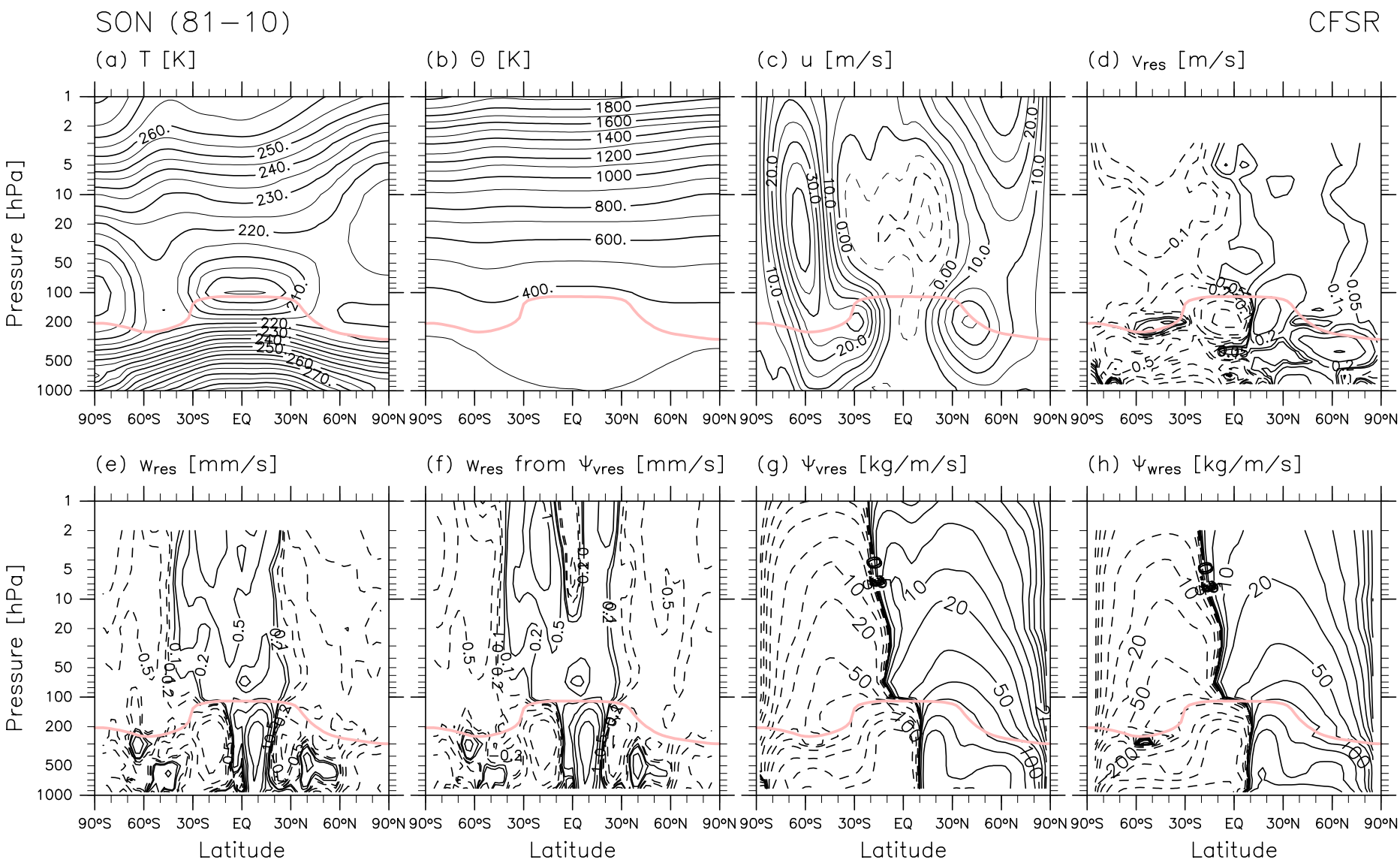
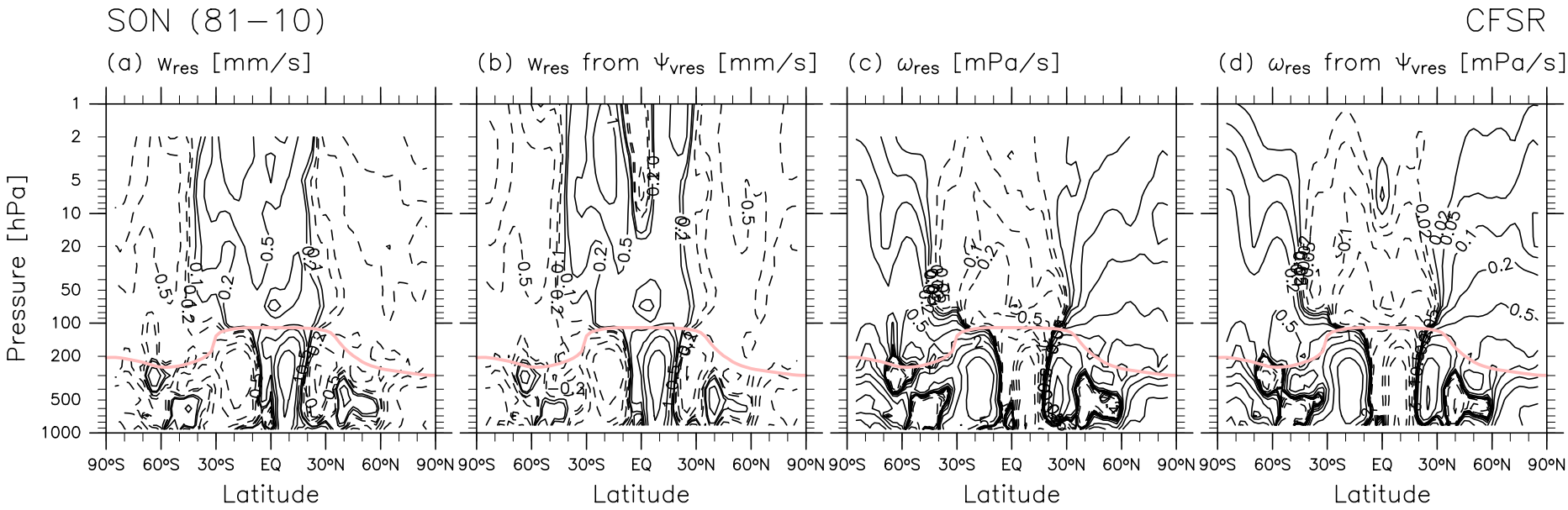
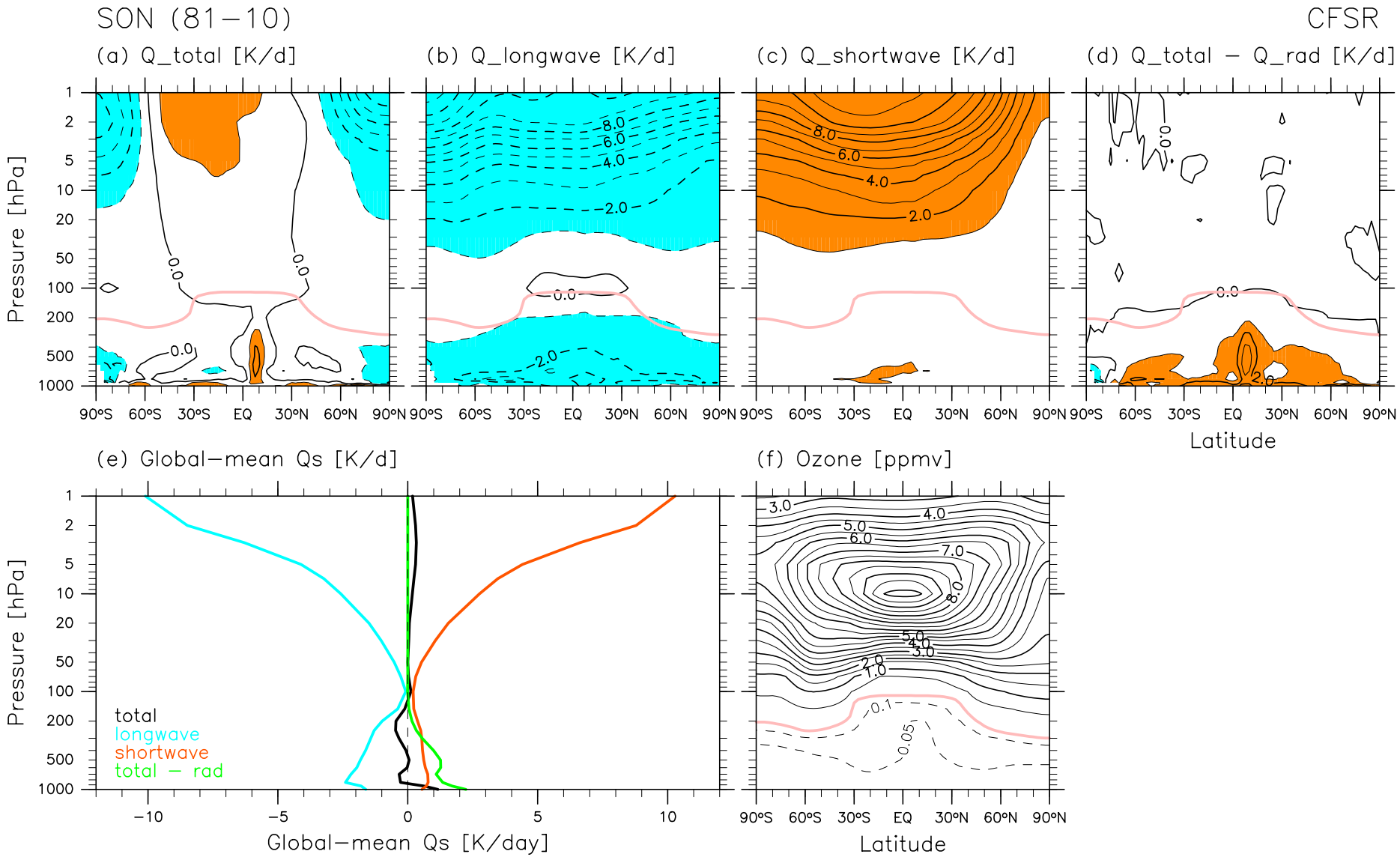
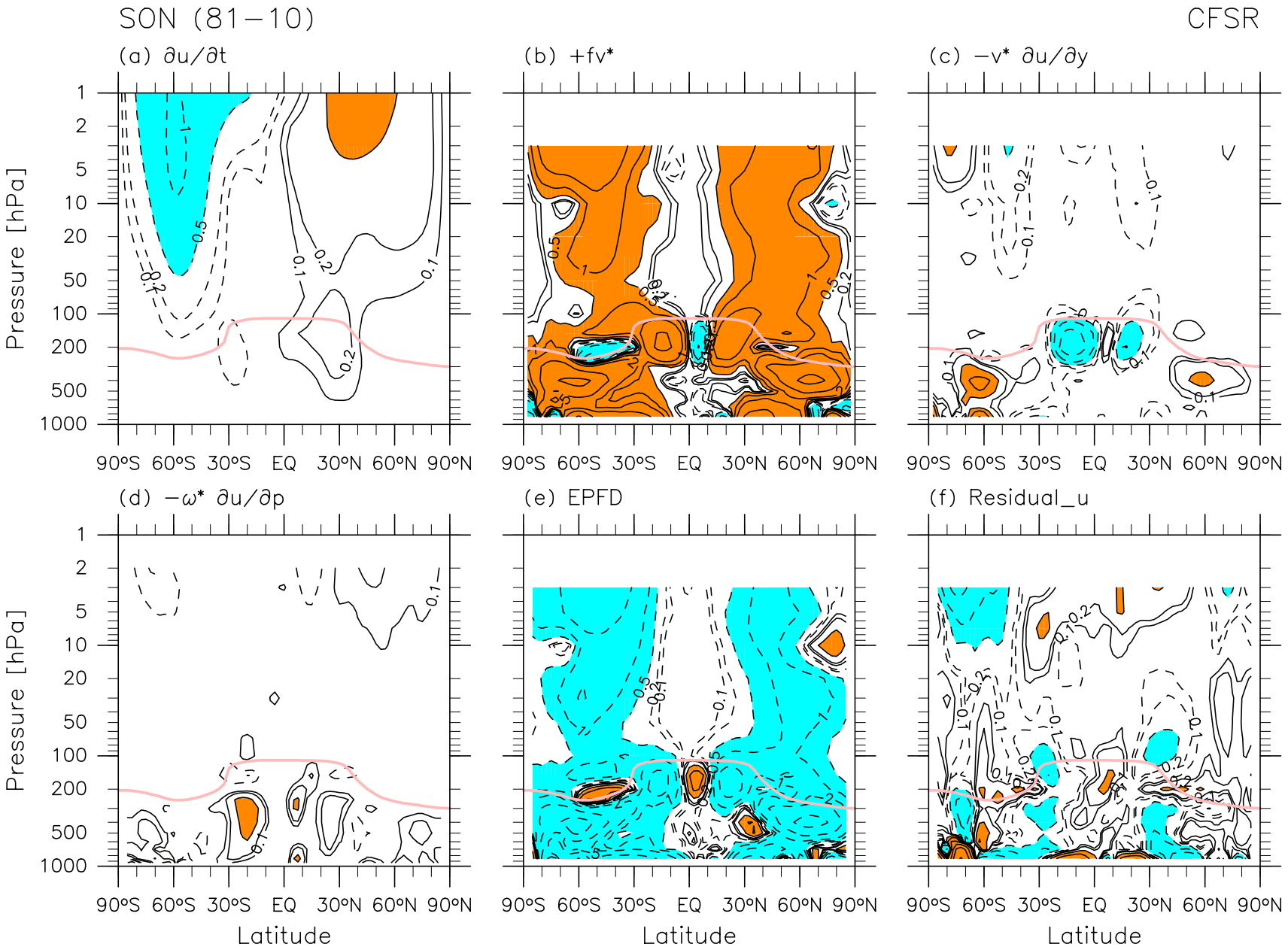
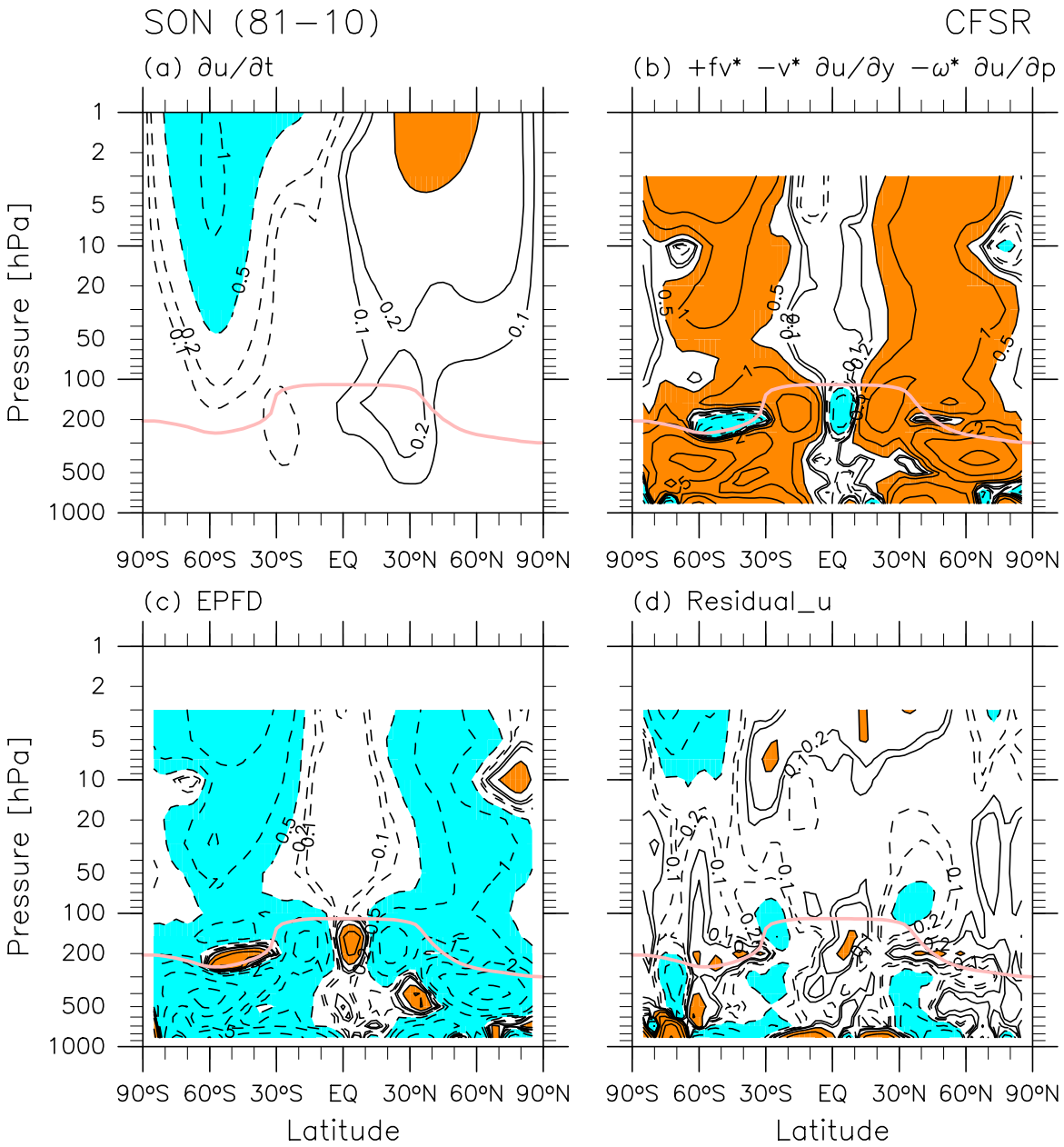
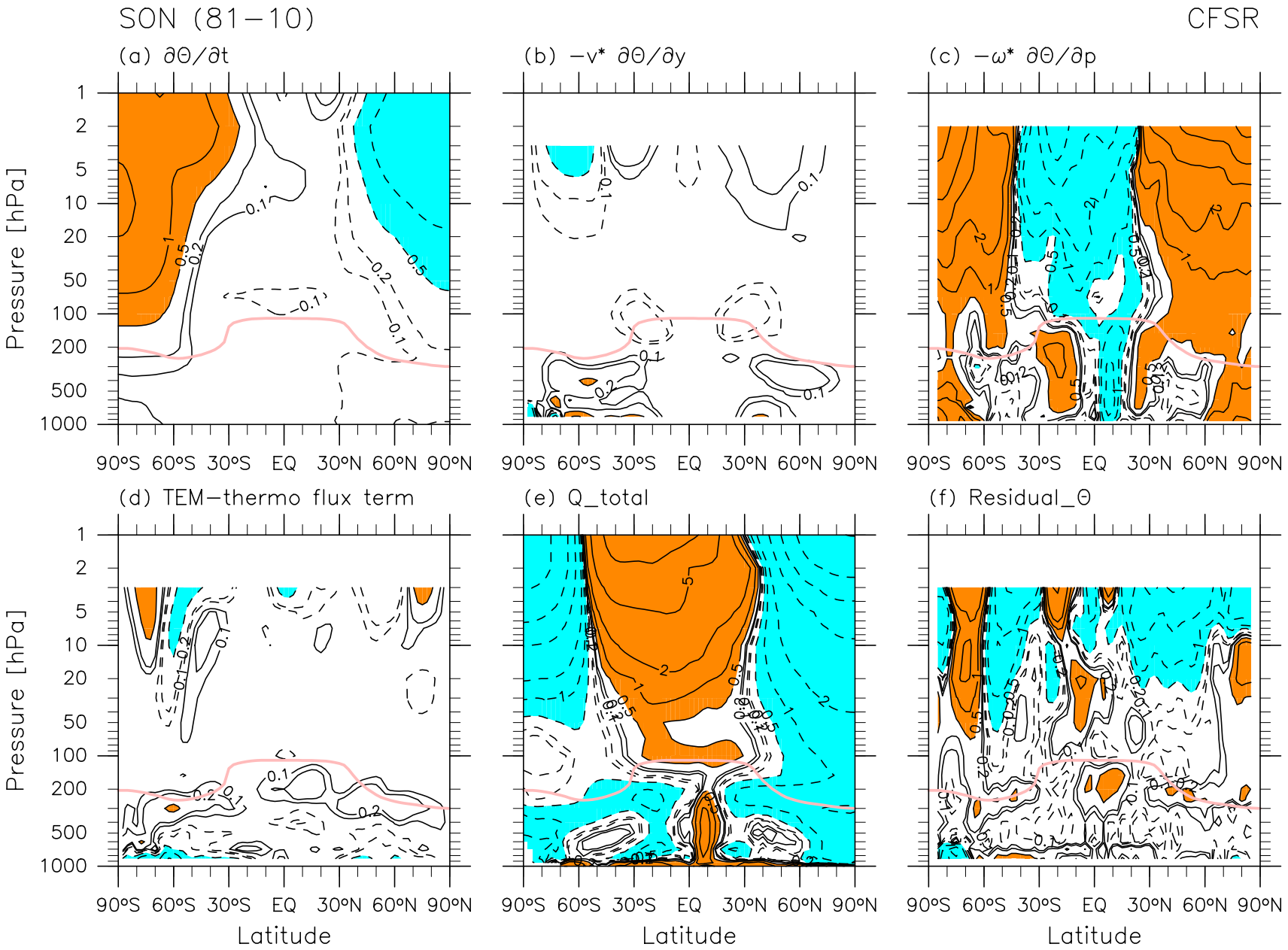

SON (81–10)
CFSR
