

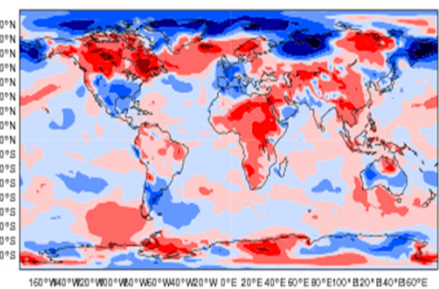
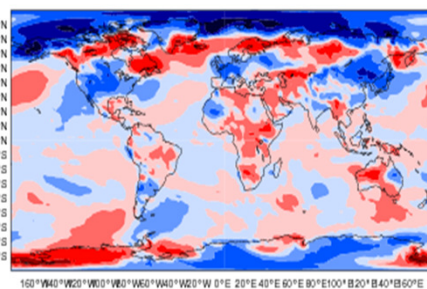
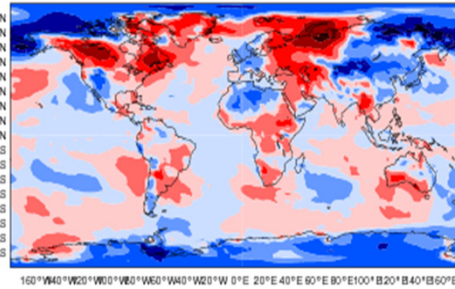
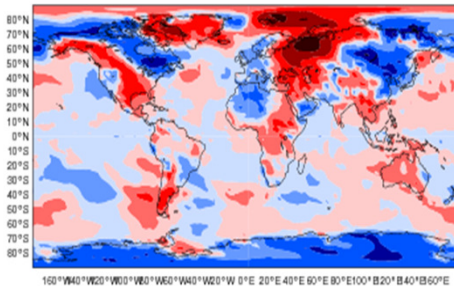
# 2-metre temperature anomalies

4-10 Feb

11-17 Feb

18-25 Feb

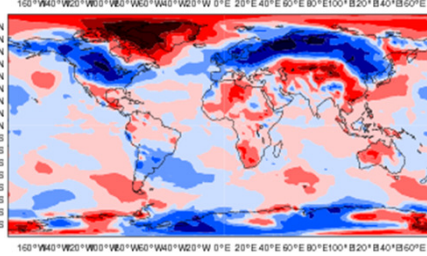
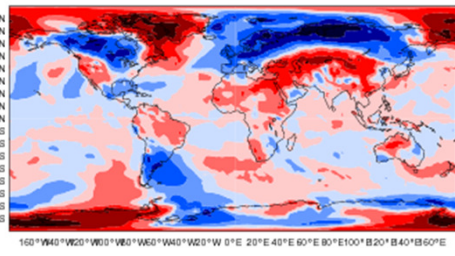
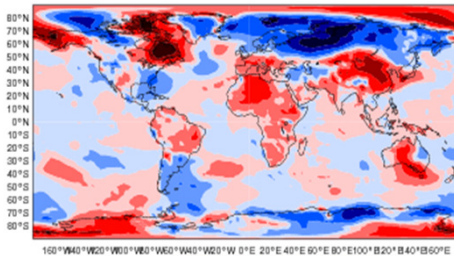
26 Feb-3 March



4 -10 March

11 -17 March

18 -25 March

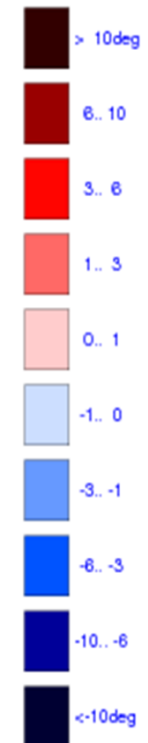
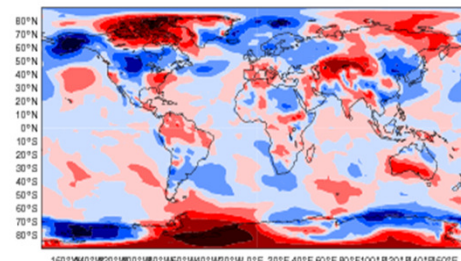
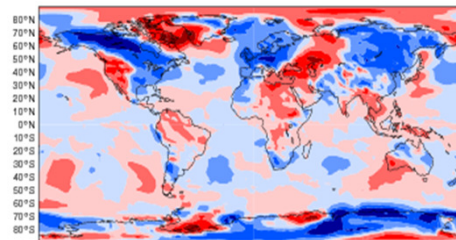
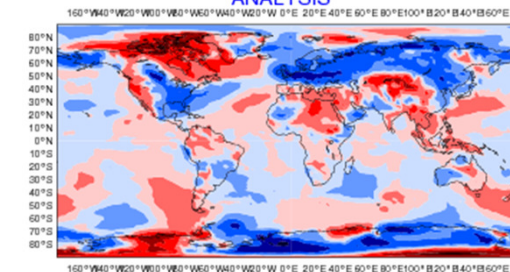


