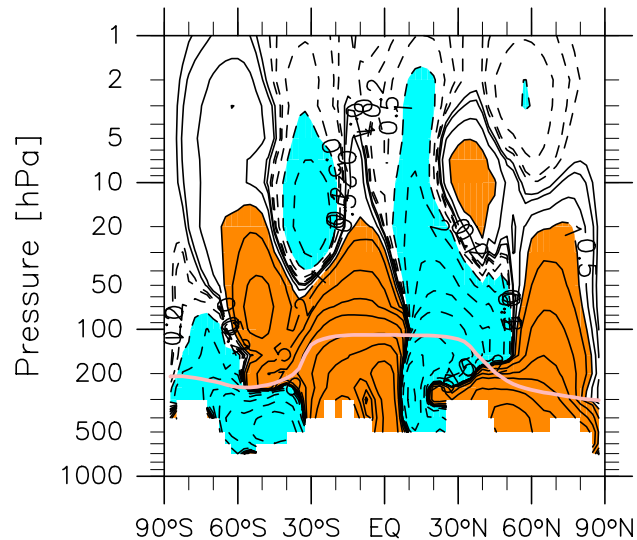


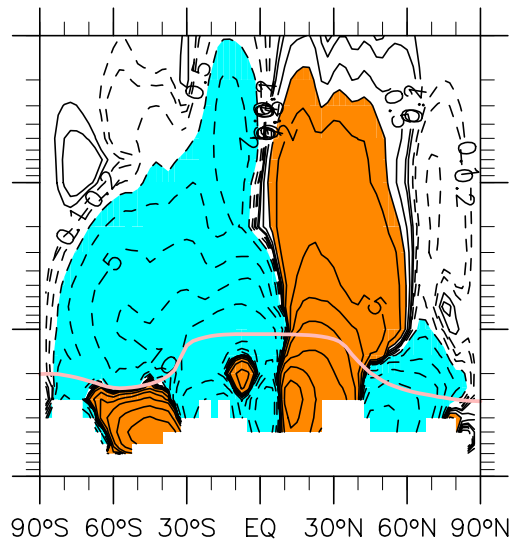
ψ_{vres} [kg/m/s]

SON (81–10)

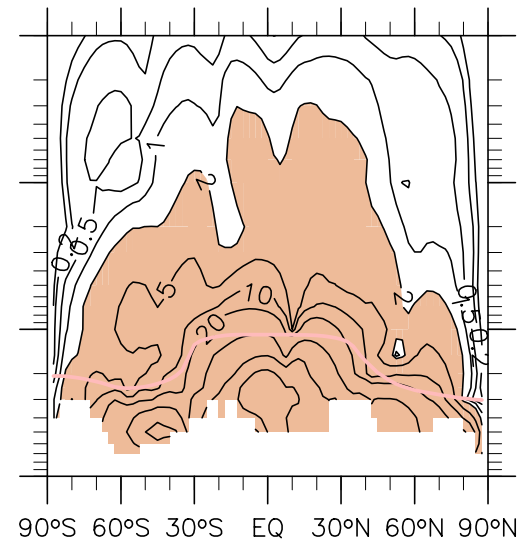
(a) MERRA-2 – REM



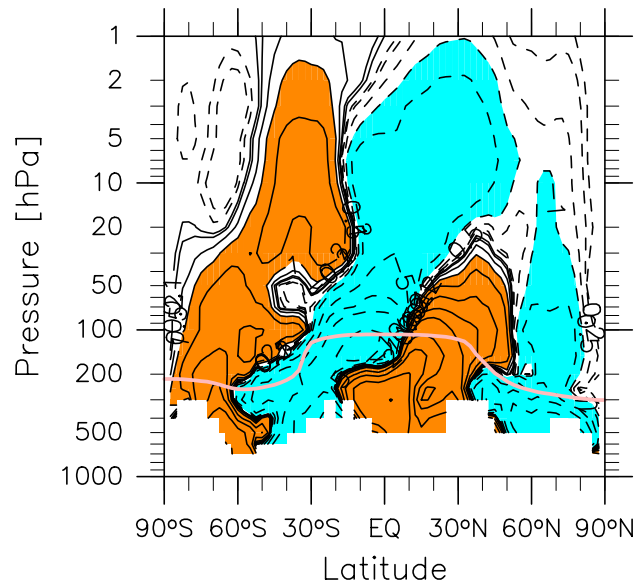
(b) JRA-55 – REM



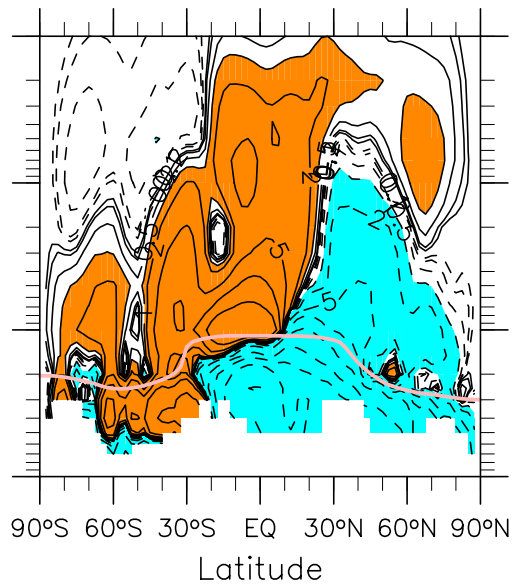
(e) SD



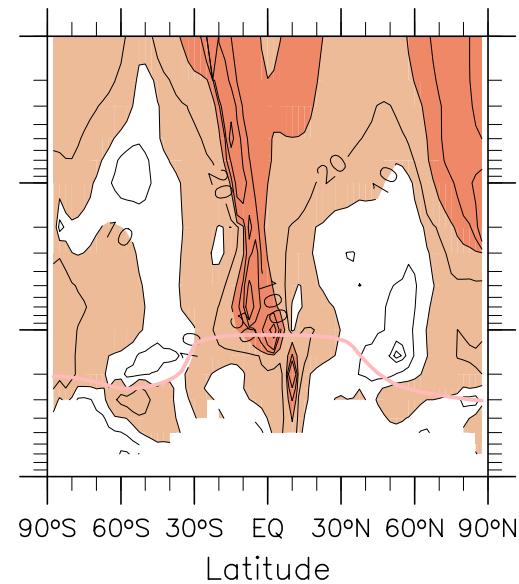
(c) ERA-Int – REM



(d) CFSR – REM

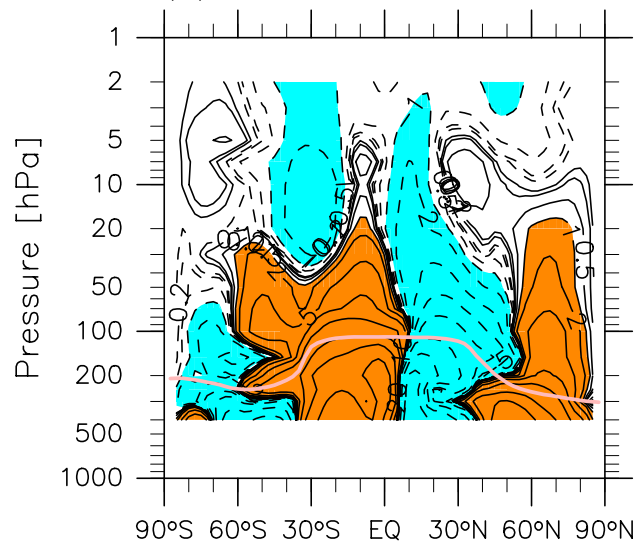


(f) $(\text{SD} / |\text{REM}|) \times 100\%$

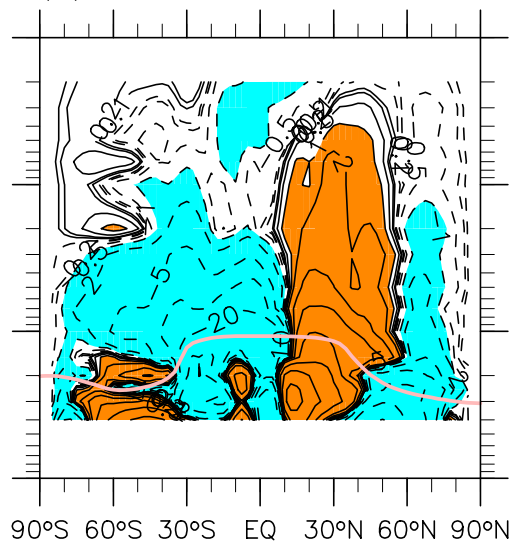


ψ_{wres} [kg/m/s]

