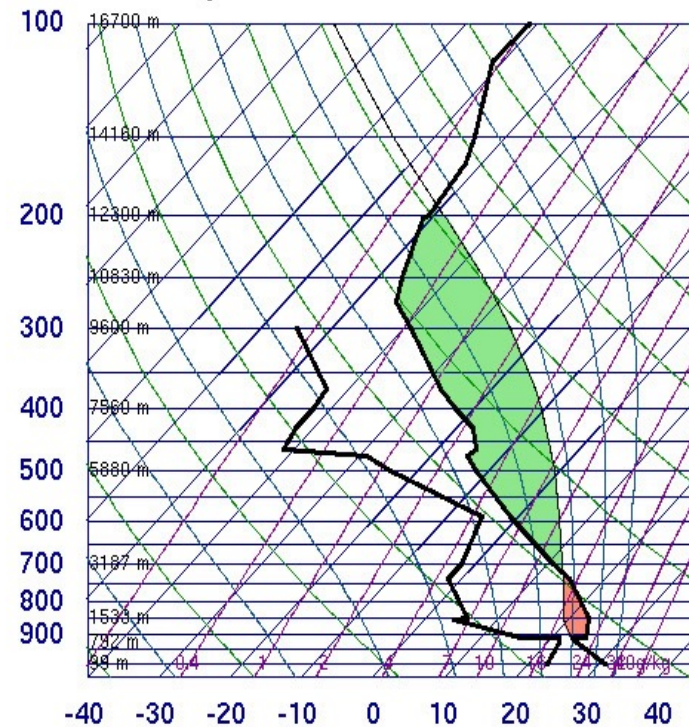


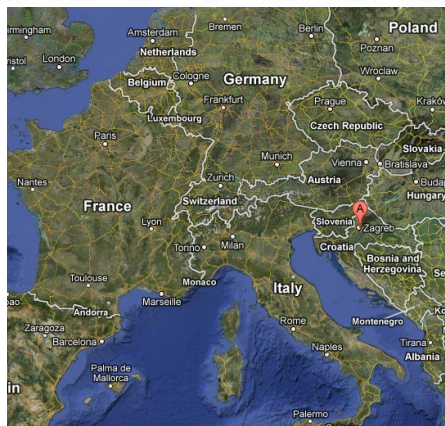
# Triggered versus statistical equilibrium convection

14240 LDDD Zagreb

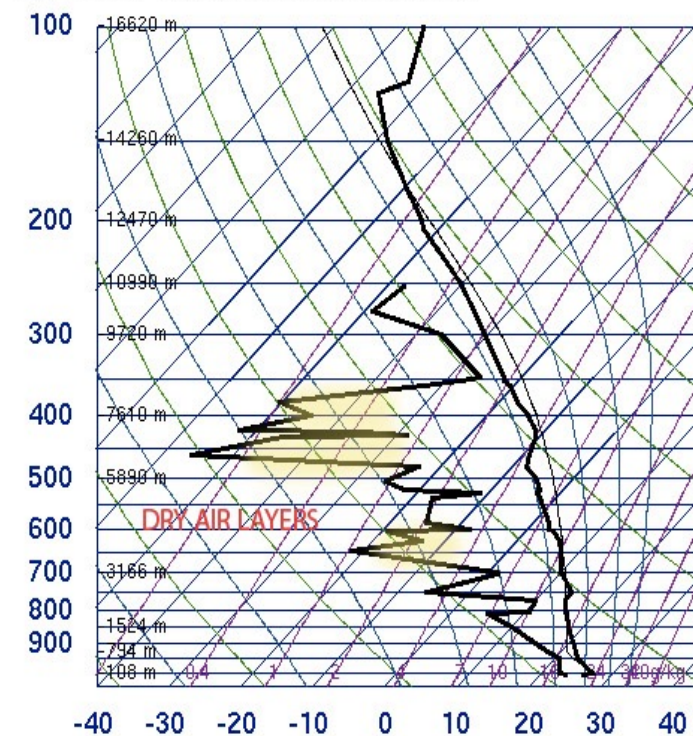


SLAT 45.81  
SLON 16.03  
SELV 128.0  
SHOW -1.05  
LIFT -10.9  
LFTV -11.9  
SWET 174.2  
KINX 27.30  
CTOT 17.50  
VTOT 34.50  
TOTL 52.00  
CAPE 3624.  
CAPV 3858.  
CINS -153.  
CINV -59.2  
EQLV 191.8  
EQTV 191.7  
LFCT 722.8  
LFCV 771.4  
BRCH 139.9  
BRCV 148.9  
LCLT 293.9  
LCLP 889.4  
MLTH 303.9  
MLMR 17.72  
THCK 5781.  
PWAT 37.77