26 -31 March

ANALYSIS

1-7 April

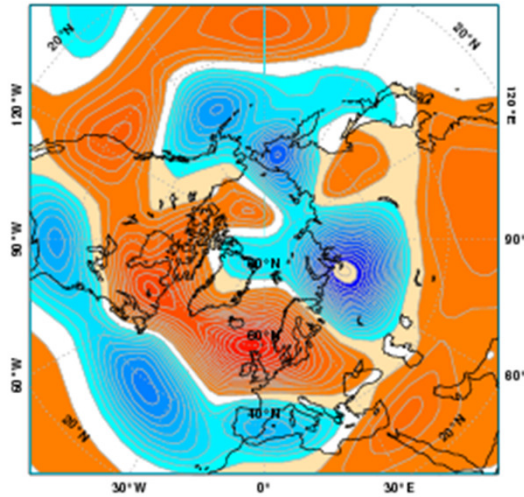
8-15 April



# Z500 anomalies

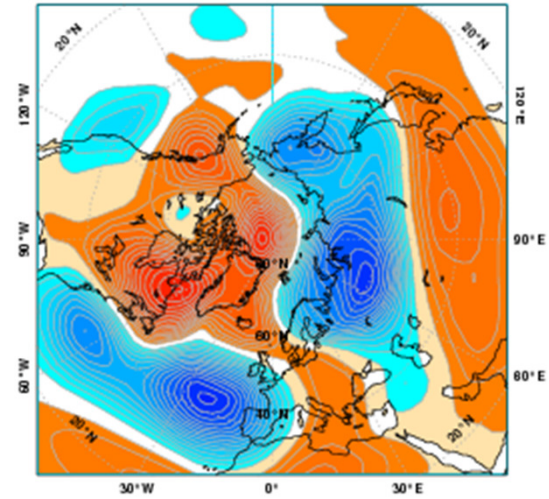
25Feb-3March

Observed anomaly: Mon 20130225- Sun 20130303



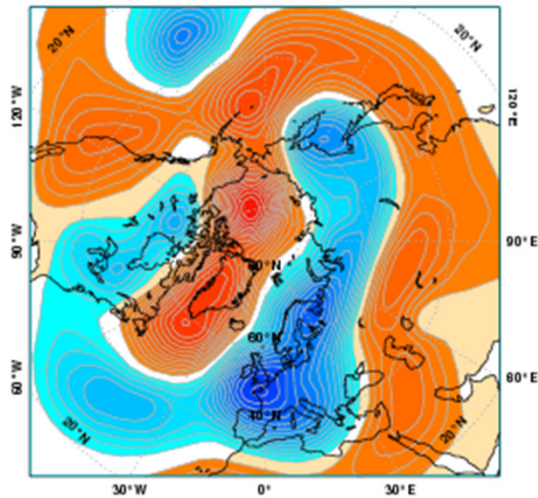
4-10 March

Observed anomaly: Mon 20130304- Sun 20130310

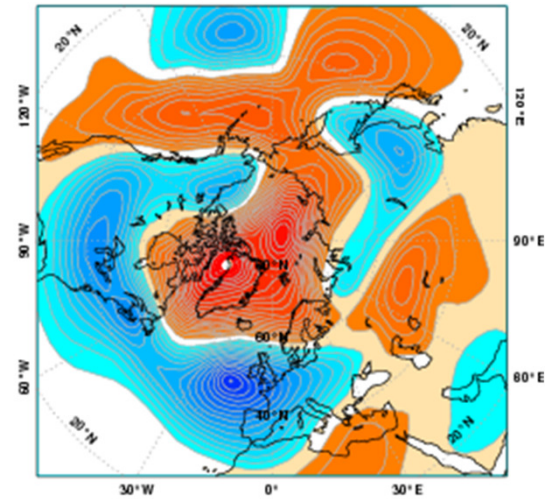


11-17 March

Observed anomaly: Mon 20130311- Sun 20130317



Observed anomaly: Mon 20130318- Sun 20130324

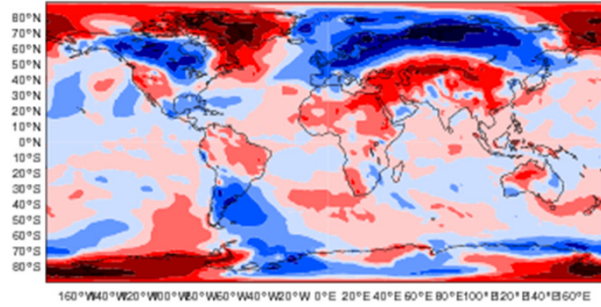




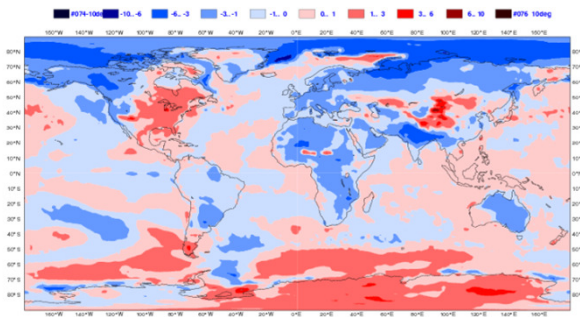
# 2mtm anomalies 14 Feb day 26-32

11 -17 March

