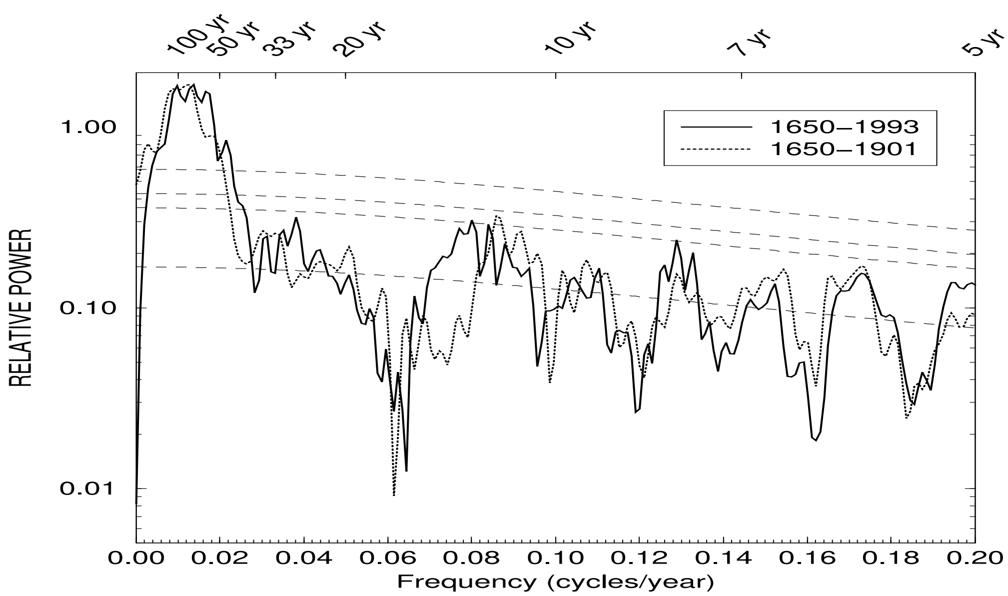

MBH98 RPC #5
reconstructed PC #5
50 year lowpass
50−90 year band signal
RELATIVE AMPLITUDE
YEAR
0.10
0.05
0.00
−0.05
−0.10
1700
1750
1800
1850
1900
1950
2000

Fig. 3 (a)

(b)



100 yr
50 yr
33 yr
20 yr
10 yr
7 yr
5 yr
1650–1993
1650–1901
1.00
0.10
0.01
RELATIVE POWER
0.00 0.02 0.04 0.06 0.08 0.10 0.12 0.14 0.16 0.18 0.20
Frequency (cycles/year)

Fig. 3 (b)