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82400 SBFN Fernando De Noronha

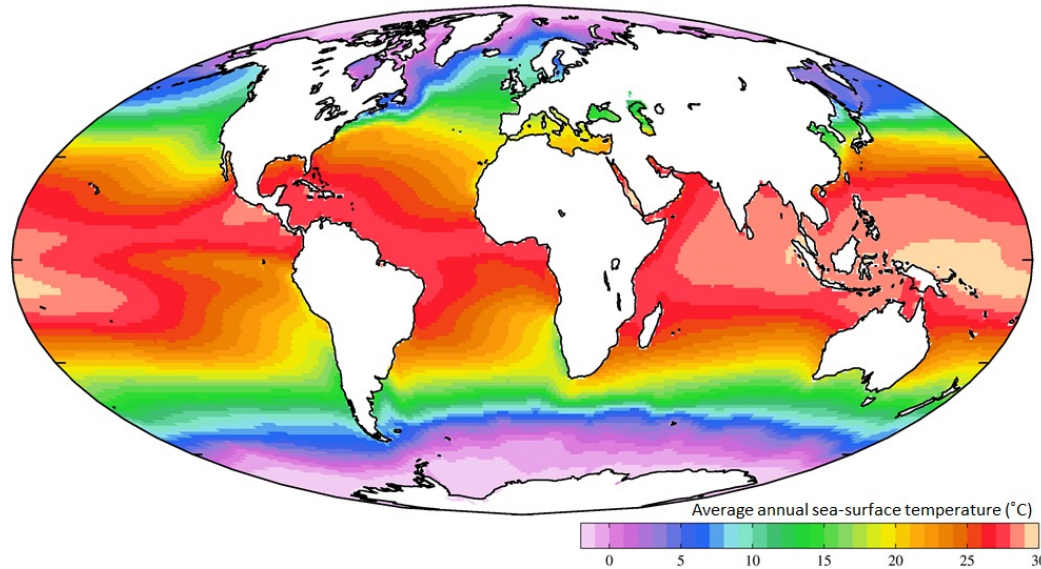


SLAT -3.85  
SLON -32.41  
SELV 45.00  
SHOW 4.76  
LIFT -2.44  
LFTV -3.30  
SWET 136.0  
KINX 24.30  
CTOT 15.30  
VTOT 23.30  
TOTL 38.60  
CAPE 638.8  
CAPV 879.3  
CINS -27.1  
CINV -9.03  
EQLV 173.2  
EQTV 173.1  
LFCT 807.5  
LFCV 888.4  
BRCH 214.7  
BRCV 295.5  
LCLT 294.0  
LCLP 928.0  
MLTH 300.3  
MLMR 17.07  
THCK 5782.  
PWAT 39.53