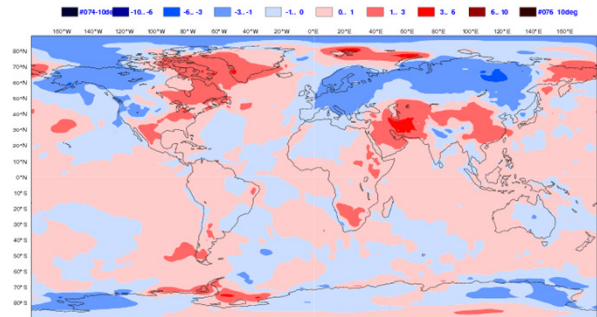
ERA Interim



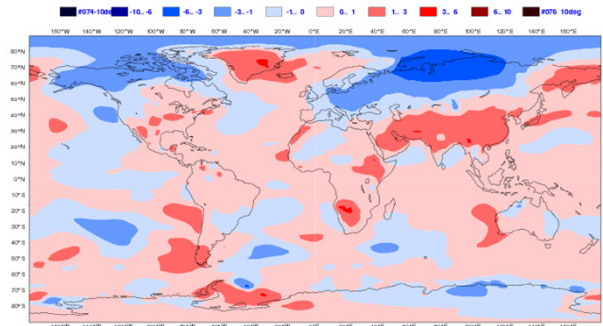
EC



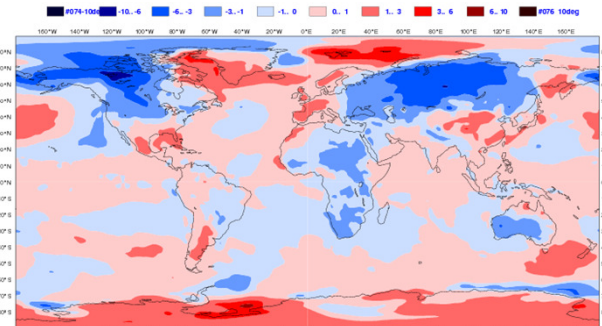
ECMWF



JMA



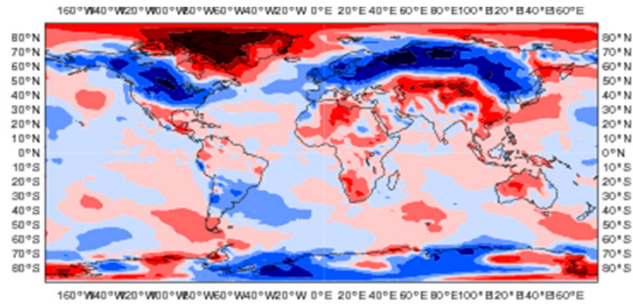
NCEP



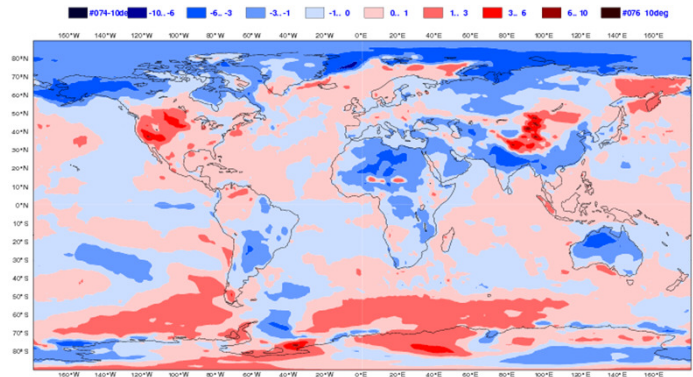
# 2mtm anomalies 21 Feb day 26-32

18 -24 March

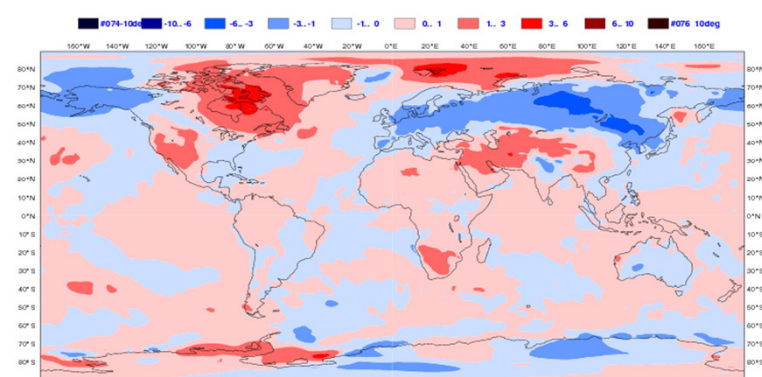
ERA Interim



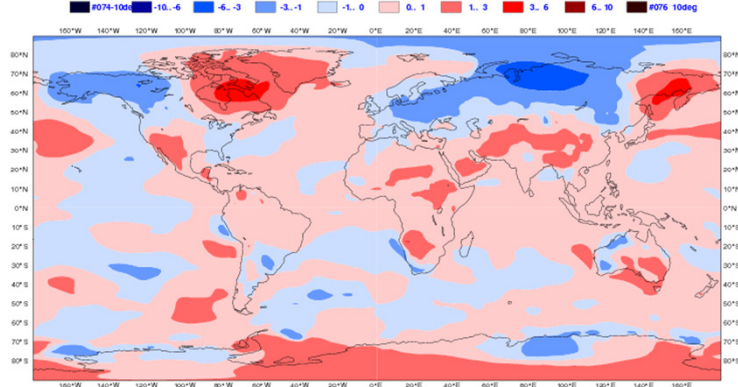
EC



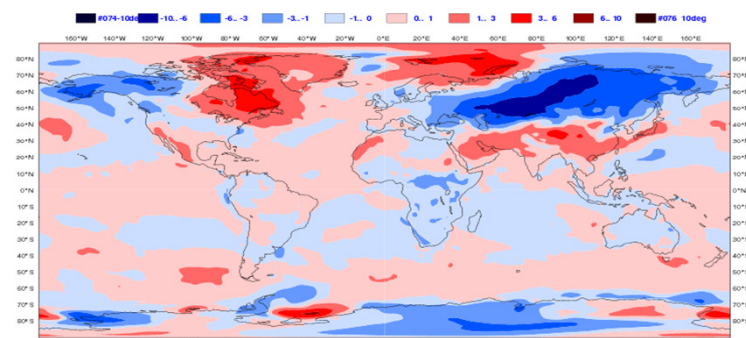
ECMWF



JJVA



NCEP

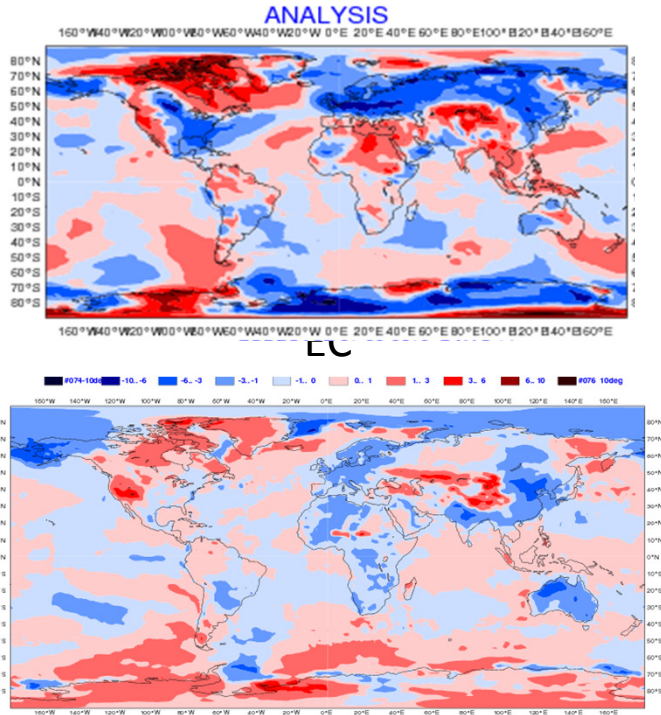




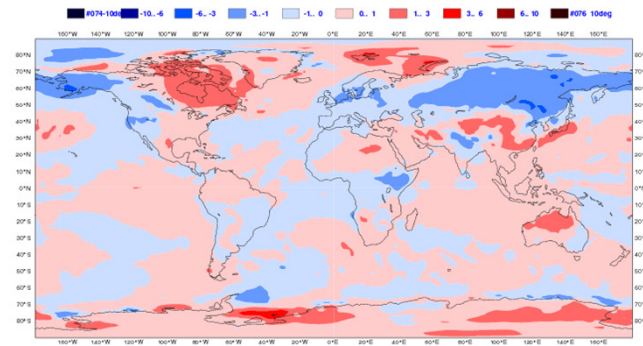
# 2mtm anomalies 28 Feb day 26-32

26 -31 March