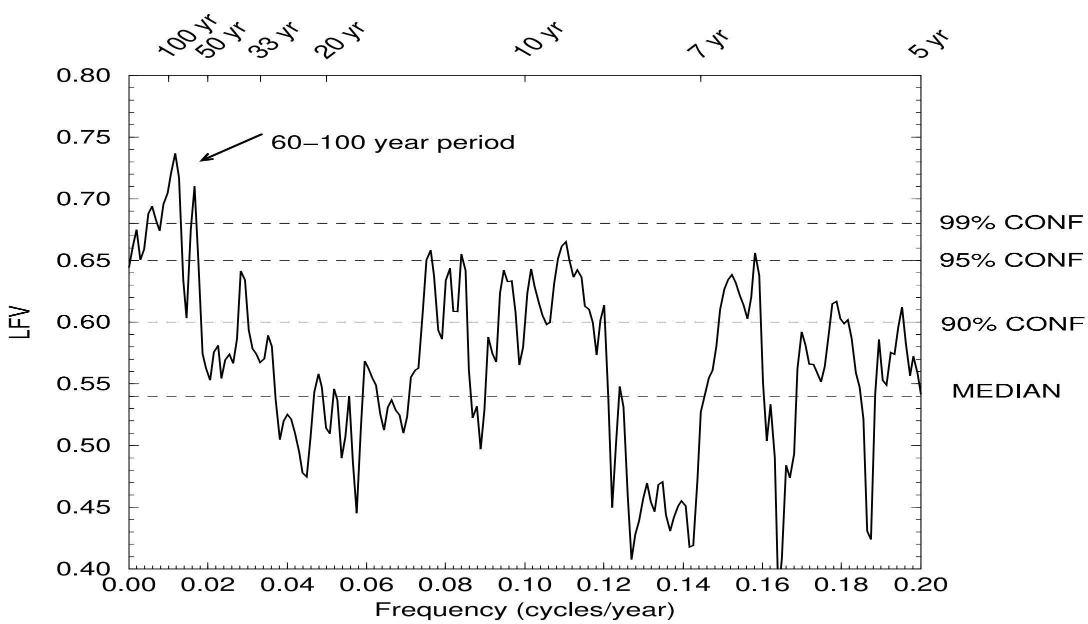
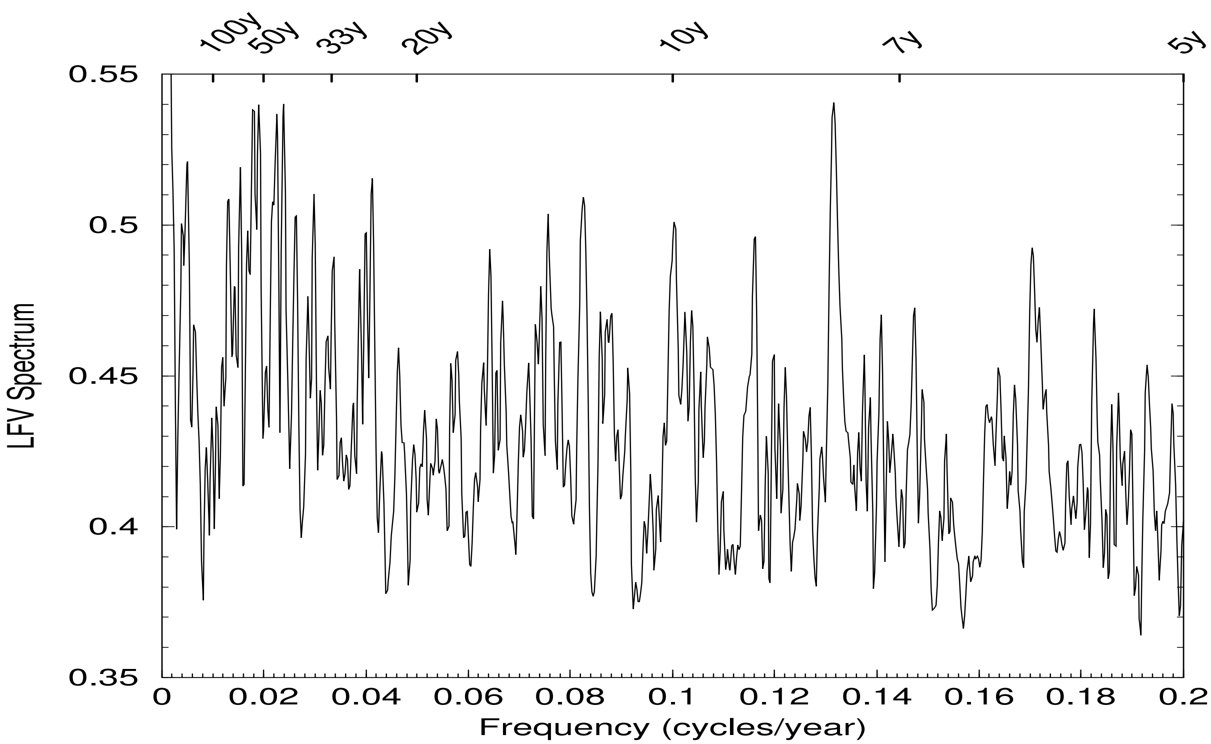