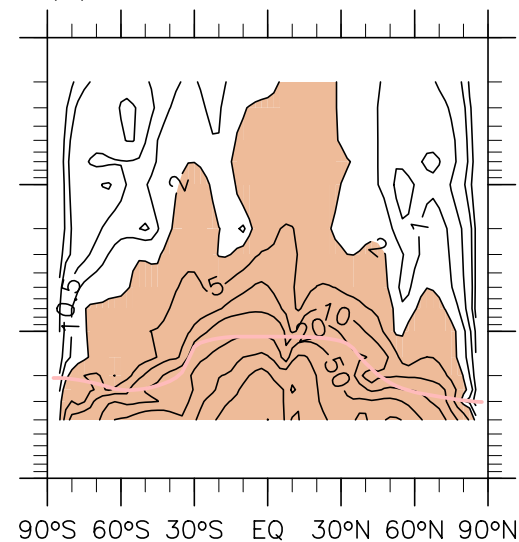
(a) MERRA-2 - REM



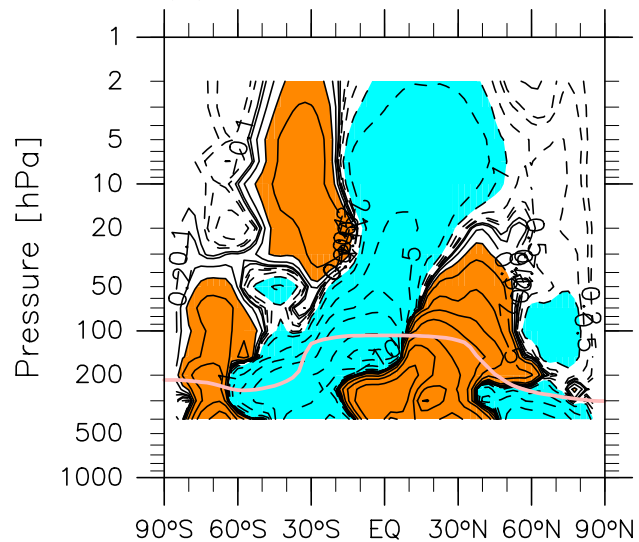
(b) JRA-55 - REM



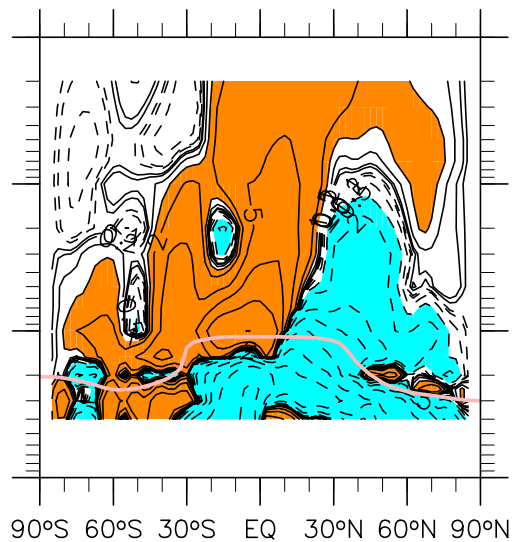
(e) SD



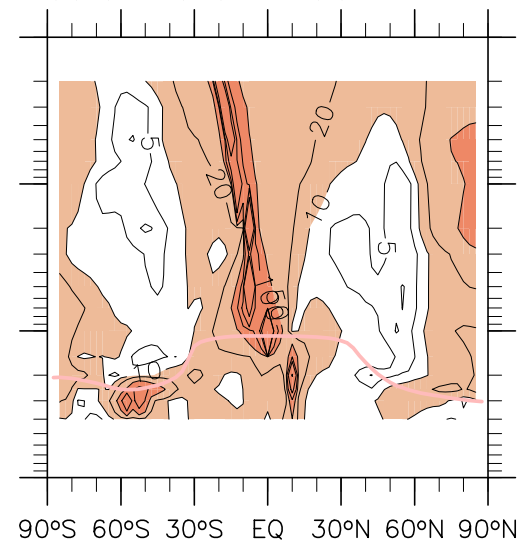
(c) ERA-Int - REM



(d) CFSR - REM



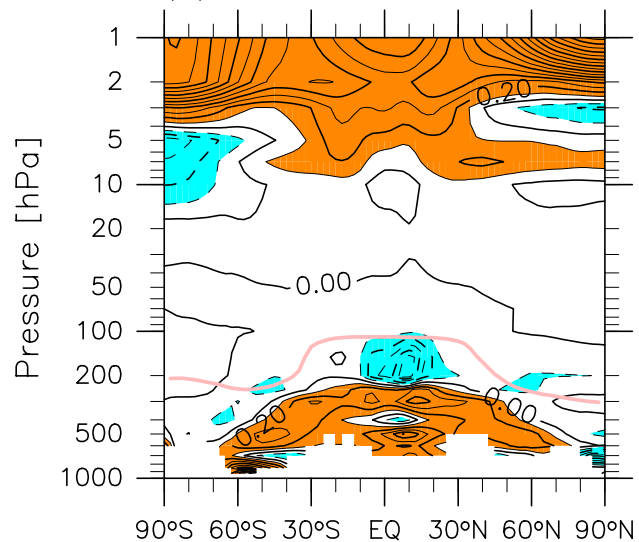
(f) $(\text{SD} / |\text{REM}|) \times 100\%$



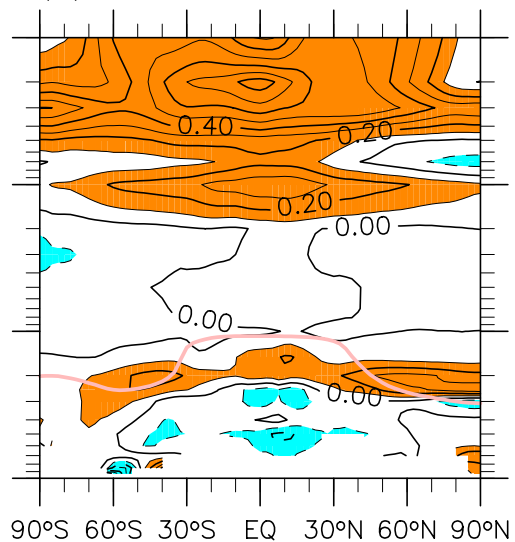
SON (81-10)

Q_longwave [K/d]

(a) MERRA-2 - REM

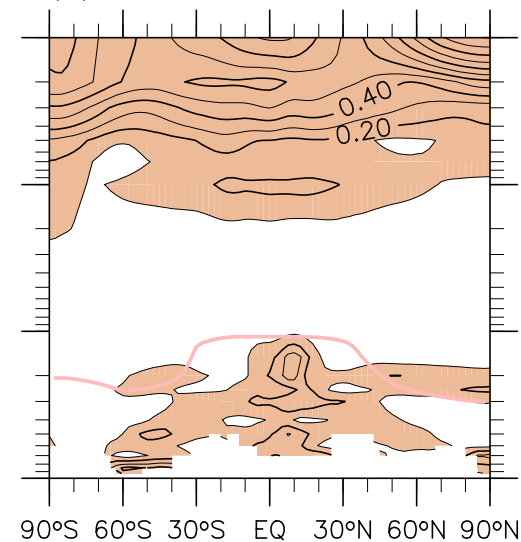


(b) JRA-55 - REM

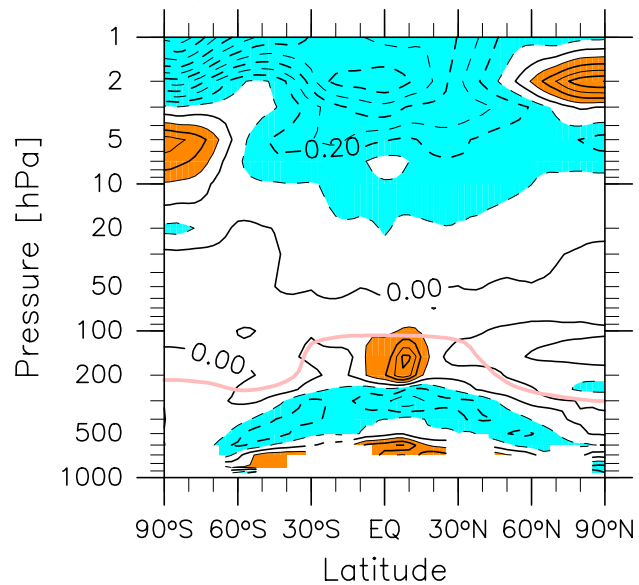


SON (81-10)