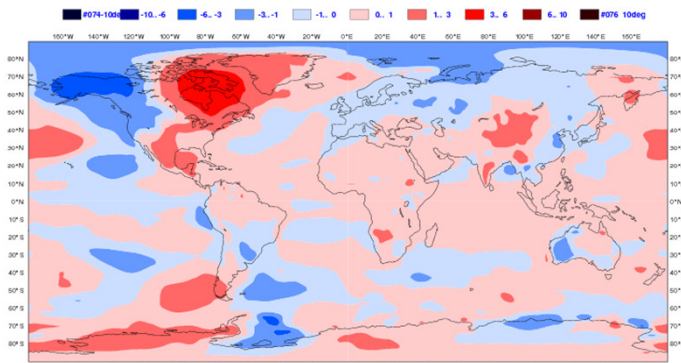
ERA Interim



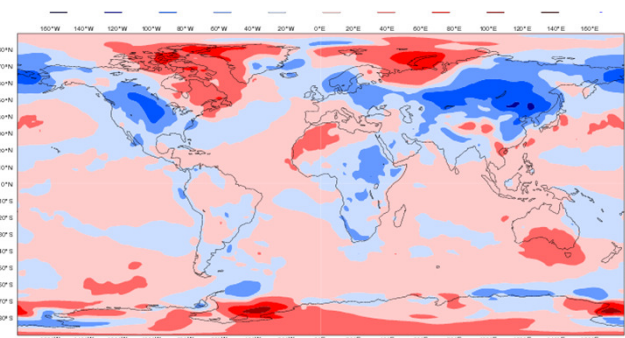
ECMWF



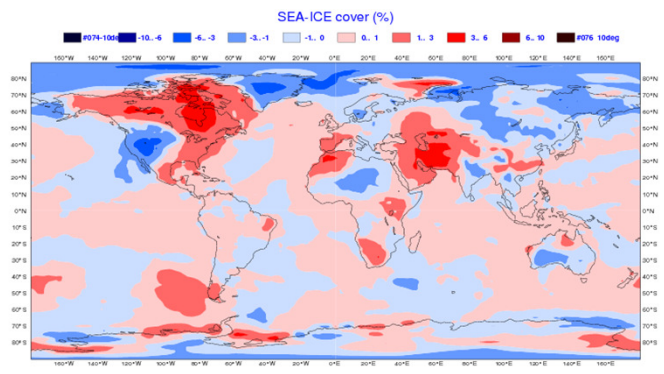
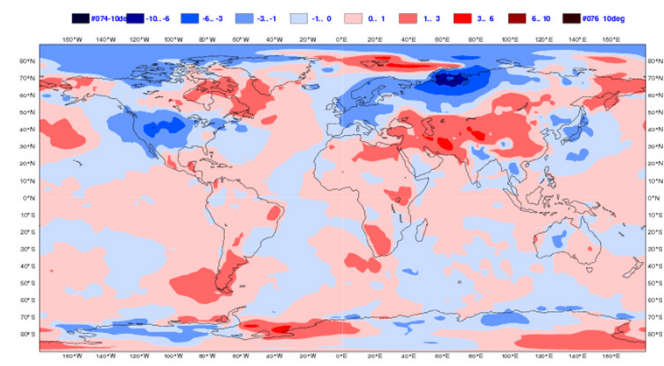
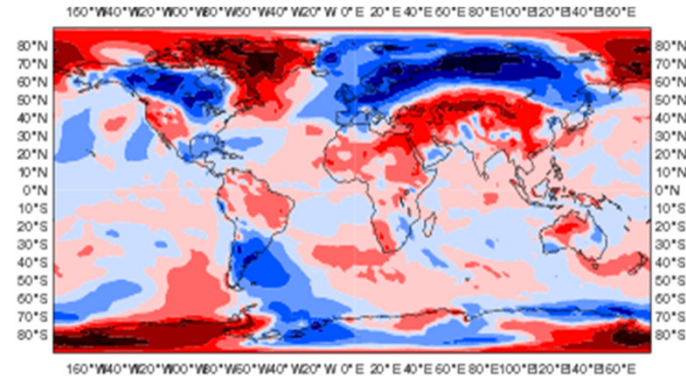
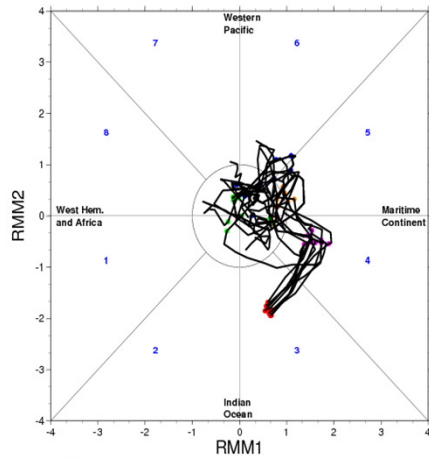
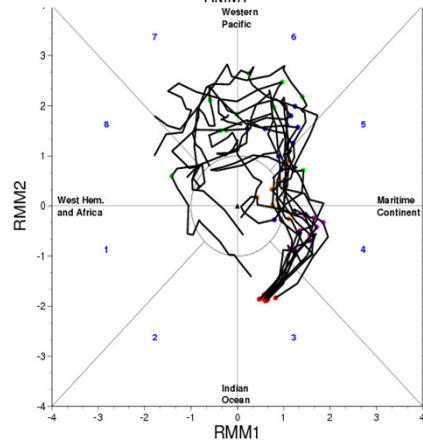
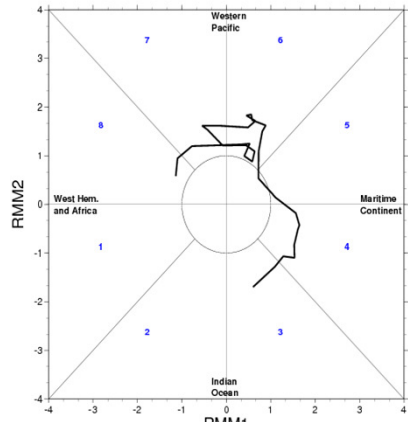
JMA



NCEP



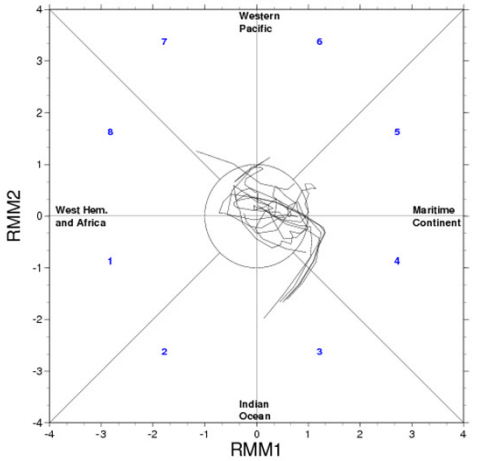
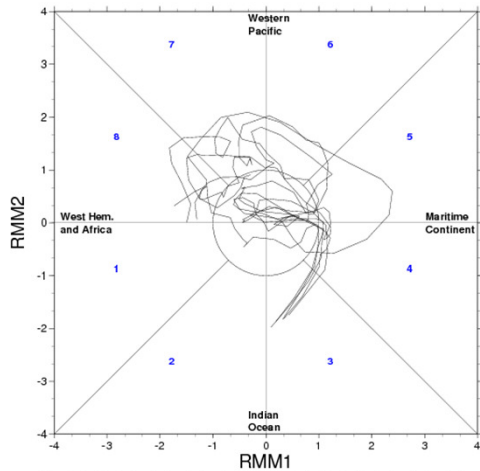
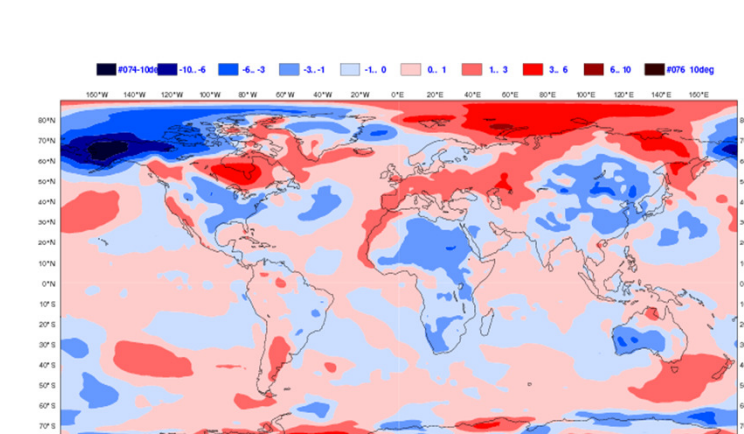
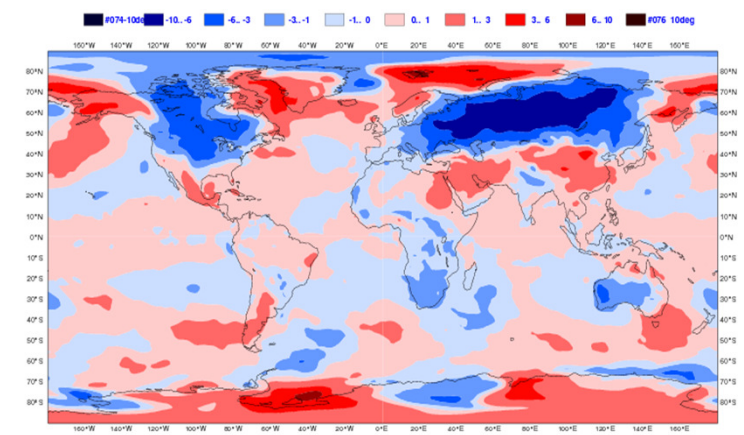
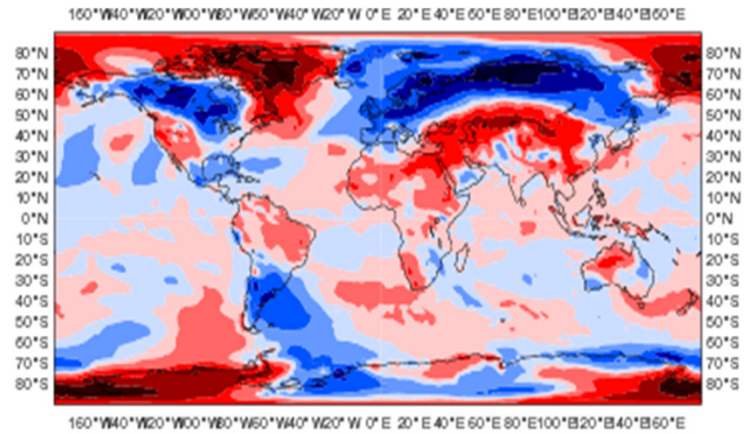
# Cold March 2013 – 14 Feb 2013 -Day 26-32