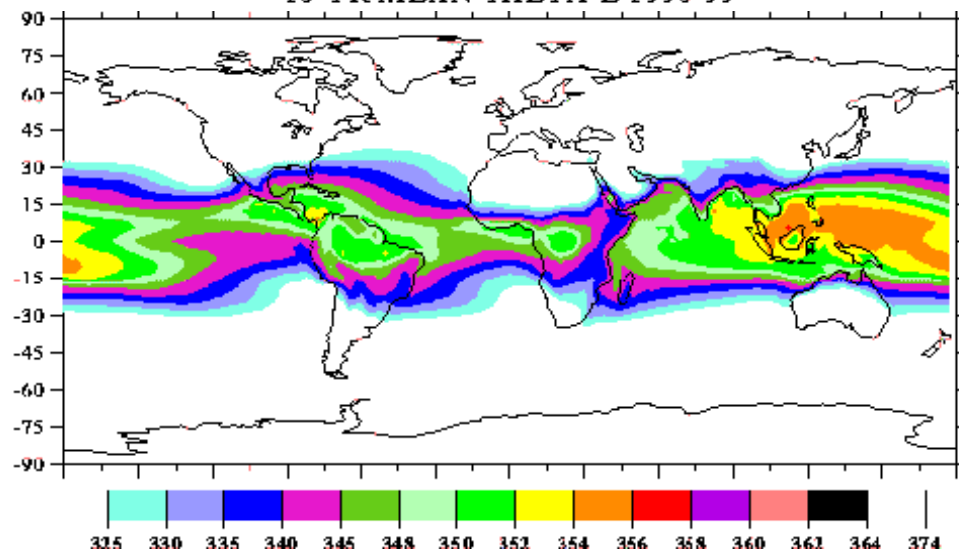
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# Global mean SSTs and $\Theta_e$