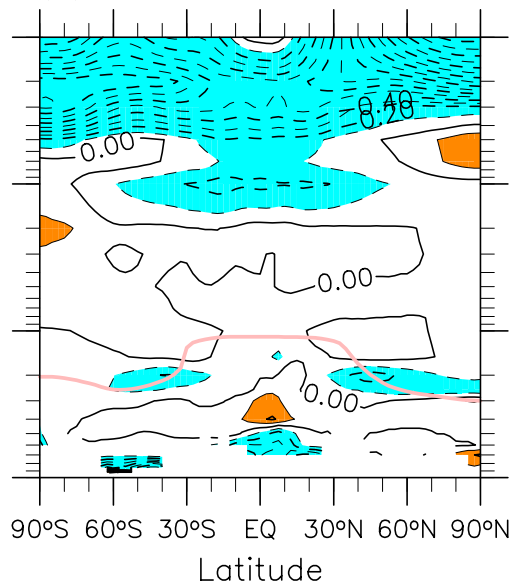
(e) SD



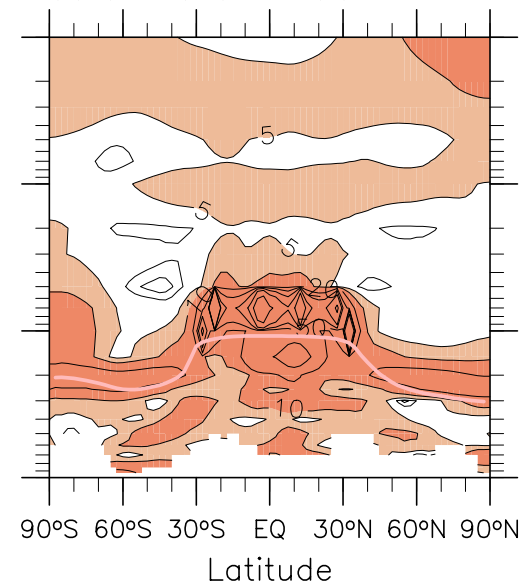
(c) ERA-Int - REM

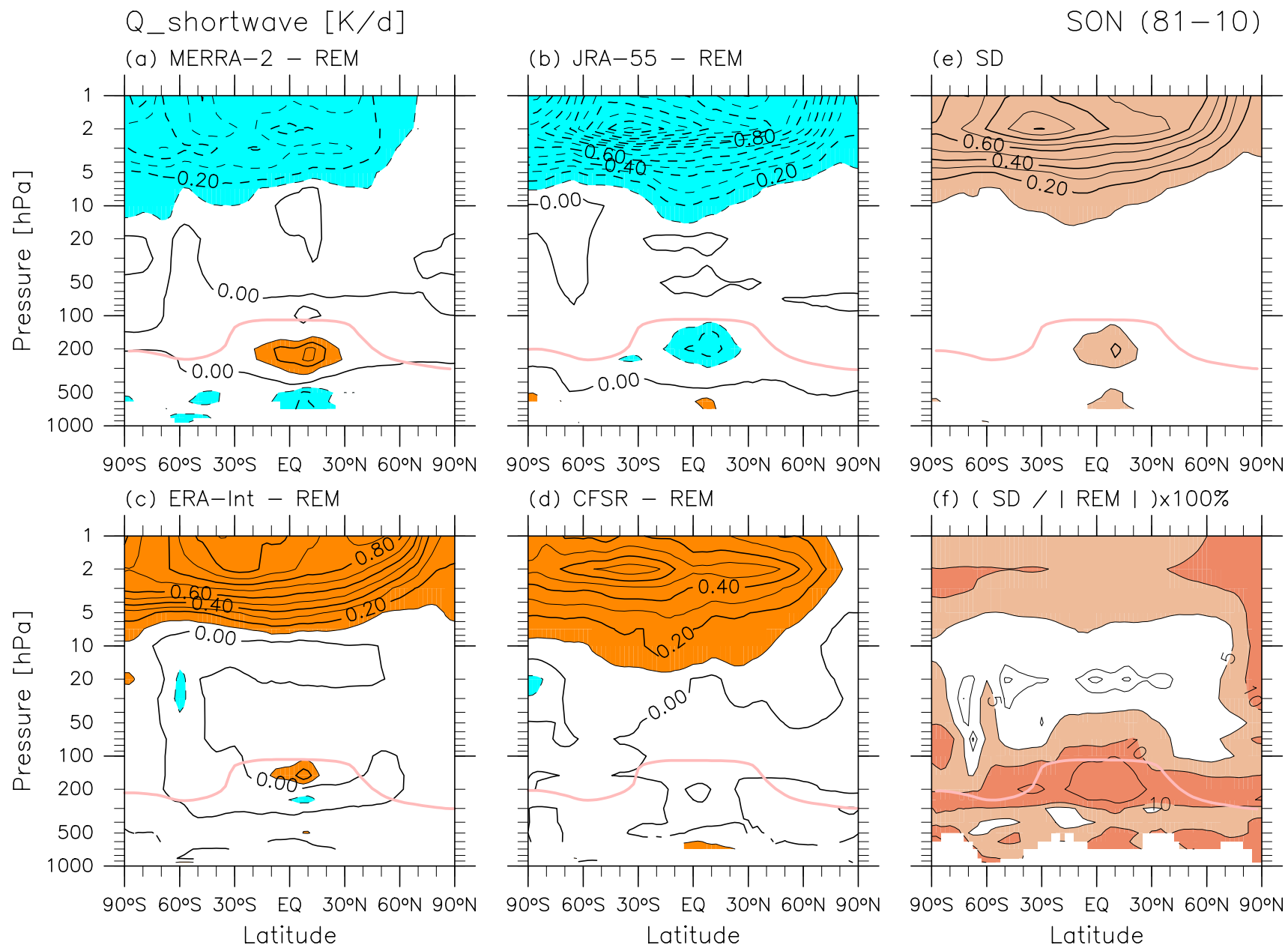


(d) CFSR - REM



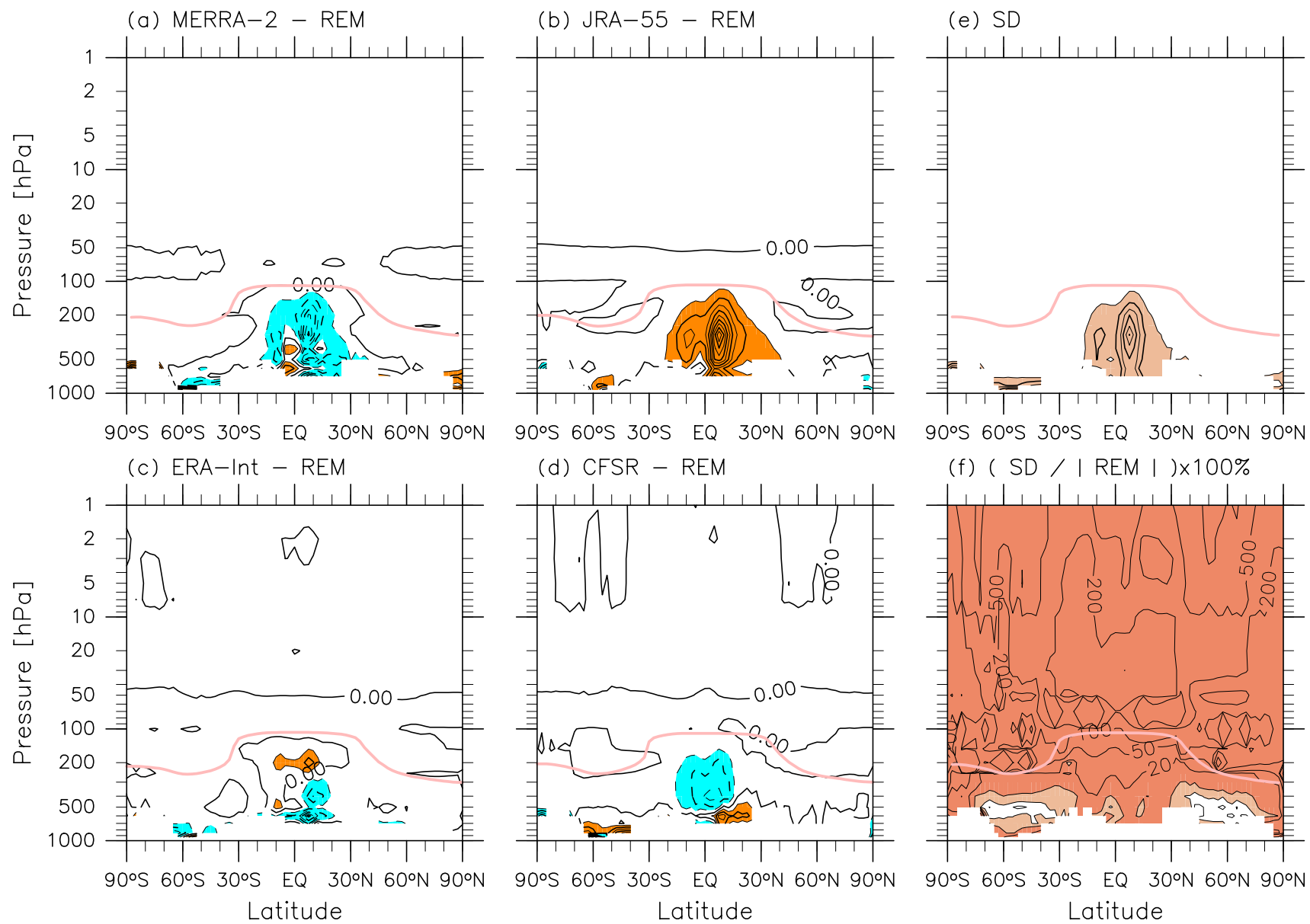