(a) T [K]
(b) Θ [K]
(c) u [m/s]
(d) v_res [m/s]
(e) w_res [mm/s]
(f) w_res from Ψ_vres [mm/s]
(g) Ψ_vres [kg/m/s]
(h) Ψ_wres [kg/m/s]
Pressure [hPa]
1
2
5
10
20
50
100
200
500
1000
90°S 60°S 30°S EQ 30°N 60°N 90°N
Latitude

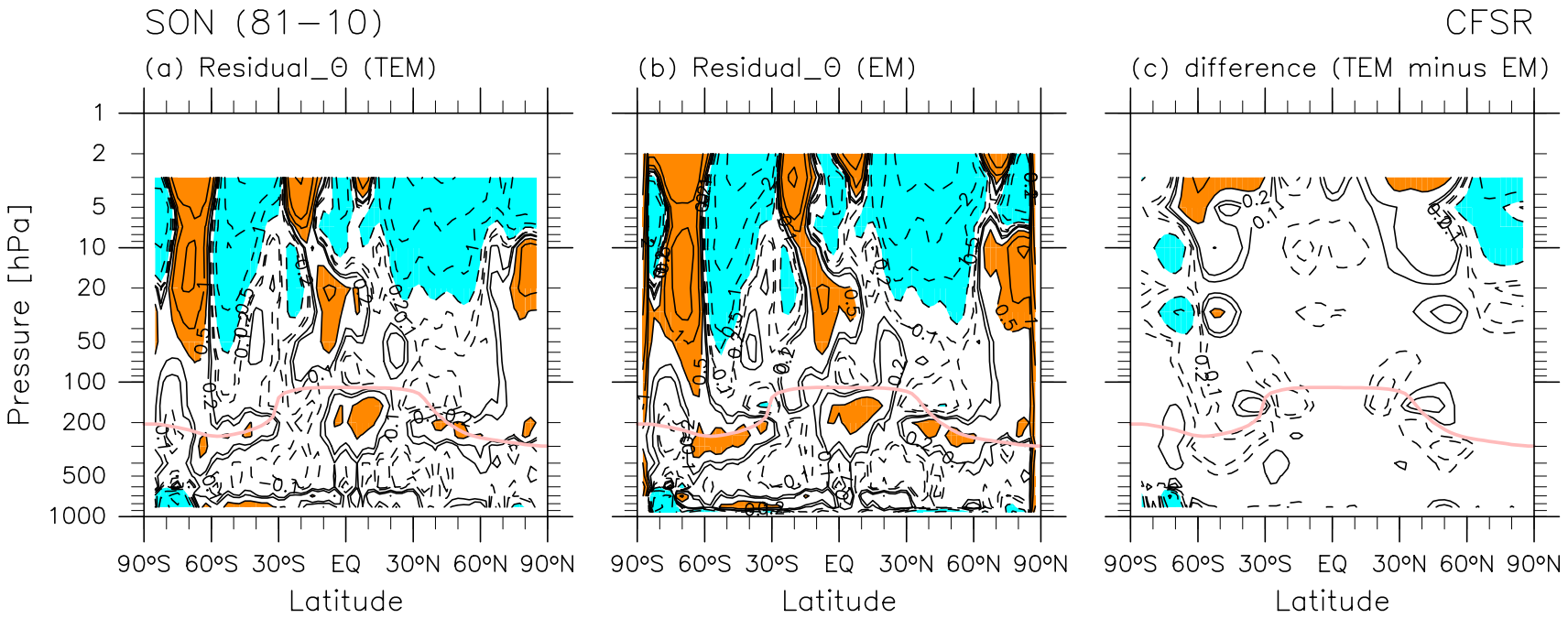