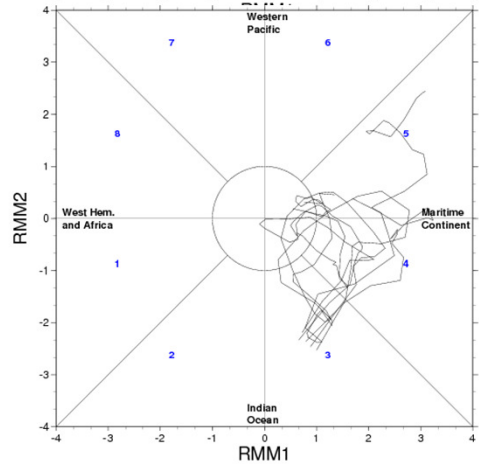
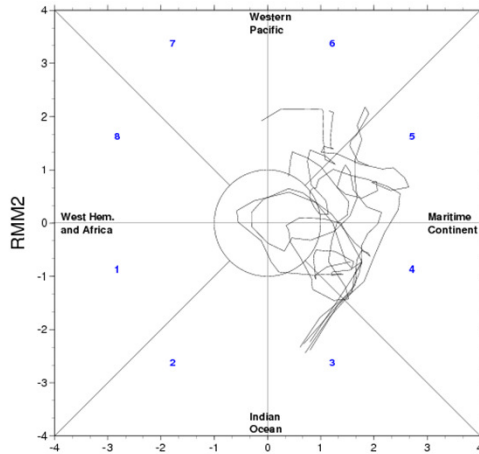
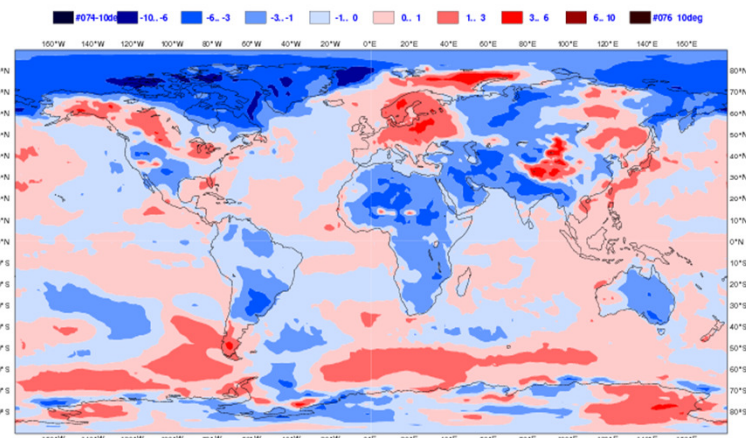
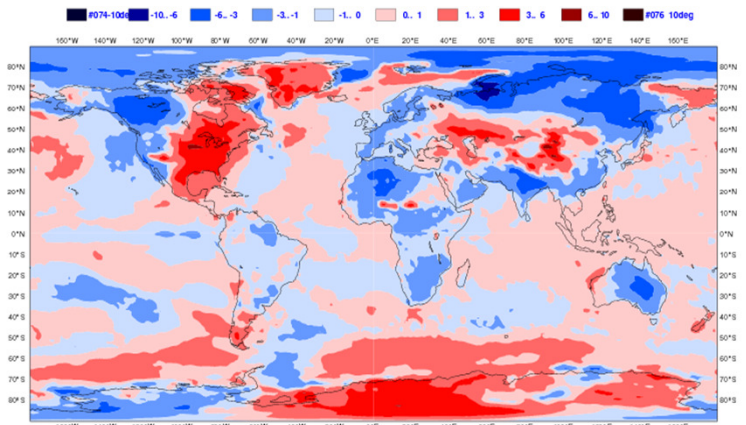
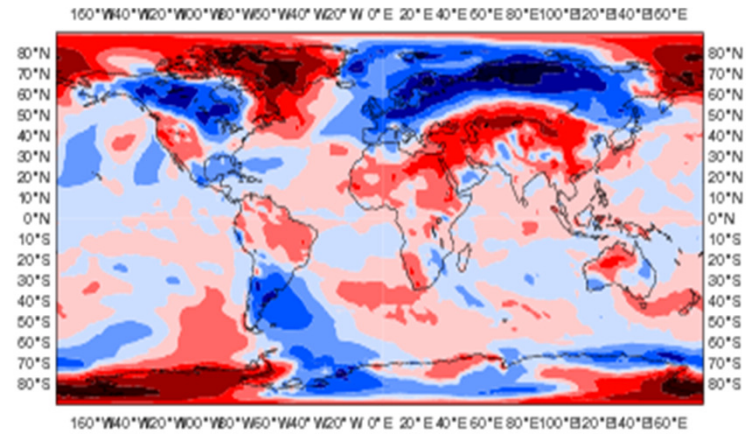
# Cold March 2013 – 14 Feb 2013 -Day 26-32