(f) (SD / | REM |) x 100%

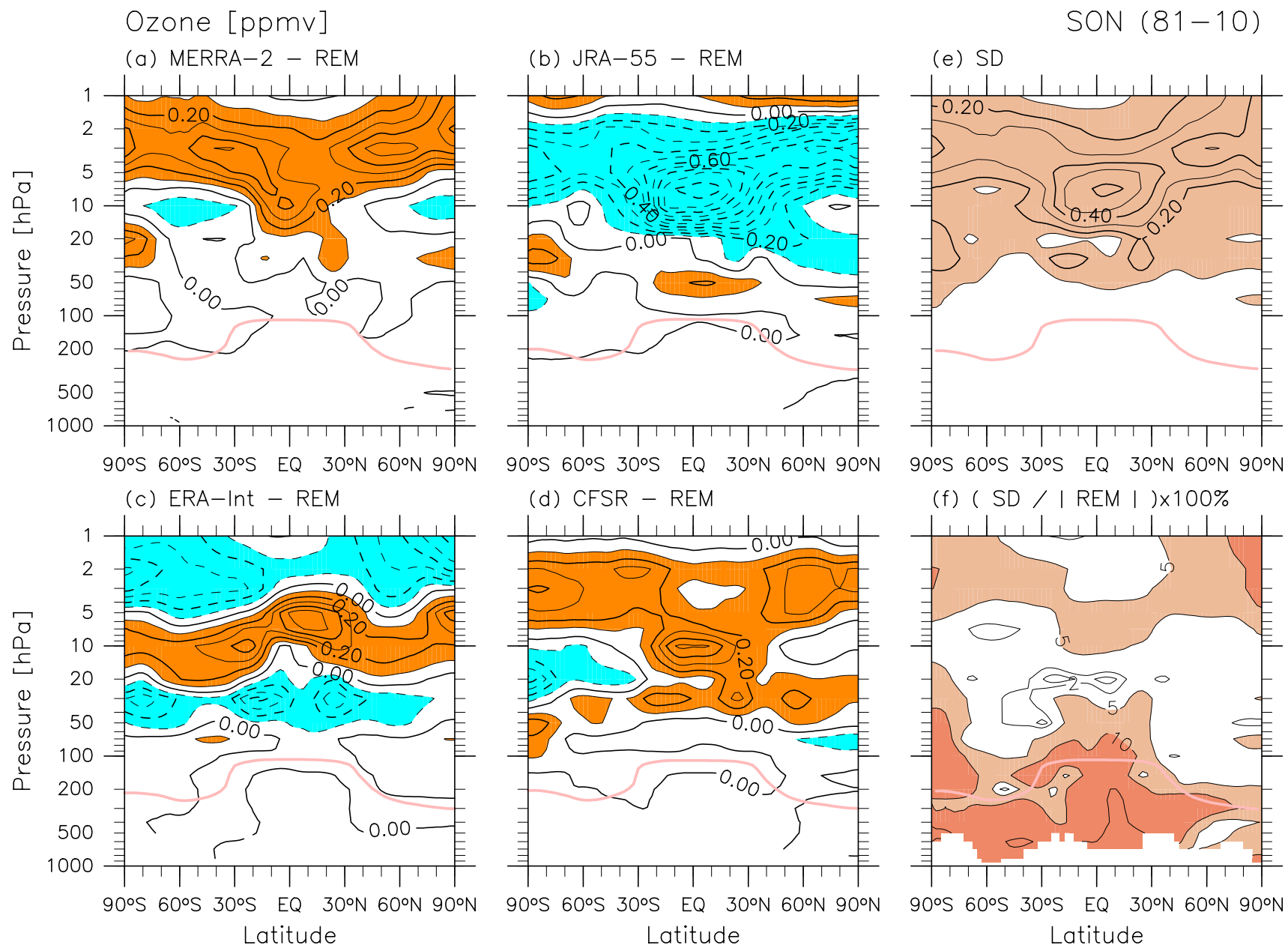




$Q_{\text{total}} - Q_{\text{rad}}$ [K/d]

SON (81–10)

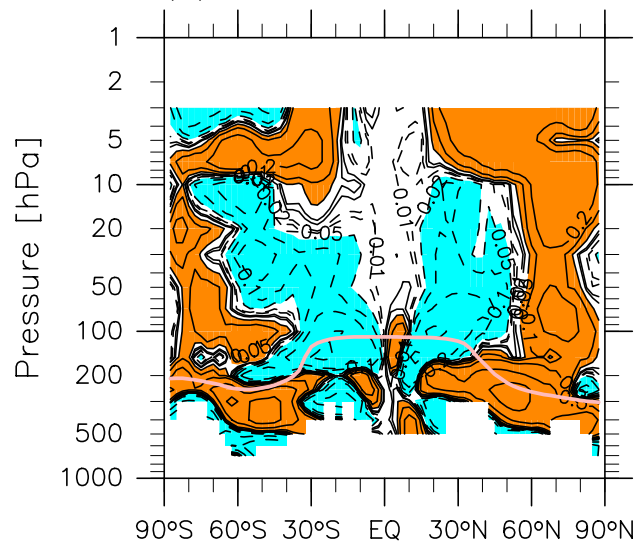




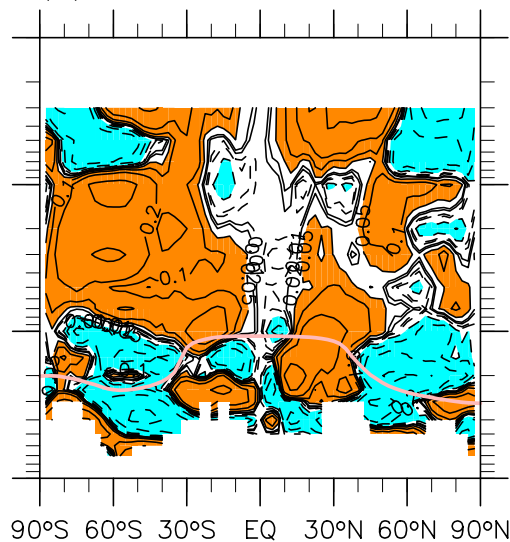
$+fv^*$

SON (81-10)