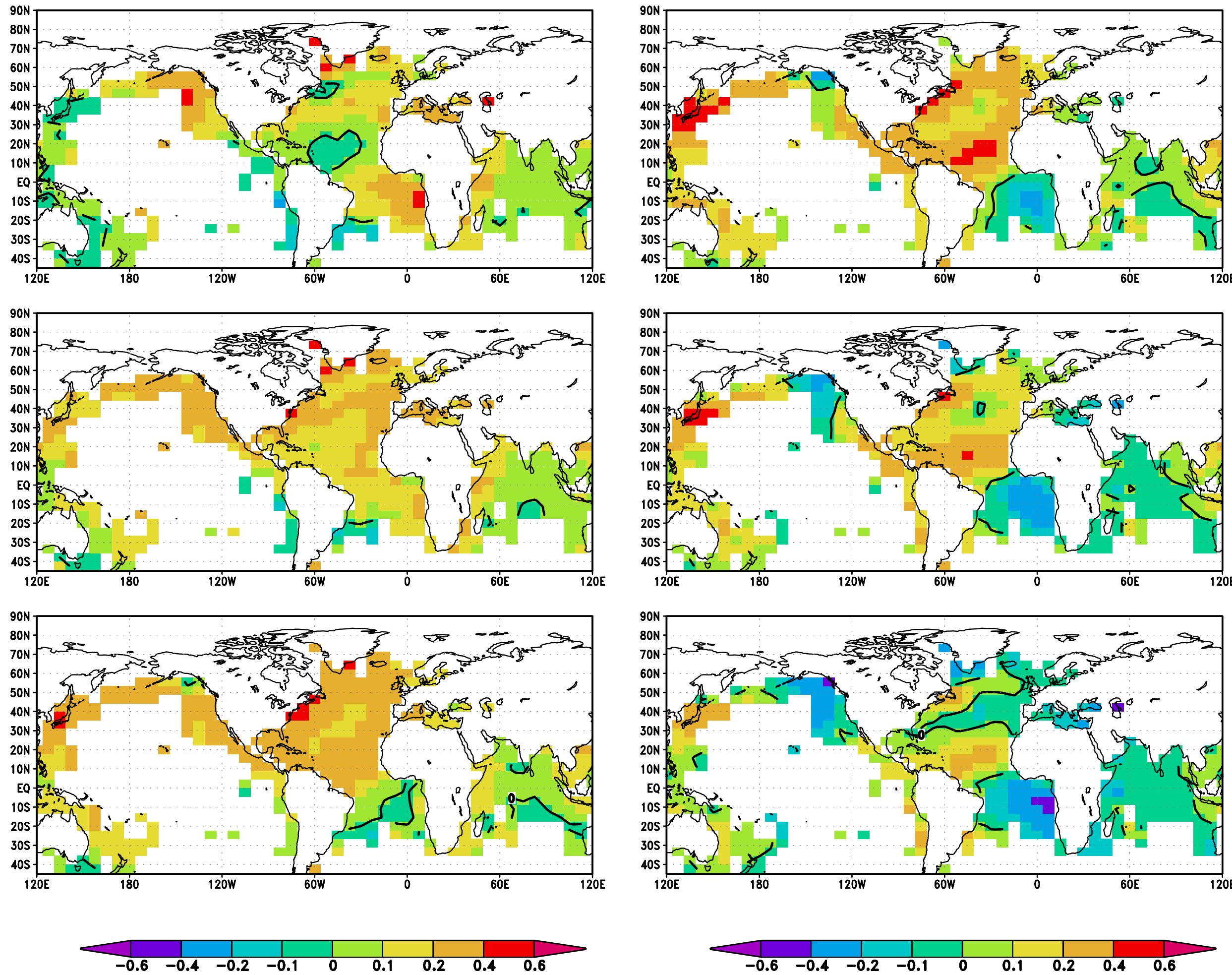