SON (81–10)
CFSR
(a) w_{res} [mm/s]
(b) w_{res} from Ψ_{vres} [mm/s]
(c) ω_{res} [mPa/s]
(d) ω_{res} from Ψ_{vres} [mPa/s]
Pressure [hPa]
1
2
5
10
20
50
100
200
500
1000
90°S 60°S 30°S EQ 30°N 60°N 90°N
Latitude


SON (81–10)
CFSR
(a) Q_total [K/d]
(b) Q_longwave [K/d]
(c) Q_shortwave [K/d]
(d) Q_total – Q_rad [K/d]
Pressure [hPa]
1
2
5
10
20
50
100
200
500
1000
90°S 60°S 30°S EQ 30°N 60°N 90°N
Latitude
8.0
6.0
4.0
2.0
0.0
(e) Global–mean Qs [K/d]
(f) Ozone [ppmv]
total
longwave
shortwave
total – rad
−10 −5 0 5 10
Global–mean Qs [K/day]
3.0
4.0
5.0
6.0
7.0
1.0
0.1
0.05


SON (81–10)
CFSR
(a) ∂u/∂t
(b) +fv*
(c) −v* ∂u/∂y
(d) −ω* ∂u/∂p
(e) EPFD
(f) Residual_u
Pressure [hPa]
1
2
5
10
20
50
100
200
500
1000
90°S 60°S 30°S EQ 30°N 60°N 90°N
Latitude


SON (81–10)
CFSR
(a) ∂u/∂t
(b) +fv* −v* ∂u/∂y −ω* ∂u/∂p
(c) EPFD
(d) Residual_u
Pressure [hPa]
1
2
5
10
20
50
100
200
500
1000
90°S 60°S 30°S EQ 30°N 60°N 90°N
Latitude


SON (81–10)
CFSR
(a) ∂Θ/∂t
(b) −v* ∂Θ/∂y
(c) −ω* ∂Θ/∂p
(d) TEM−thermo flux term
(e) Q_total
(f) Residual_Θ
Pressure [hPa]
1
2
5
10
20
50
100
200
500
1000
90°S 60°S 30°S EQ 30°N 60°N 90°N
Latitude


SON (81–10)
CFSR
(a) Residual_Θ (TEM)
(b) Residual_Θ (EM)
(c) difference (TEM minus EM)
Pressure [hPa]
1
2
5
10
20
50
100
200
500
1000
90°S 60°S 30°S EQ 30°N 60°N 90°N
Latitude