# NCEP



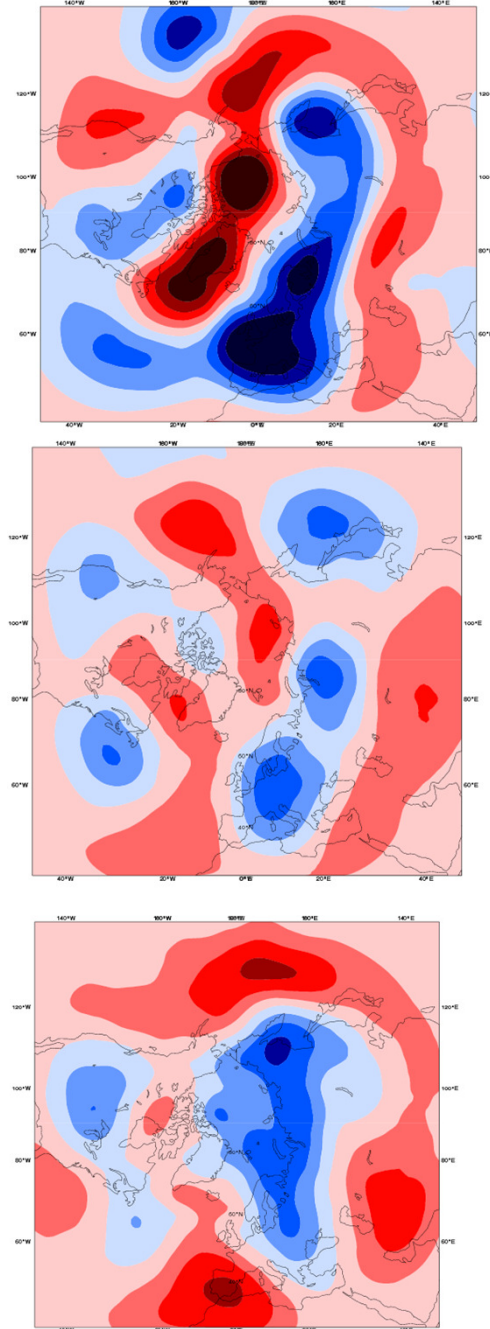
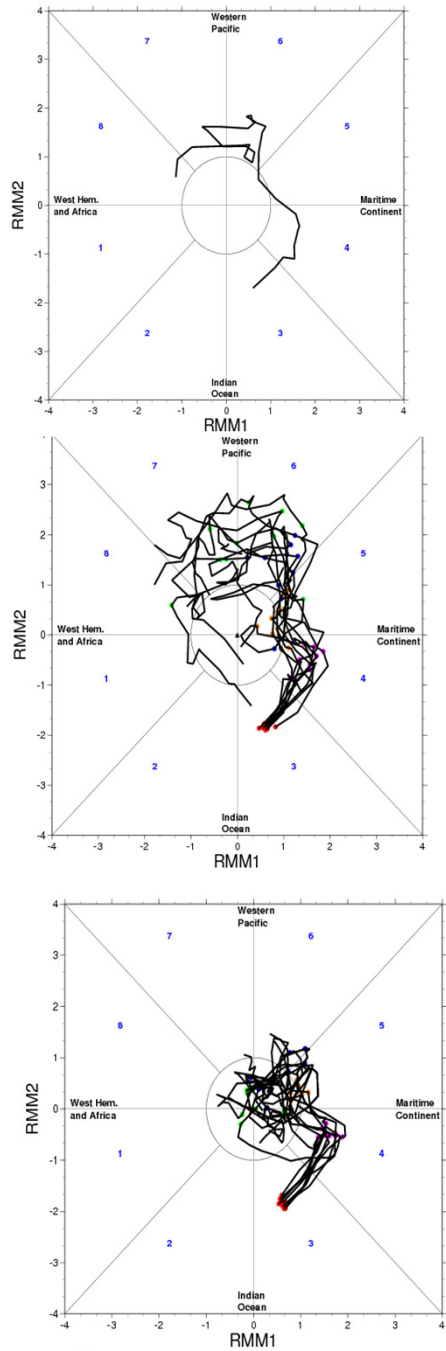
# Cold March 2013 – 14 Feb 2013 -Day 26-32

# EC



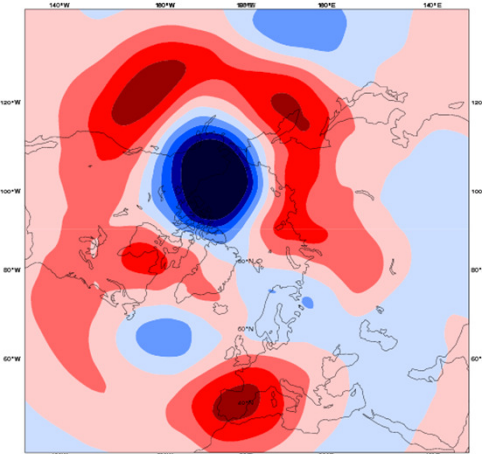
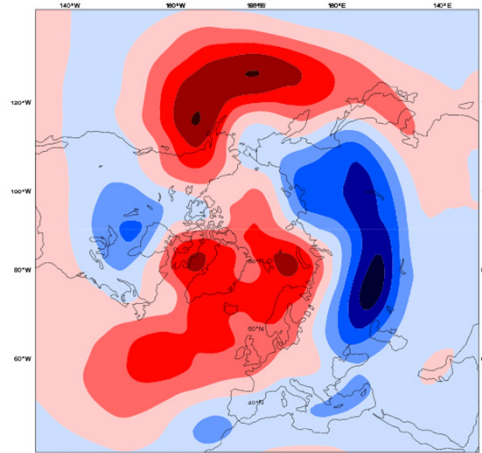
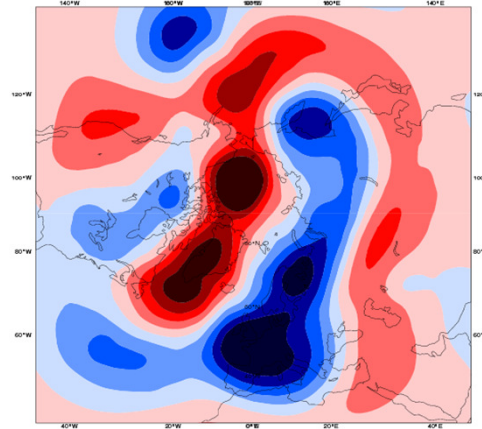
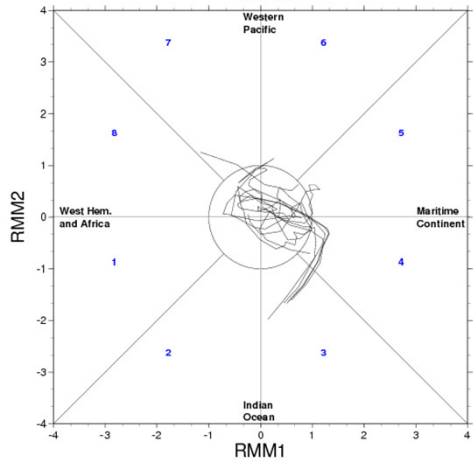
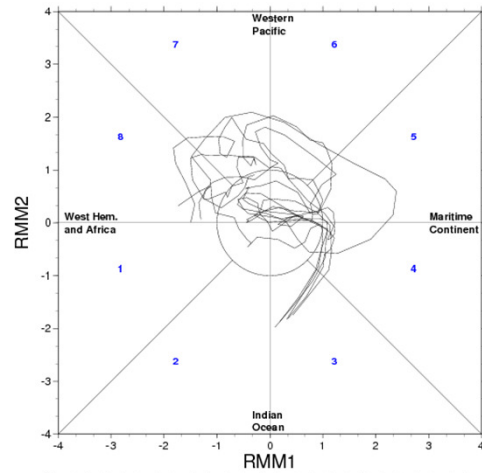