Fig. 4(a) MTM-SVD multivariate local fractional variance (LFV) spectrum of proxy-reconstructed surface temperature patterns (1650-1980) showing highly significant peak centered near 70 year period. Shown by horizontal dashed lines are the median, 90%, 95%, and 99% confidence levels for significance relative to the null hypothesis of coloured noise.



100y
50y
33y
20y
10y
7y
5y
0.55
0.5
0.45
0.4
0.35
LFV Spectrum
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
Frequency (cycles/year)

Fig. 4(b)



90N
80N
70N
60N
50N
40N
30N
20N
10N
EQ
10S
20S
30S
40S
120E
180
120W
60W
0
60E
120E
−0.6
−0.4
−0.2
−0.1
0
0.1
0.2
0.4
0.6

Fig. 5(a)

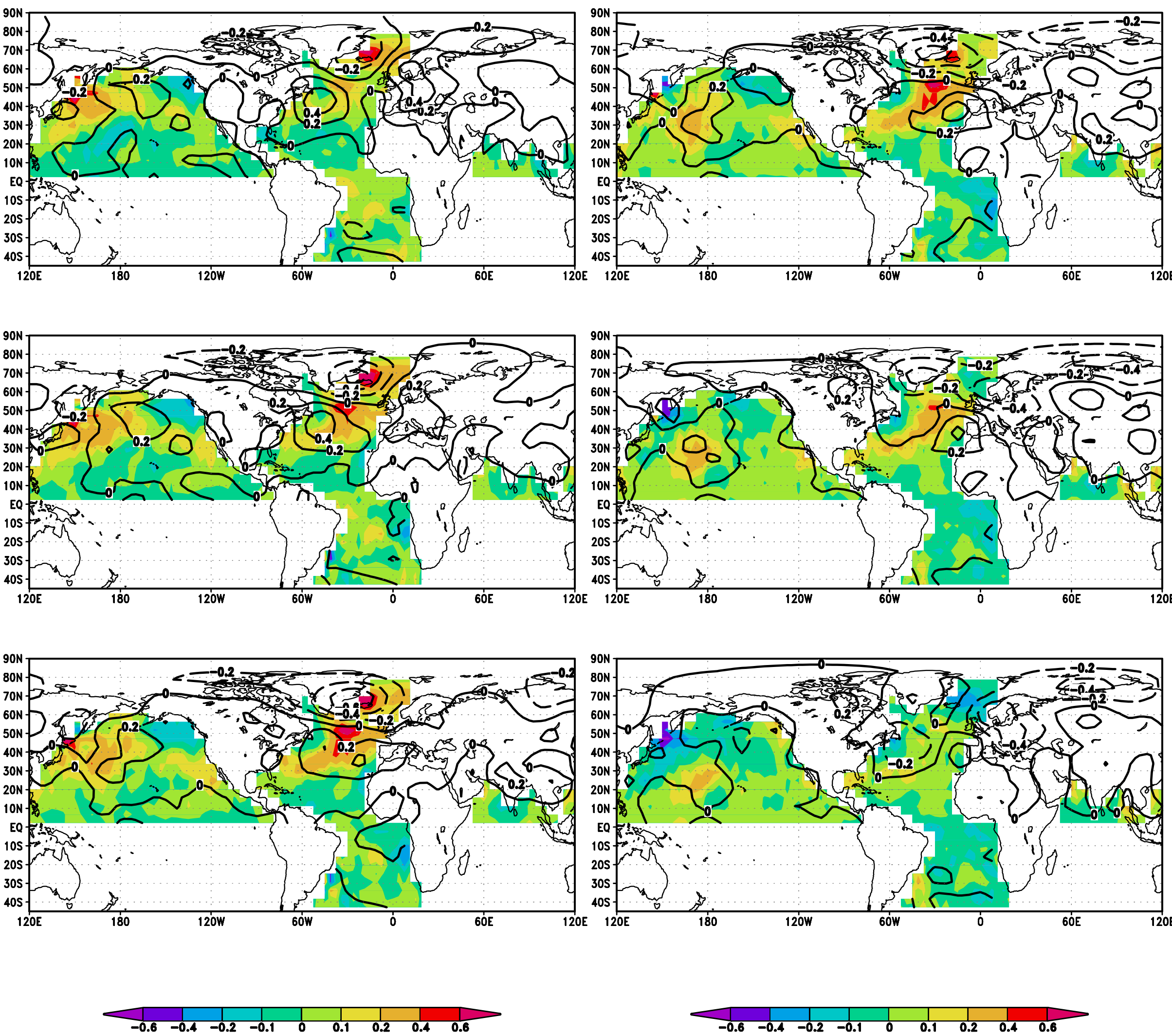


Fig. 5(b)