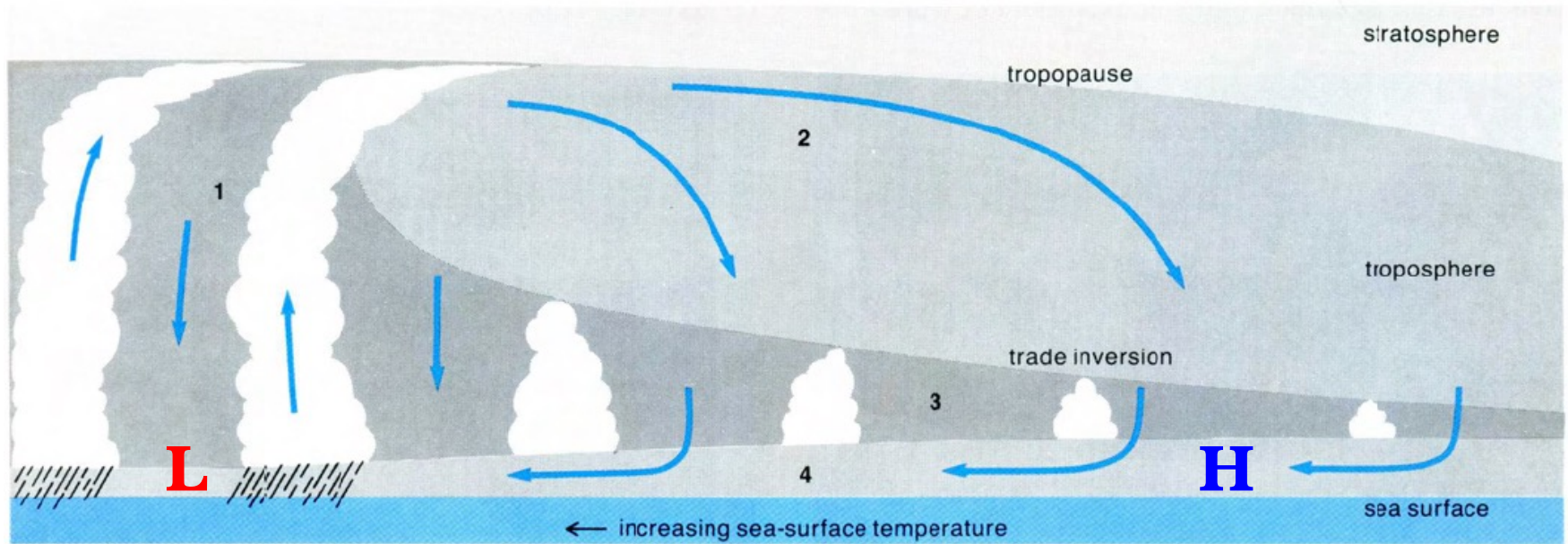
GLOBAL SEA SURFACE TEMPERATURES



10-YR MEAN  $\Theta_{\text{TA-E}}$  1990-99



# Emanuel (1988): Normal state of the tropical maritime environment

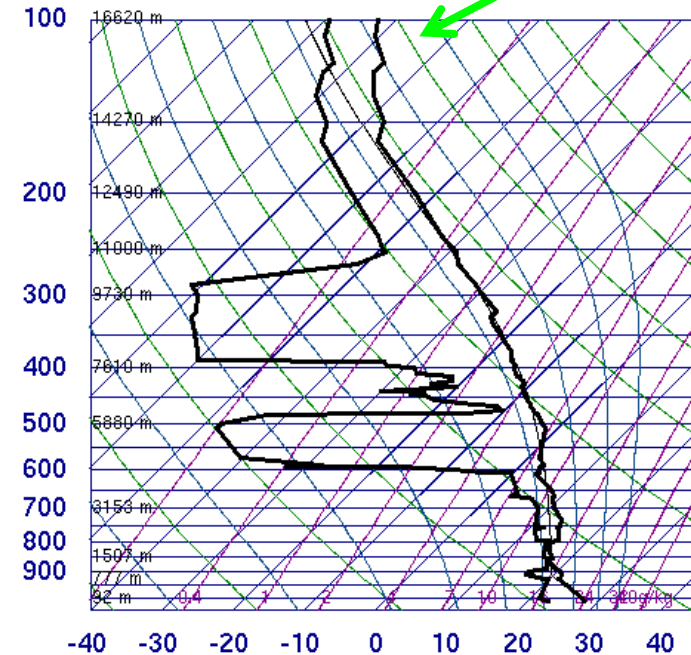


- 1: Air ascends in deep cumulus convection**
- 2: Air slowly subsides as it cools due to net longwave radiation loss to space**
- 3: Trade wind inversion, moistened by trade cumuli**
- 4: Increase of  $\Theta_e$  due to boundary layer fluxes**

# Typical soundings from the two ends of the Hadley cell

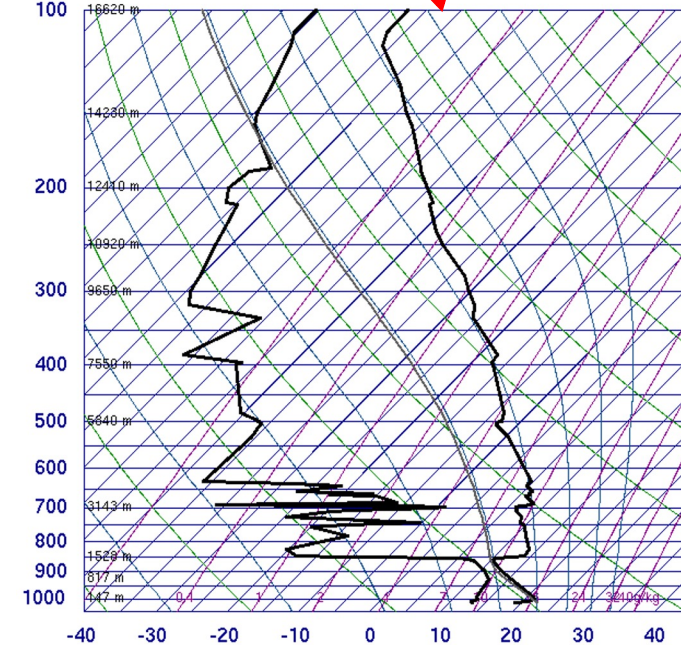


91376 PKMJ Majuro



SLAT 7.08  
SLON 171.38  
SELV 3.00  
SHOW 1.92  
LIFT 0.83  
LFTV -0.11  
SWET 257.2  
KINX 33.90  
CTOT 19.00  
VTOT 20.10  
TOTL 39.10  
CAPE 52.80  
CAPV 148.3  
CINS -16.0  
CINV -10.6  
EQLV 259.7  
EQTV 259.0  
LFCT 874.6  
LFCV 877.6  
BRCH 3.55  
BRCV 9.97  
LCLT 293.0  
LCLP 915.9  
MLTH 300.4  
MLMR 16.21  
THCK 5788.  
PWAT 52.56