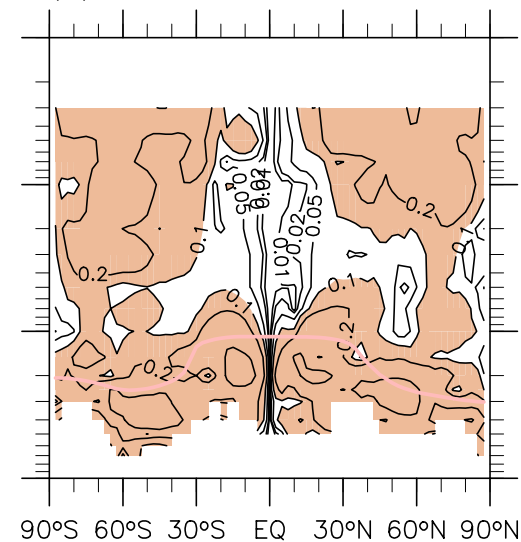
(a) MERRA-2 - REM



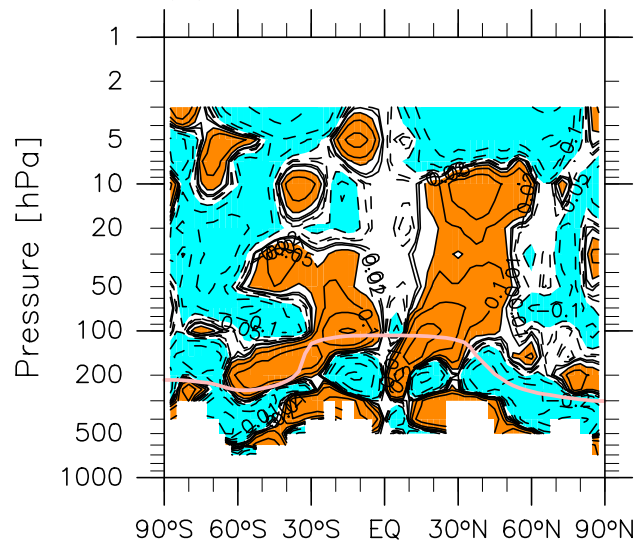
(b) JRA-55 - REM



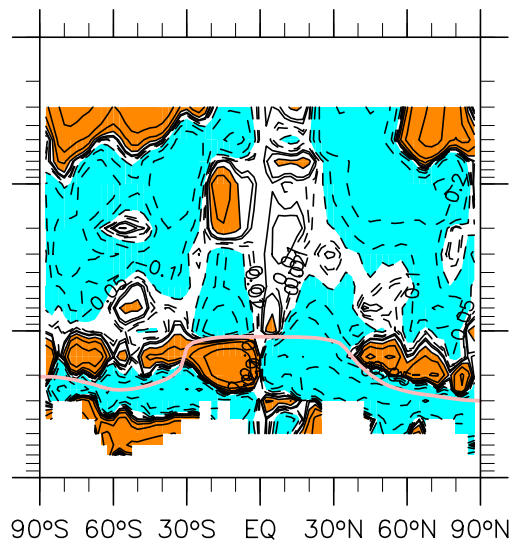
(e) SD



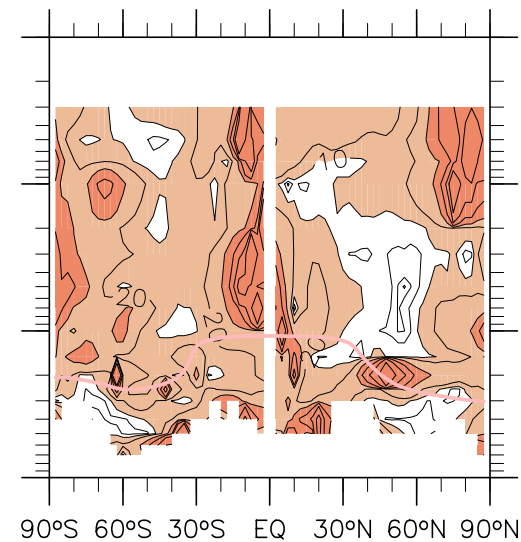
(c) ERA-Int - REM



(d) CFSR - REM



(f) $(SD / |REM|) \times 100\%$



Latitude

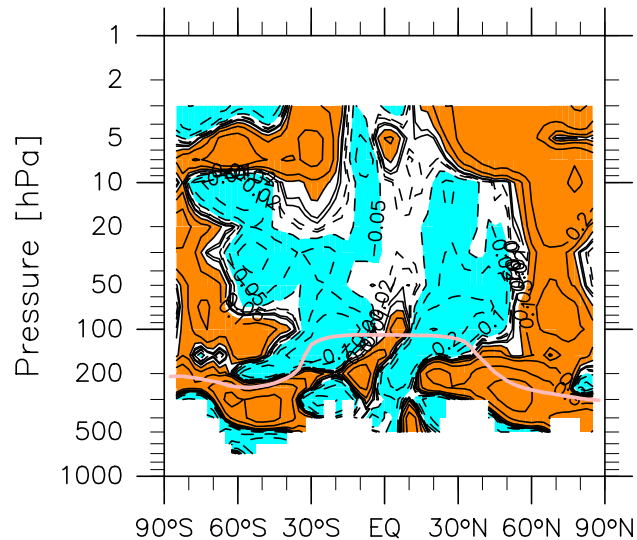
Latitude

Latitude

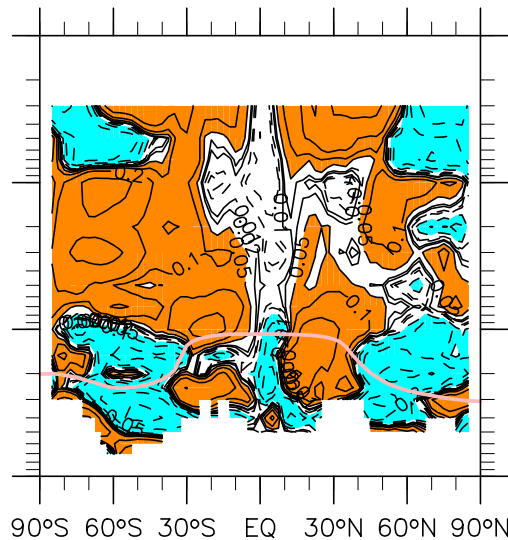
$$+fv^* - v^* \frac{\partial u}{\partial y} - \omega^* \frac{\partial u}{\partial p}$$

SON (81–10)

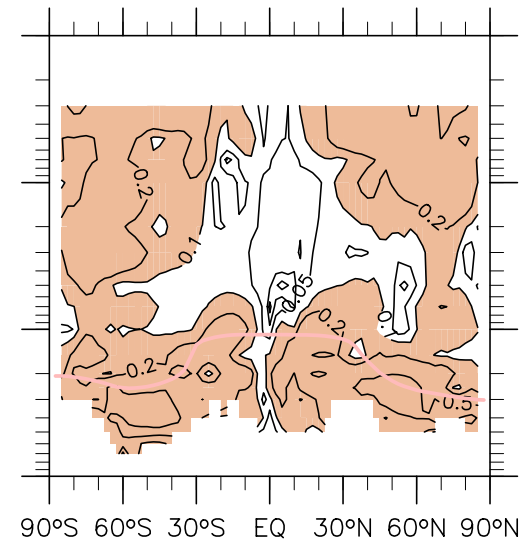
(a) MERRA-2 – REM



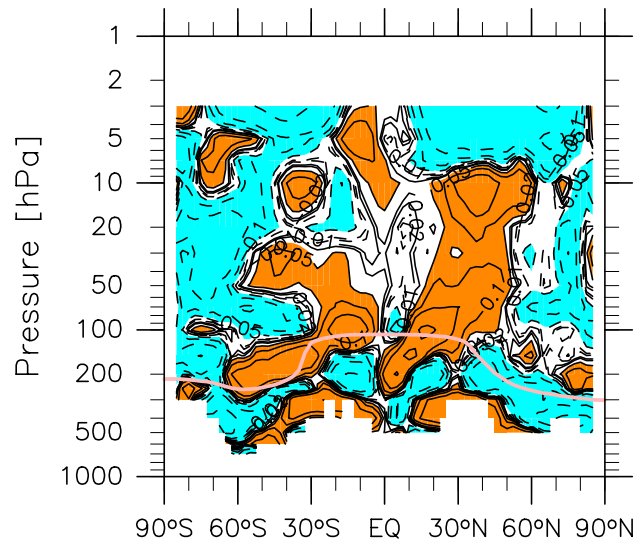
(b) JRA-55 – REM



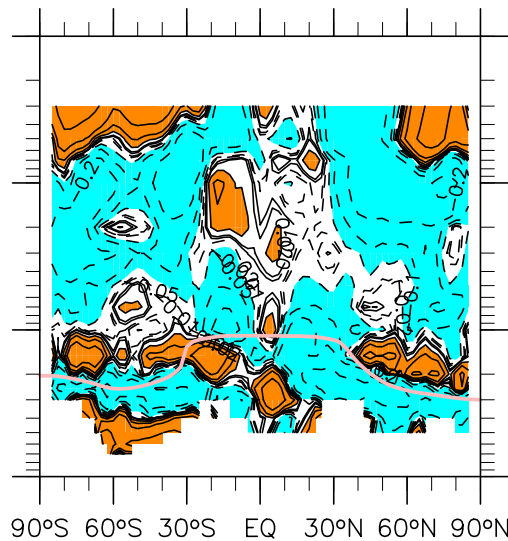
(e) SD



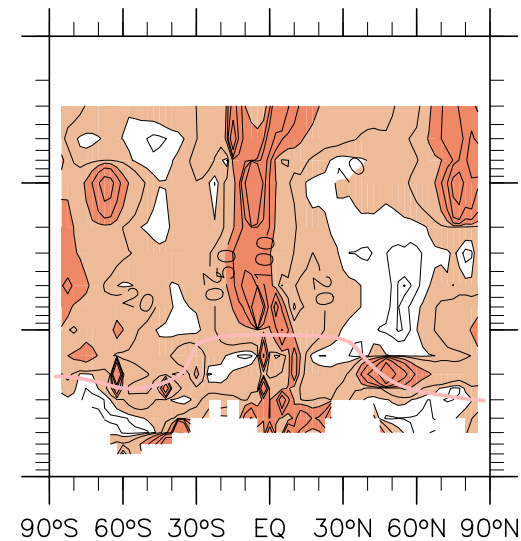
(c) ERA-Int – REM



(d) CFSR – REM



(f) (SD / | REM |)x100%



Latitude

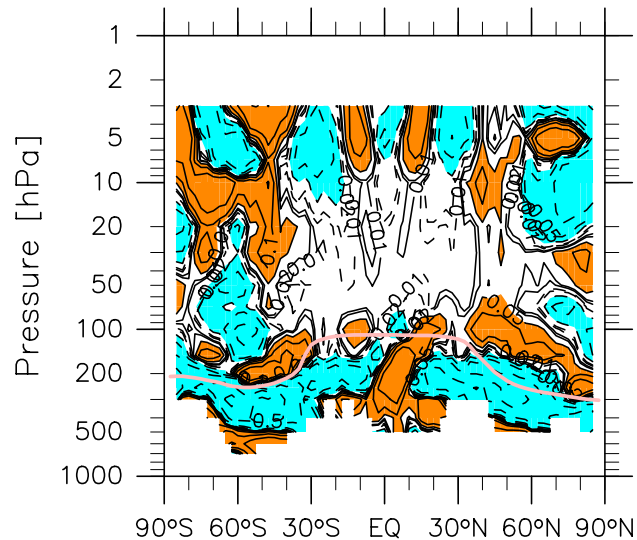
Latitude

Latitude

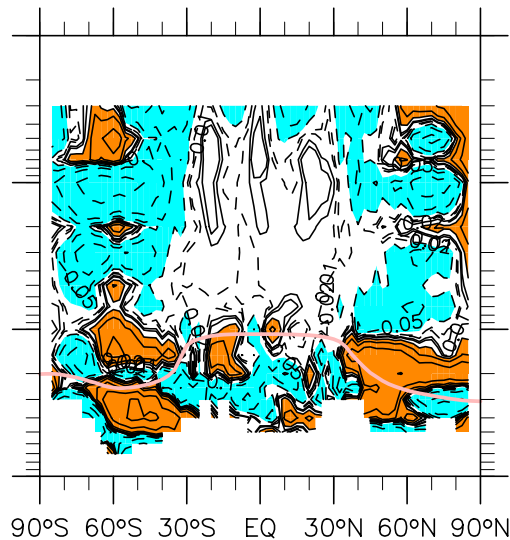
EPFD

SON (81–10)