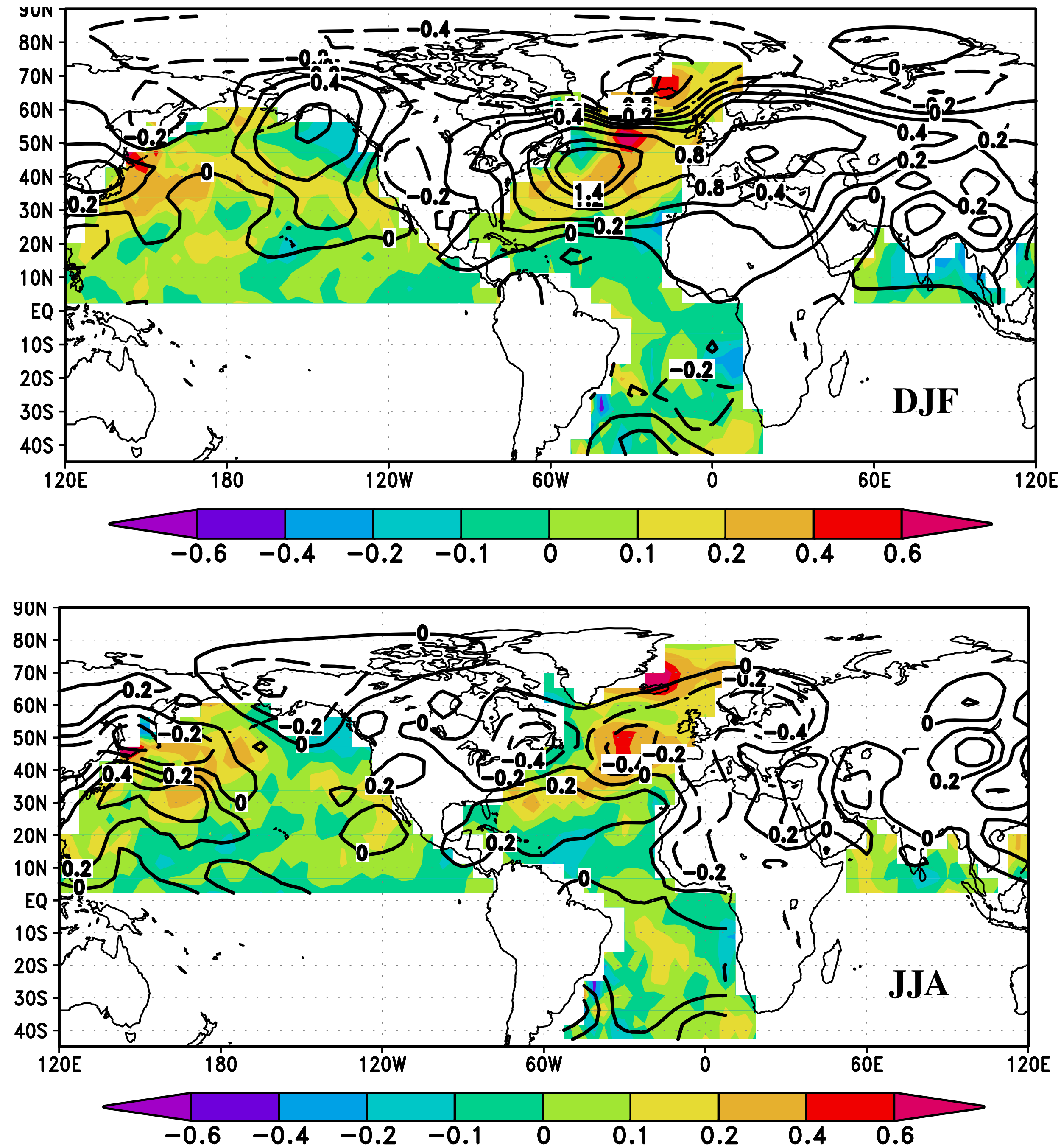

DJF
JJA
90N
80N
70N
60N
50N
40N
30N
20N
10N
EQ
10S
20S
30S
40S
120E
180
120W
60W
0
60E
120E
−0.6 −0.4 −0.2 −0.1 0 0.1 0.2 0.4 0.6