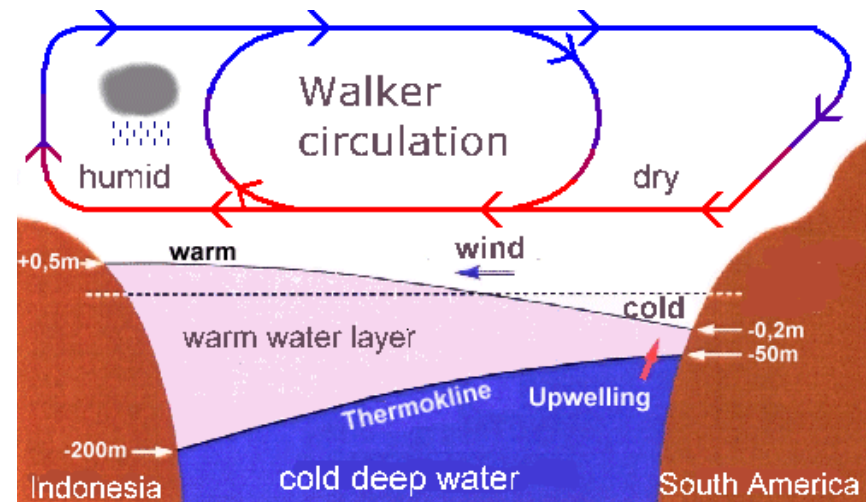
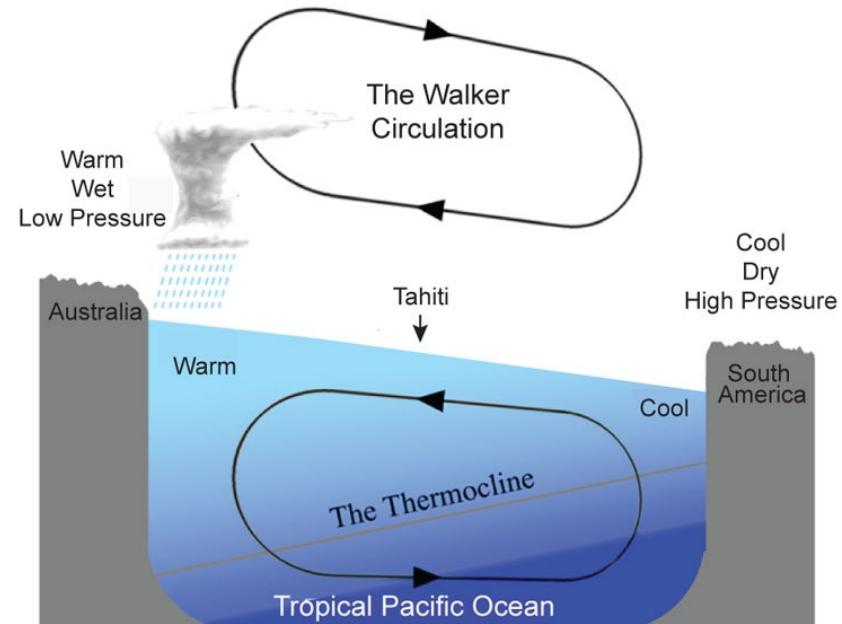
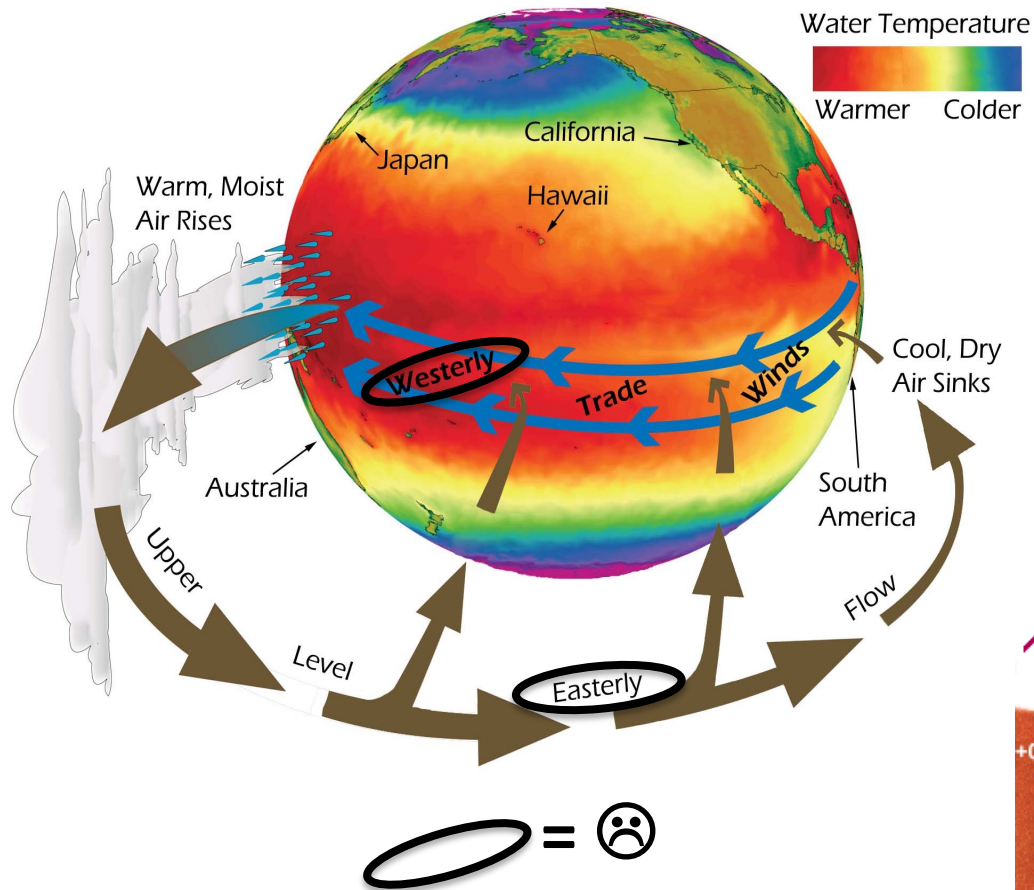
91285 PHTO Hilo