# Cold March 2013 – 14 Feb 2013 -Day 26-32



# Cold March 2013 – 14 Feb 2013 -Day 26-32

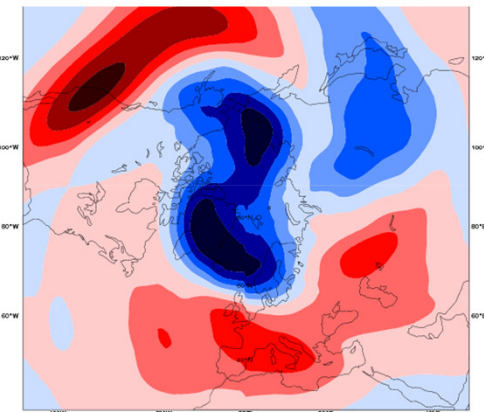
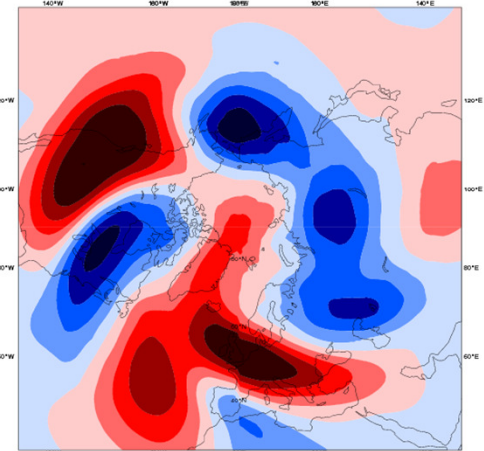
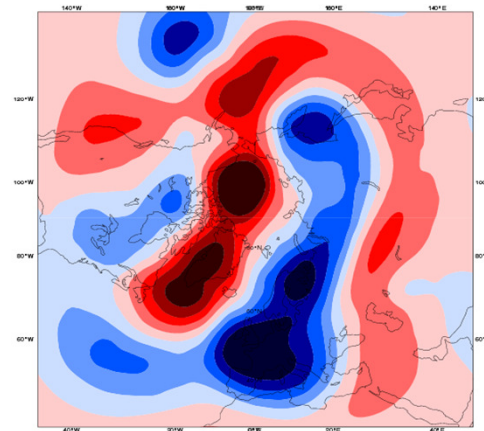
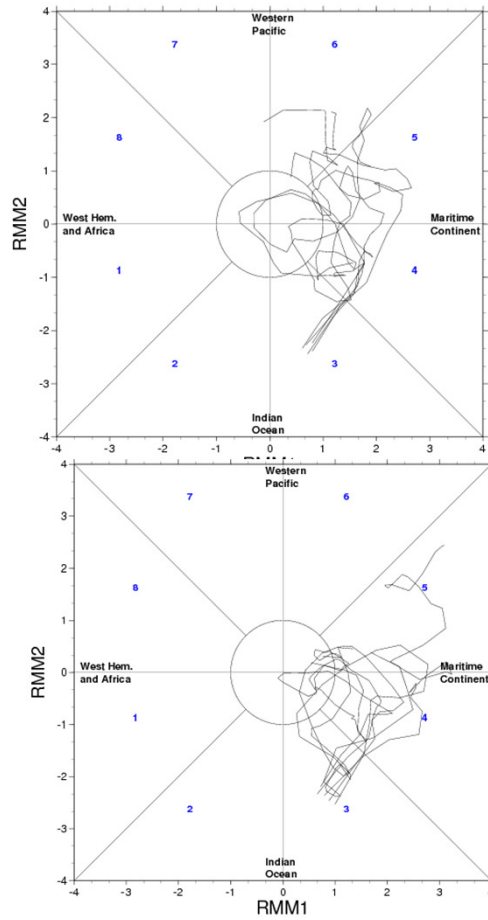
# NCEP





# Cold March 2013 – 14 Feb 2013 -Day 26-32

# EC



# RELAXATION EXPERIMENTS



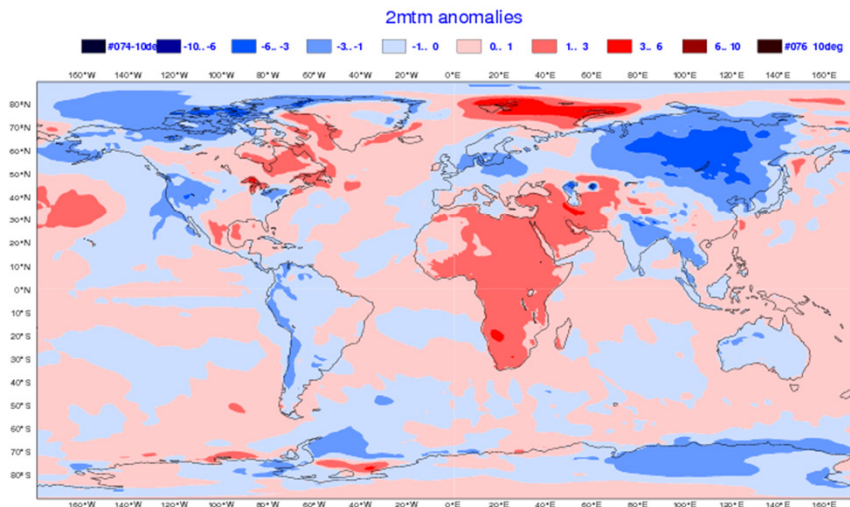
# Experimental setup

Control: IFS CY40R1 – 51 member ensemble, T639/319 L91, 60 day-integrations

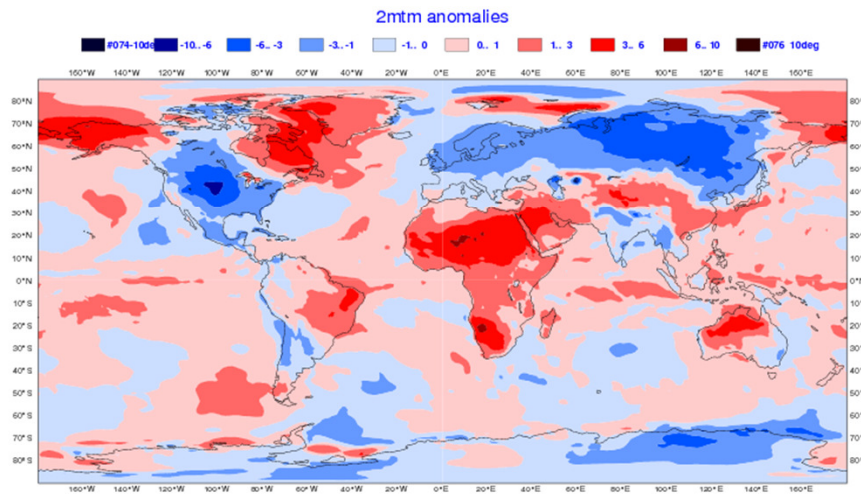
RELAX1: same as Control with tropics (20N-20S) relaxed to analysis