Fig. 6

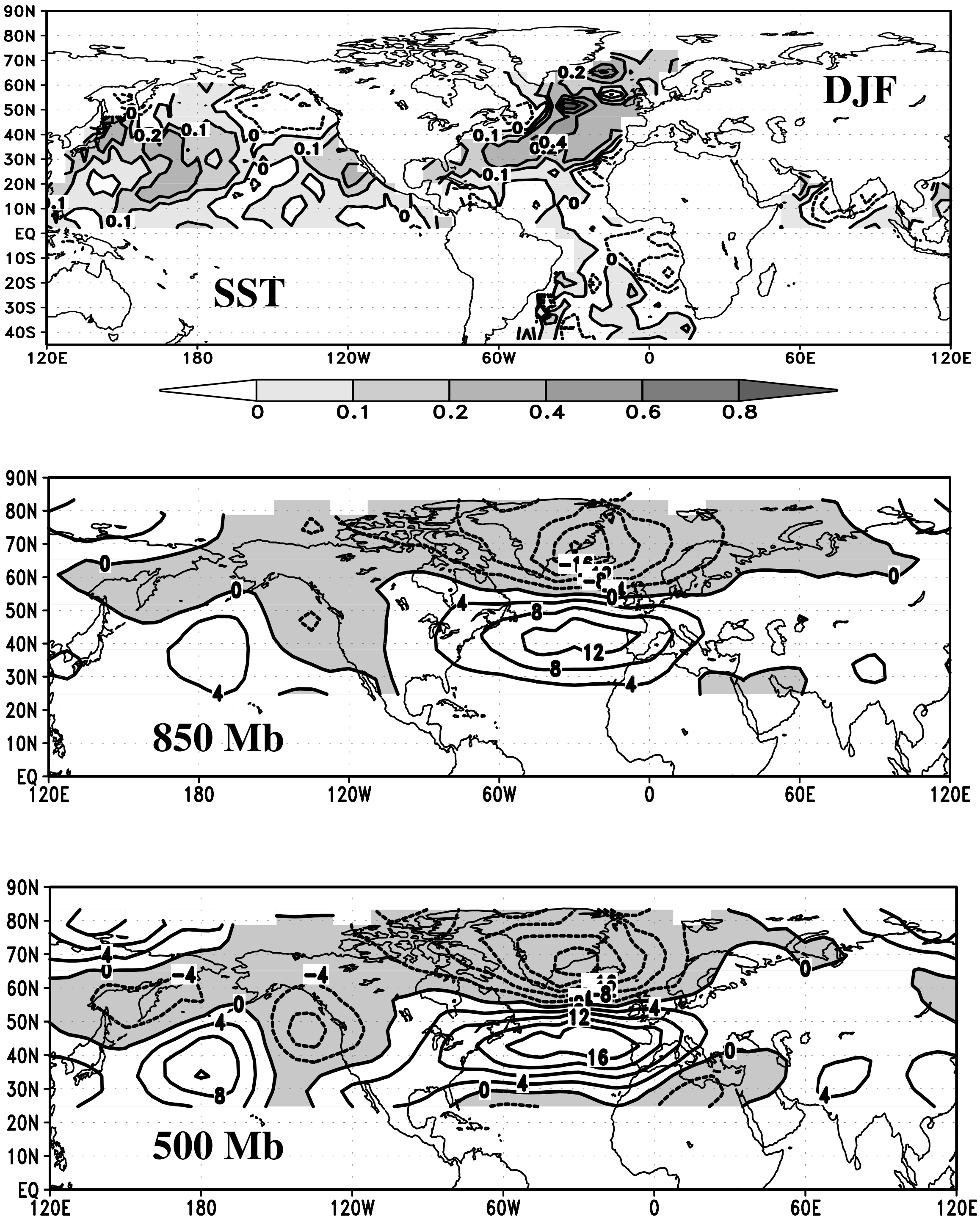

DJF
SST
0 0.1 0.2 0.4 0.6 0.8
850 Mb
500 Mb
90N 80N 70N 60N 50N 40N 30N 20N 10N EQ 10S 20S 30S 40S
120E 180 120W 60W 0 60E 120E

Fig. 7 (a).