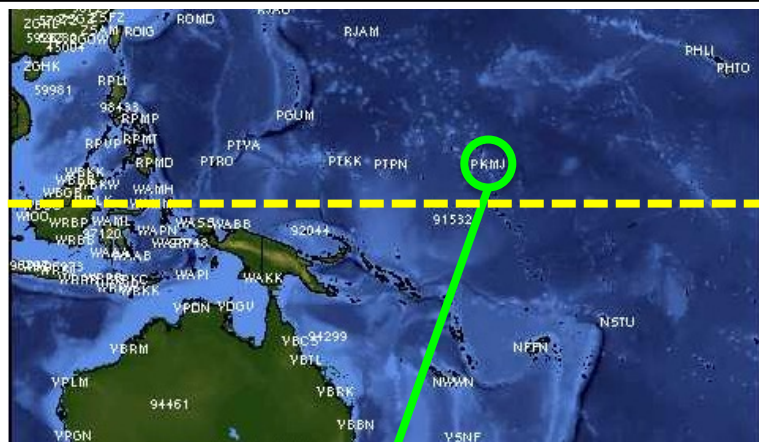
SLAT 19.72  
SLON -155.05  
SELV 12.00  
SHOW 16.33  
LIFT 7.50  
LFTV 7.17  
SWET 43.01  
KINX 0.90  
CTOT 0.90  
VTOT 19.90  
TOTL 20.80  
CAPE 0.00  
CAPV 0.00  
CINS 0.00  
CINV 0.00  
EQLV -9999  
EQTV -9999  
LFCT -9999  
LFCV -9999  
BRCH 0.00  
BRCV 0.00  
LCLT 284.4  
LCLP 887.6  
MLTH 321.9  
MLMR 9.56  
THCK 5693.  
PWAT 18.98