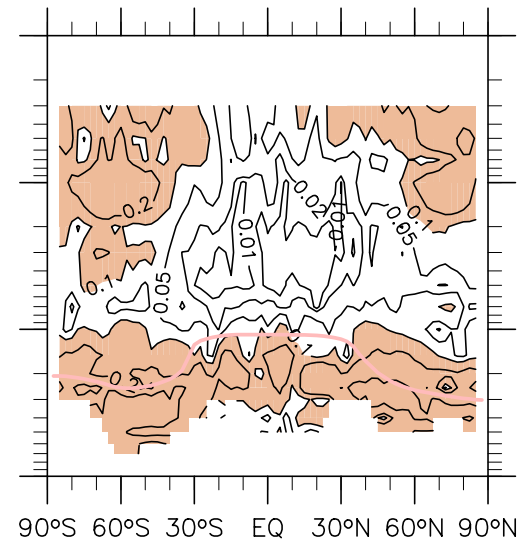
(a) MERRA-2 – REM



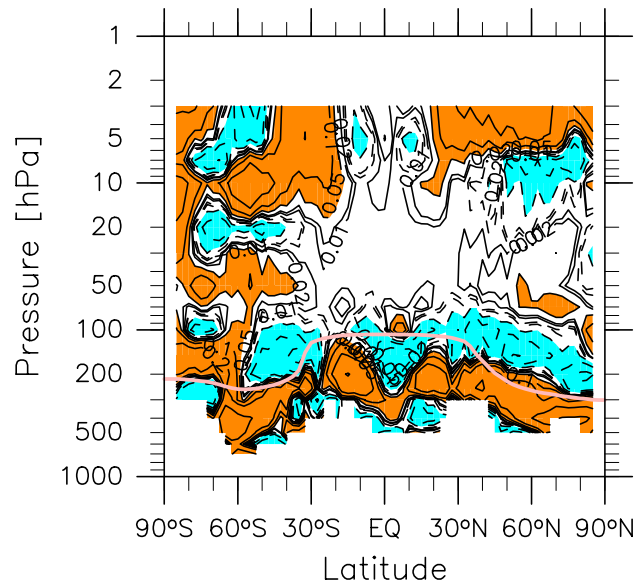
(b) JRA-55 – REM



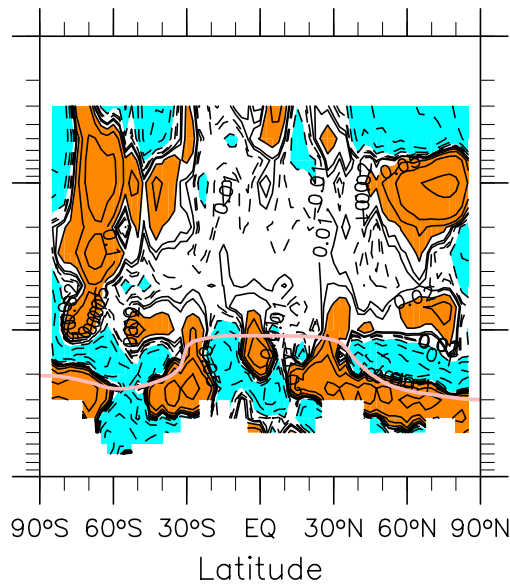
(e) SD



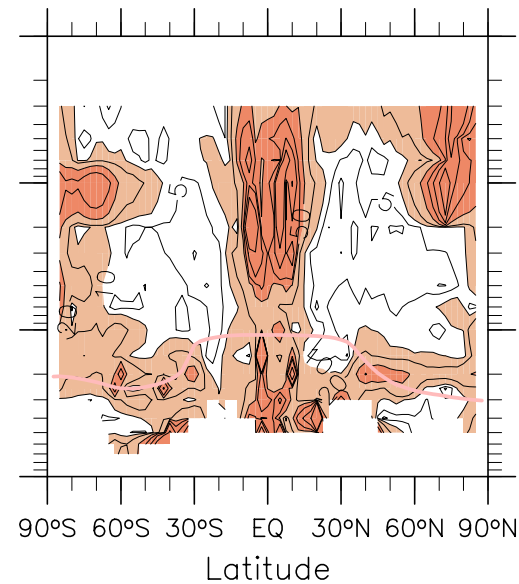
(c) ERA-Int – REM



(d) CFSR – REM

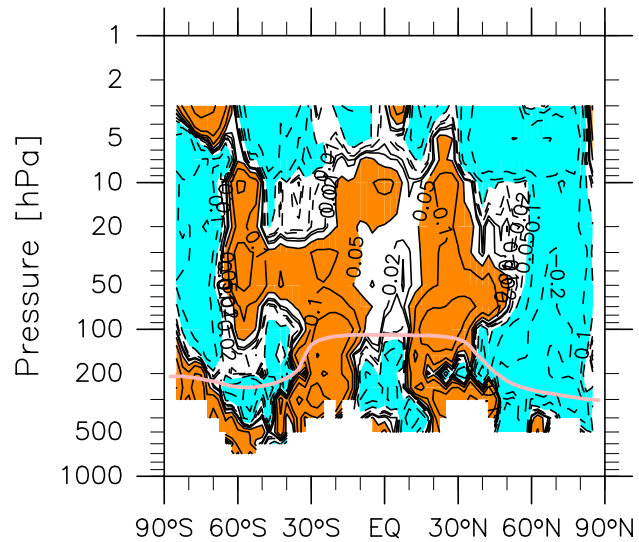


(f) $(SD / |REM|) \times 100\%$

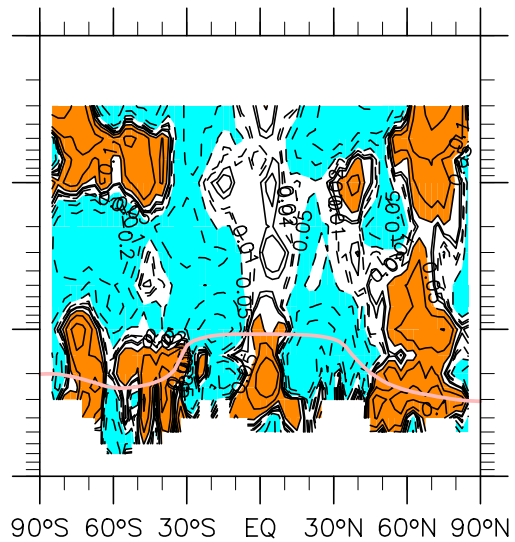


Residual_u

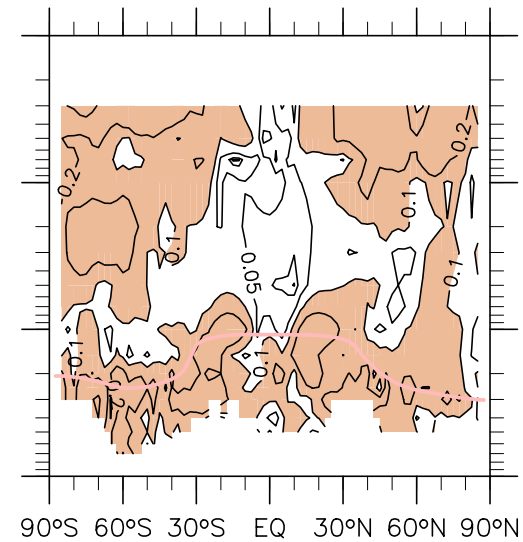
(a) MERRA-2 - REM



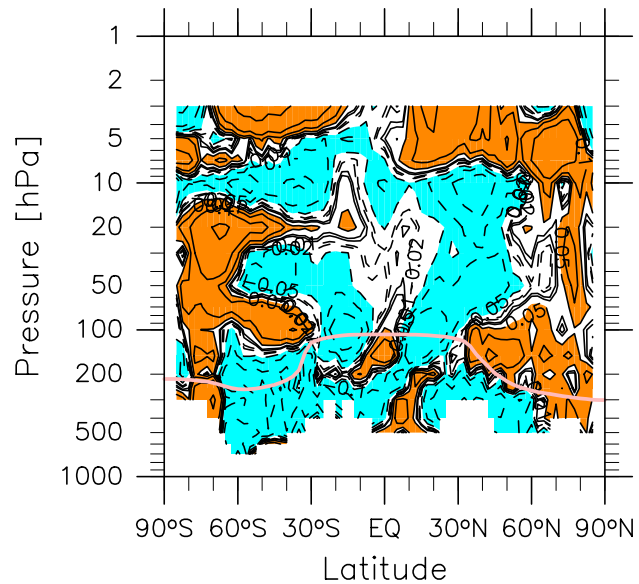
(b) JRA-55 - REM



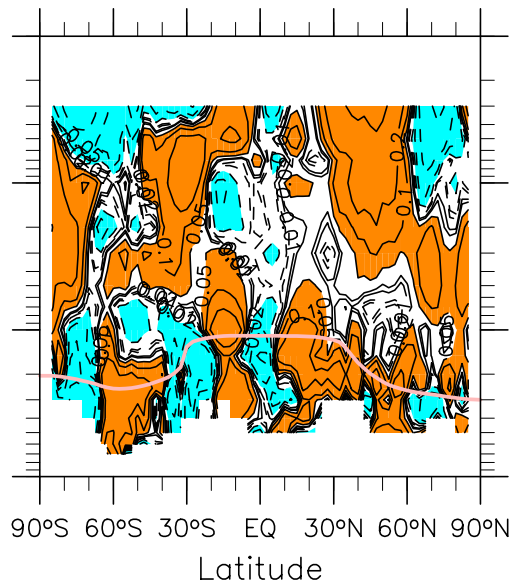
(e) SD



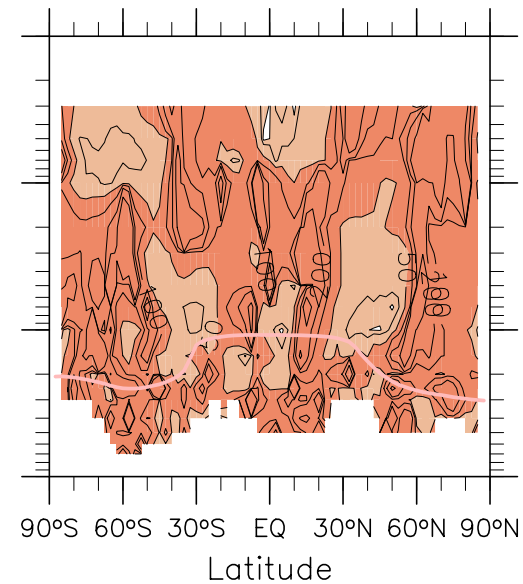
(c) ERA-Int - REM