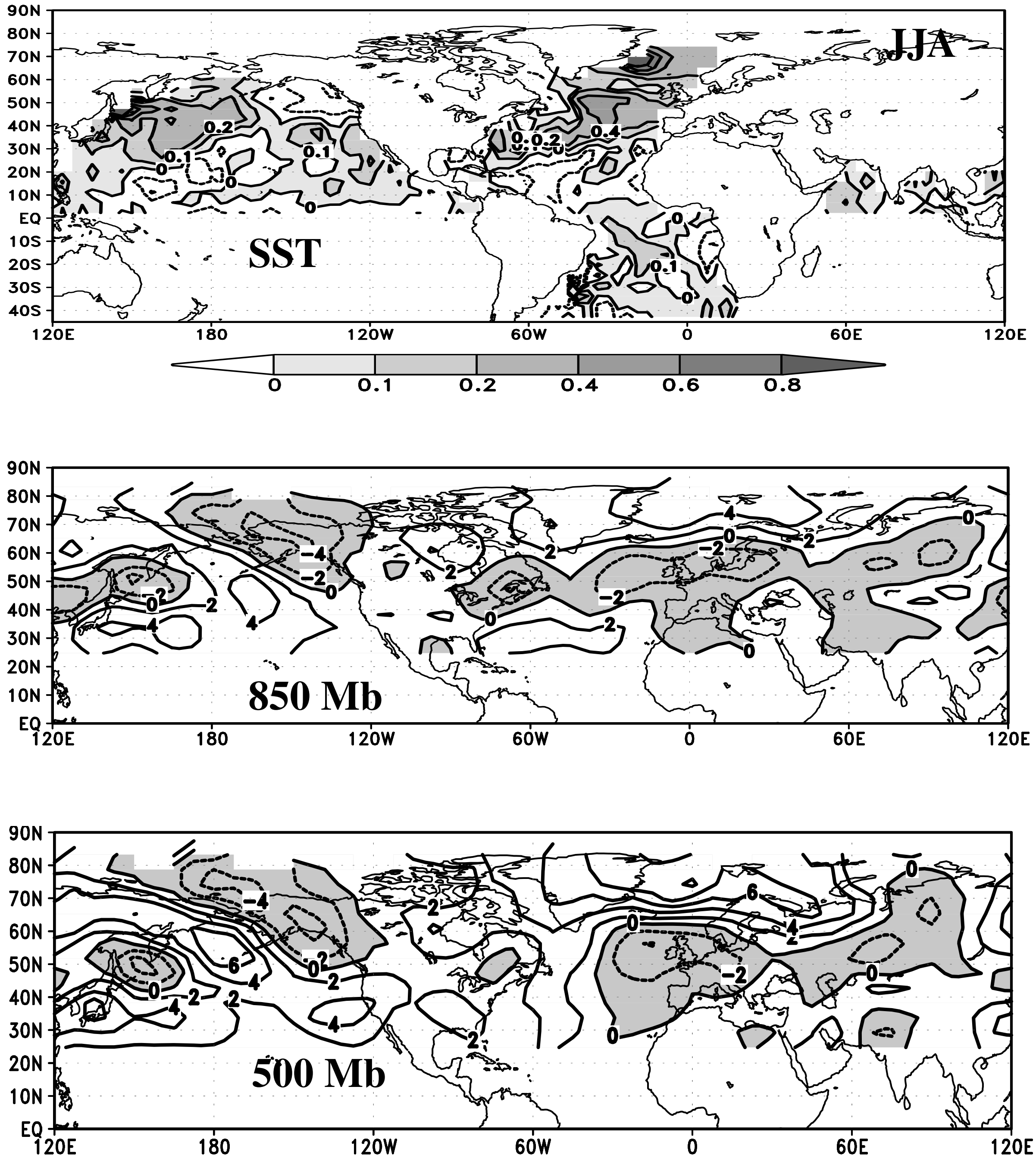

JJA
SST
0
0.1
0.2
0.4
0.6
0.8
850 Mb
500 Mb
90N
80N
70N
60N
50N
40N
30N
20N
10N
EQ
10S
20S
30S
40S
120E
180
120W
60W
0
60E
120E

Fig. 7 (b)

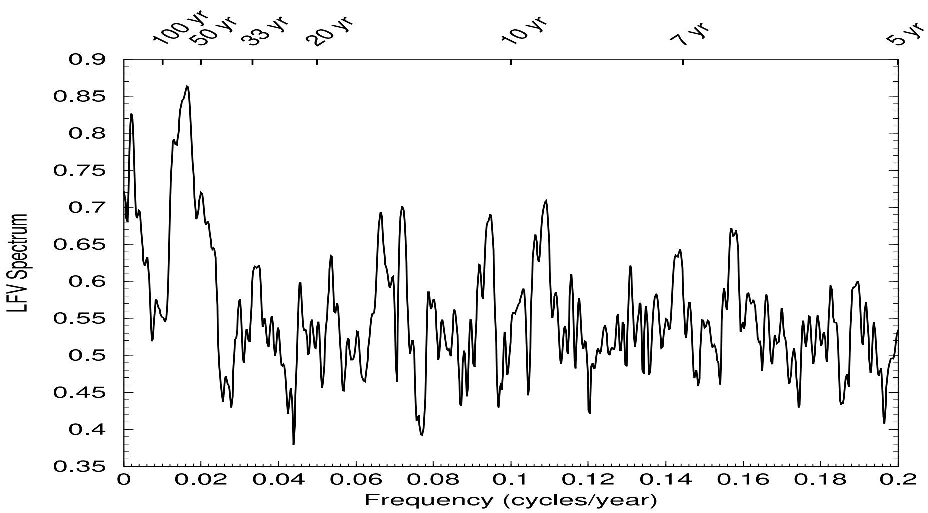

100 yr
50 yr
33 yr
20 yr
10 yr
7 yr
5 yr
LFV Spectrum
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
Frequency (cycles/year)

Fig. 8