# The Walker Circulation

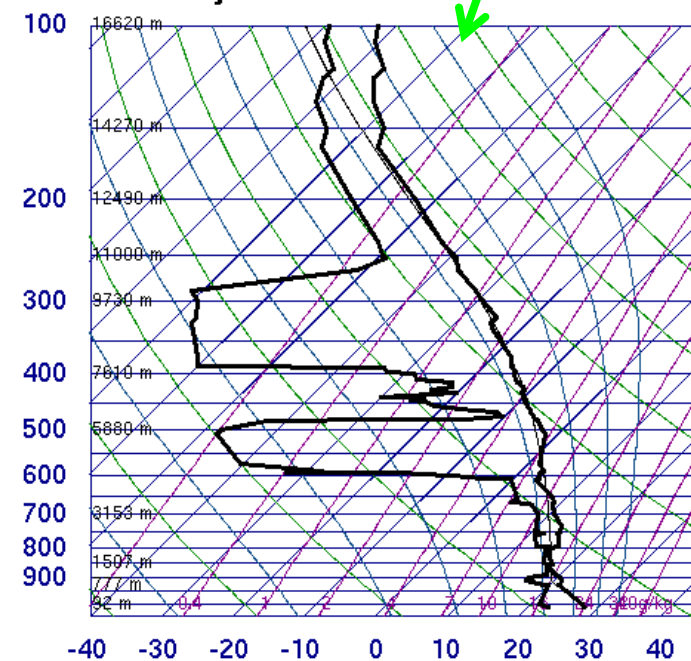
## Walker Circulation



# Typical soundings from the two ends of the Walker Circulation



**91376 PKMJ Majuro**

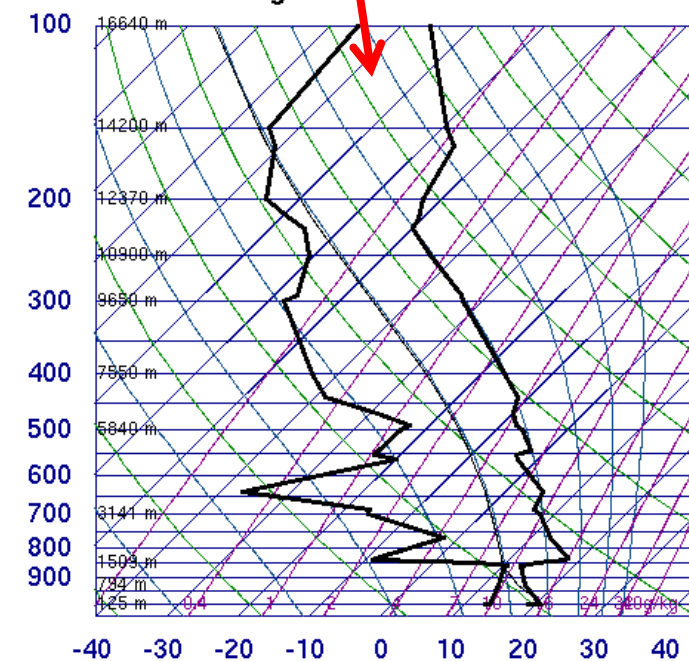


SLAT 7.08  
SLON 171.38  
SELV 3.00  
SHOW 1.92  
LIFT 0.83  
LFTV -0.11  
SWET 257.2  
KINX 33.90  
CTOT 19.00  
VTOT 20.10  
TOTL 39.10  
CAPE 52.80  
CAPV 148.3  
CINS -16.0  
CINV -10.6  
EQLV 259.7  
EQTV 259.0  
LFCT 874.6  
LFCV 877.6  
BRCH 3.55  
BRCV 9.97  
LCLT 293.0  
LCLP 915.9  
MLTH 300.4  
MLMR 16.21  
THCK 5788.  
PWAT 52.56

University of Wyoming



**85442 SCFA Antofagasta**



SLAT -23.43  
SLON -70.45  
SELV 115.0  
SHOW 8.70  
LIFT 8.88  
LFTV 8.71  
SWET 111.8  
KINX 3.10  
CTOT 12.70  
VTOT 20.70  
TOTL 33.40  
CAPE 0.00  
CAPV 0.00  
CINS 0.00  
CINV 0.00  
EQLV -9999  
EQTV -9999  
LFCT -9999  
LFCV -9999  
BRCH 0.00  
BRCV 0.00  
LCLT 284.7  
LCLP 891.1  
MLTH 294.3  
MLMR 9.72  
THCK 5715.  
PWAT 22.19

University of Wyoming