(d) CFSR - REM



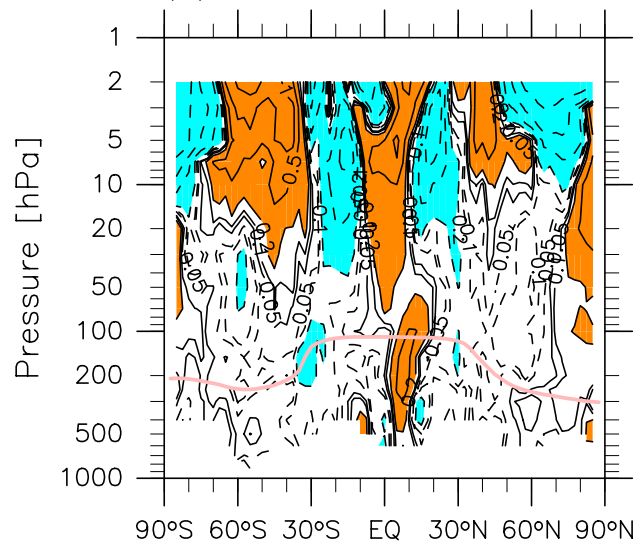
(f) (SD / | REM |) x 100%



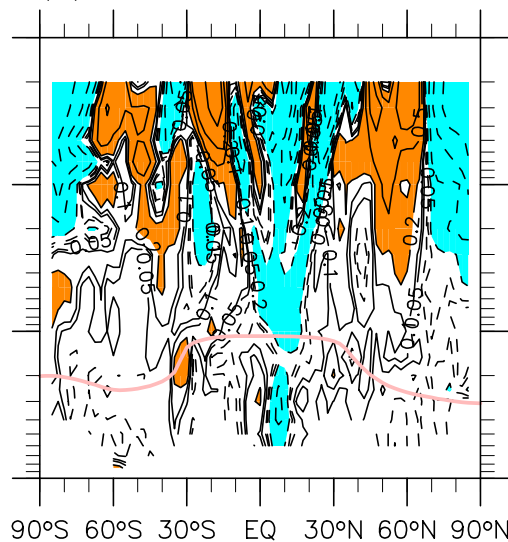
$$-\omega^* \partial\Theta/\partial p$$

SON (81–10)

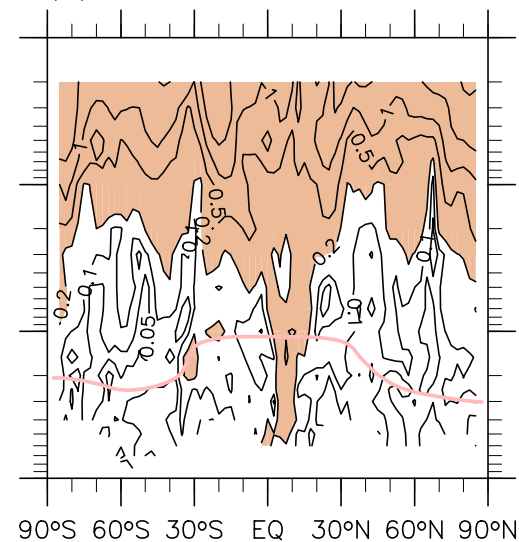
(a) MERRA-2 – REM



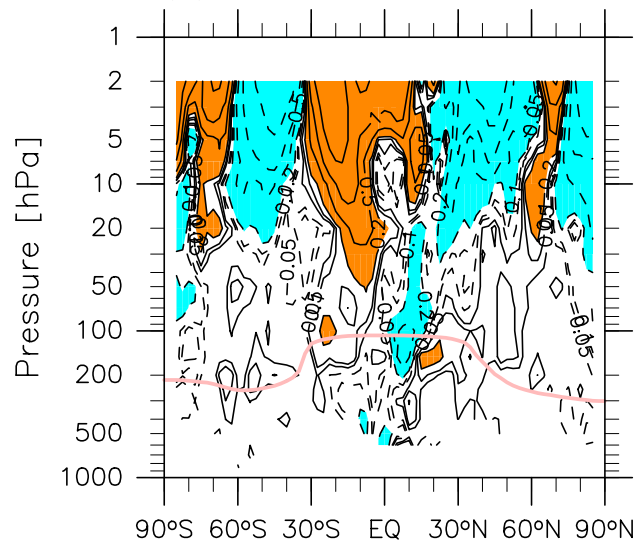
(b) JRA-55 – REM



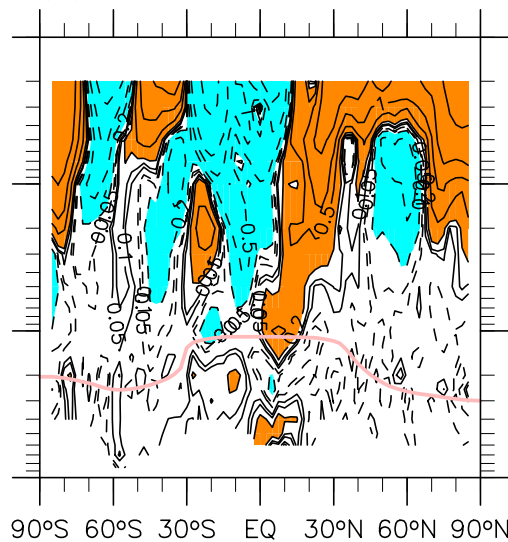
(e) SD



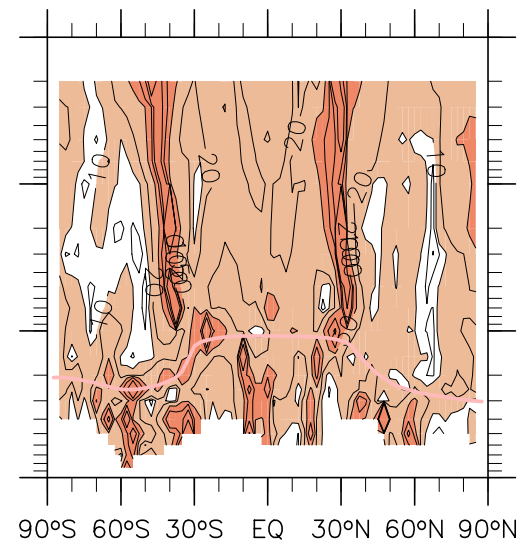
(c) ERA-Int – REM



(d) CFSR – REM



(f) (SD / | REM |) x 100%



Latitude

Latitude

Latitude

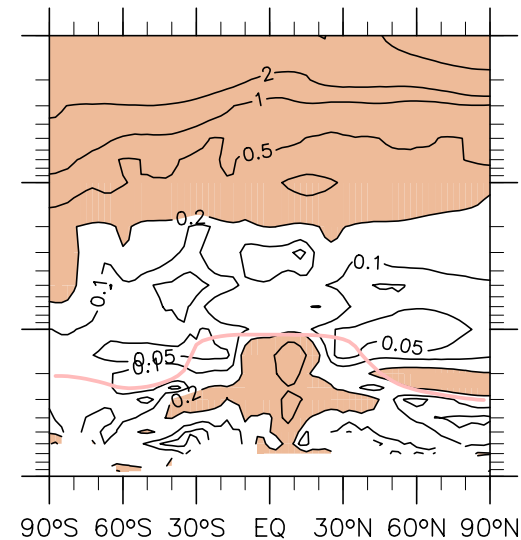
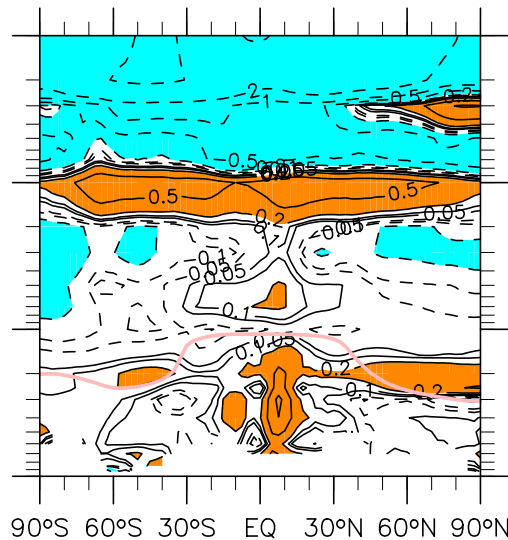
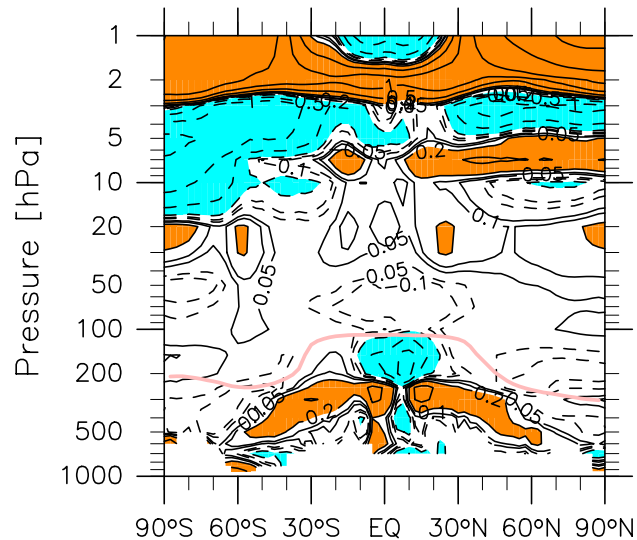
Q_{total}

SON (81–10)

(a) MERRA-2 – REM

(b) JRA-55 – REM

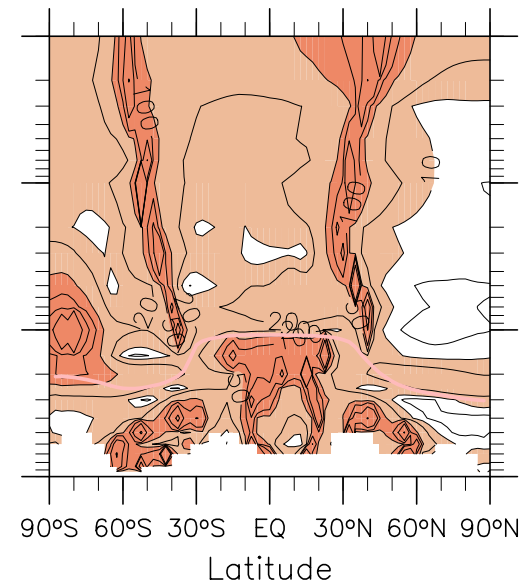
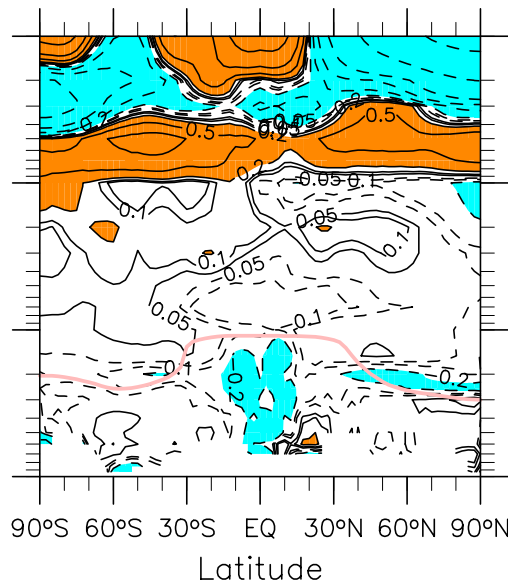
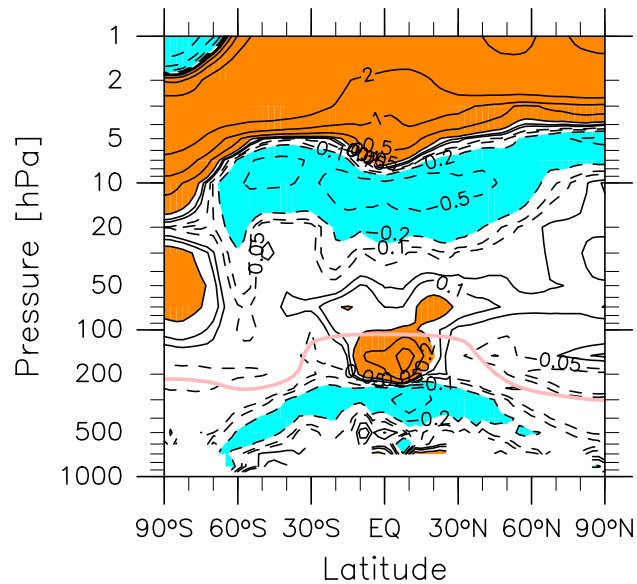
(e) SD



(c) ERA-Int – REM

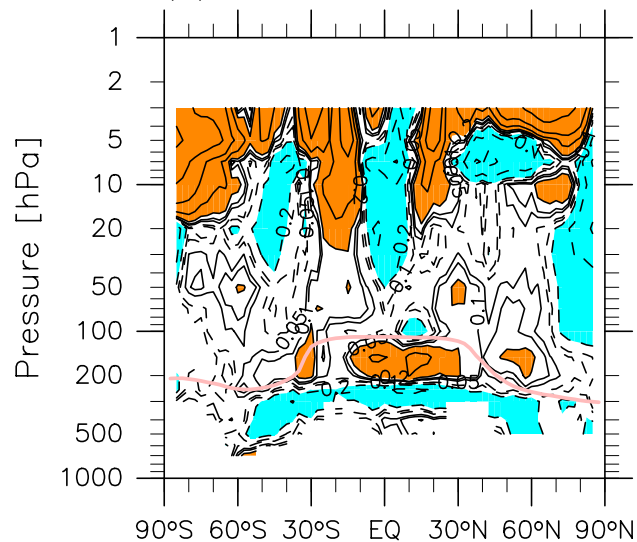
(d) CFSR – REM

(f) (SD / | REM |) x 100%

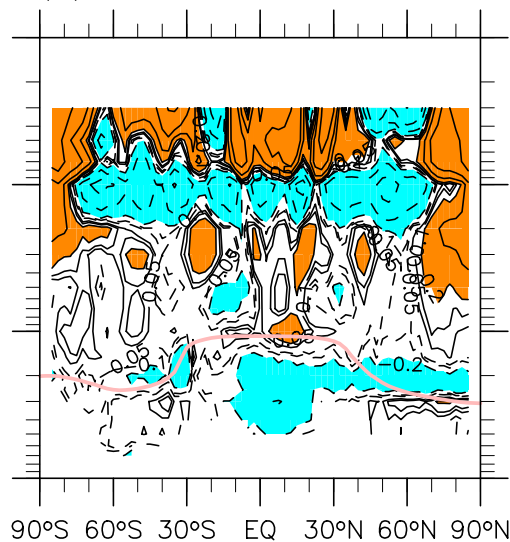


Residual_Θ

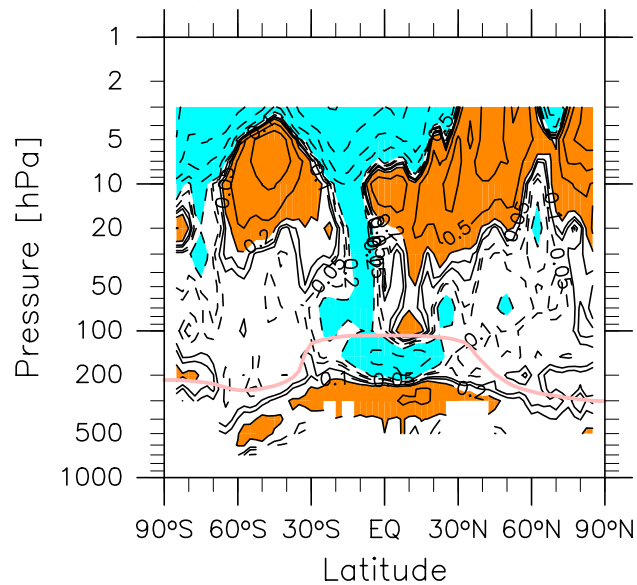
(a) MERRA-2 - REM



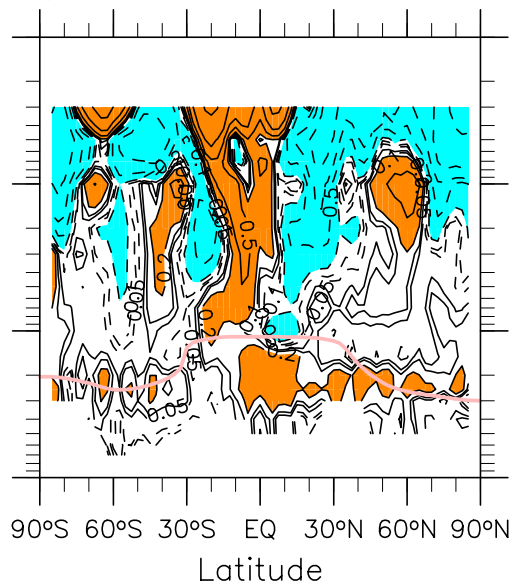
(b) JRA-55 - REM



(c) ERA-Int - REM

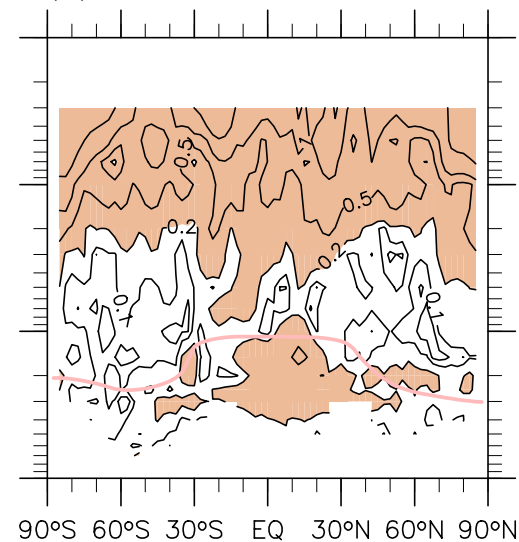


(d) CFSR - REM



SON (81-10)

(e) SD



(f) (SD / | REM |)x100%