RELAX2: Same as control with N. Extratropics (North of 35N) relaxed to analysis

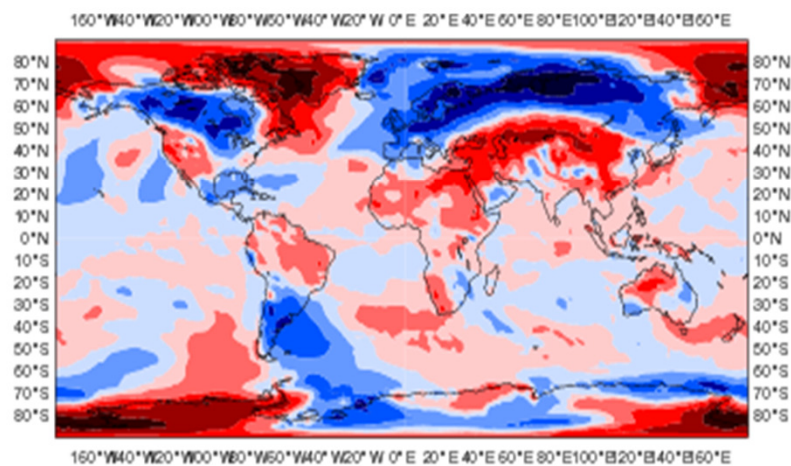
# Control



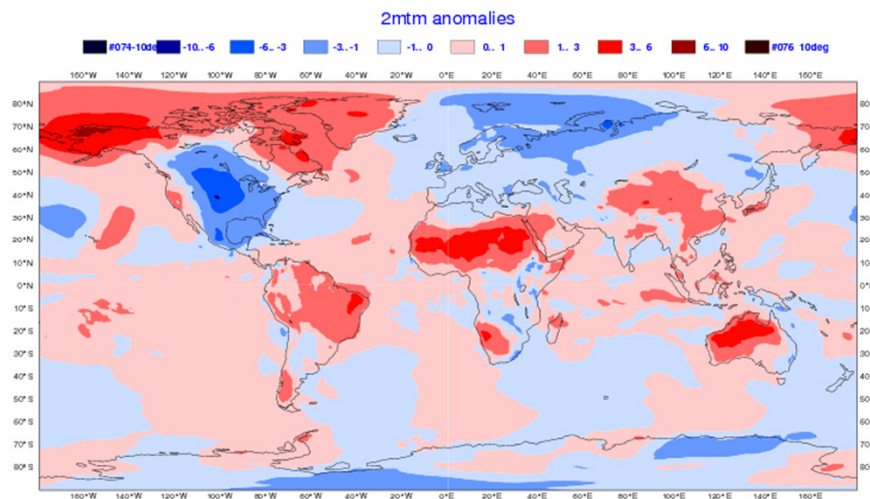
# RELAX1



# Analysis

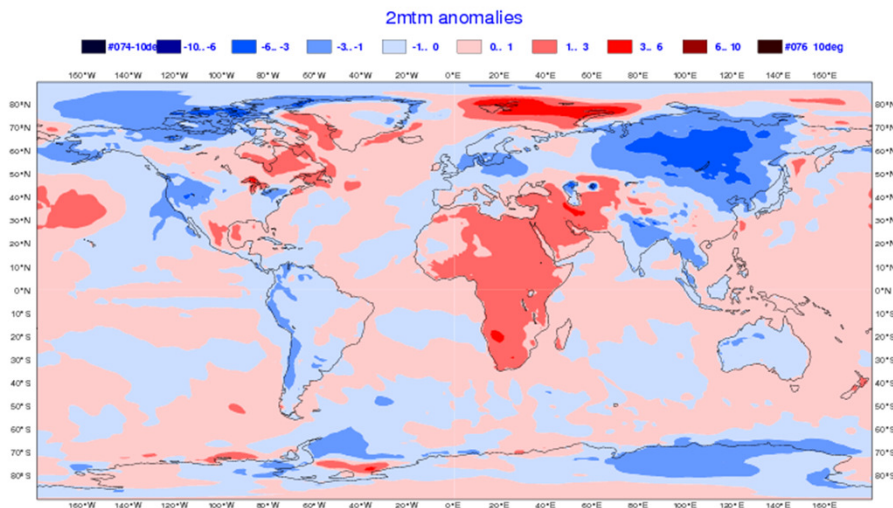


# RELAX1-Control

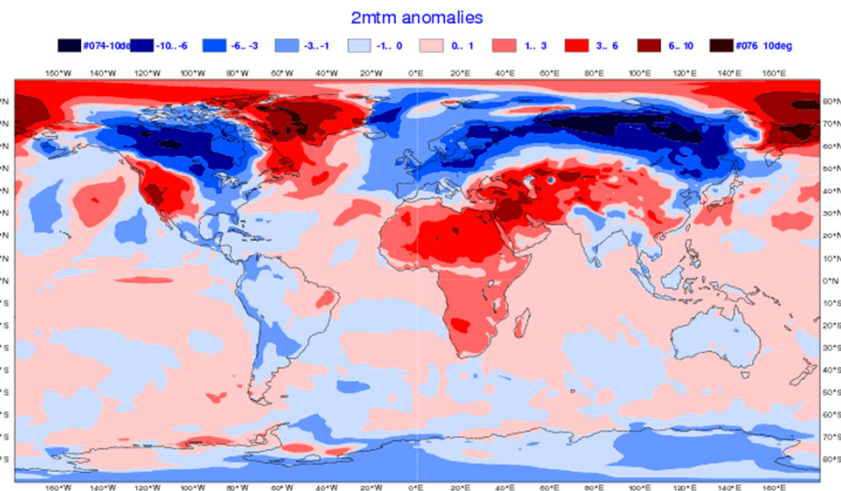




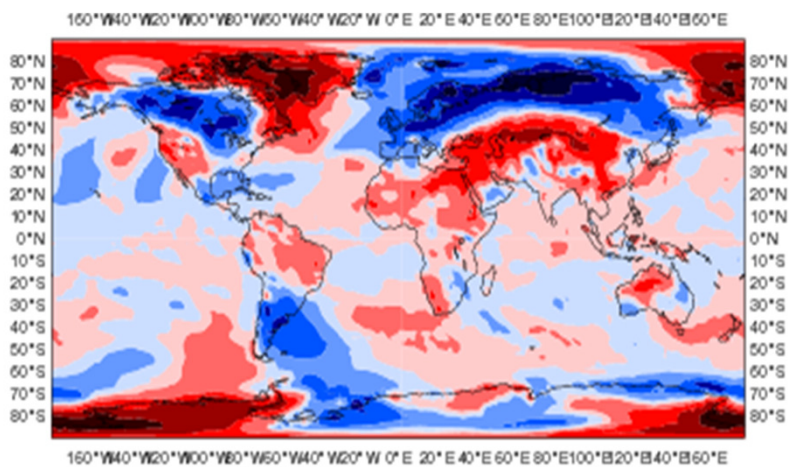
# Control



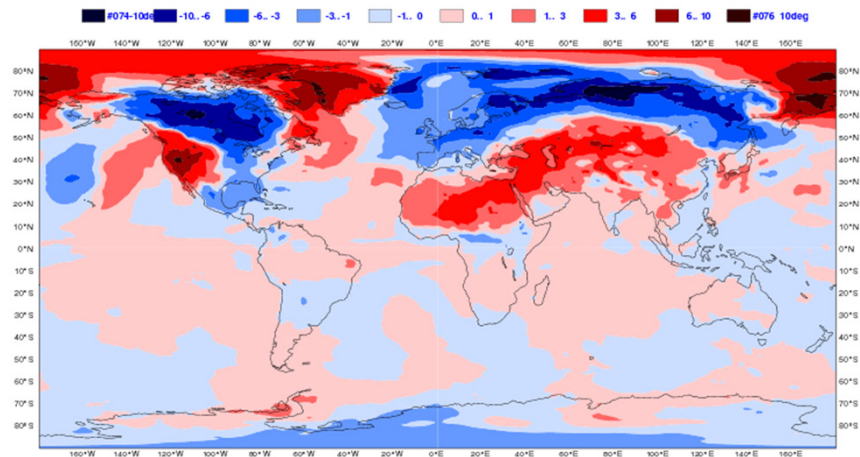
# RELAX2



# Analysis

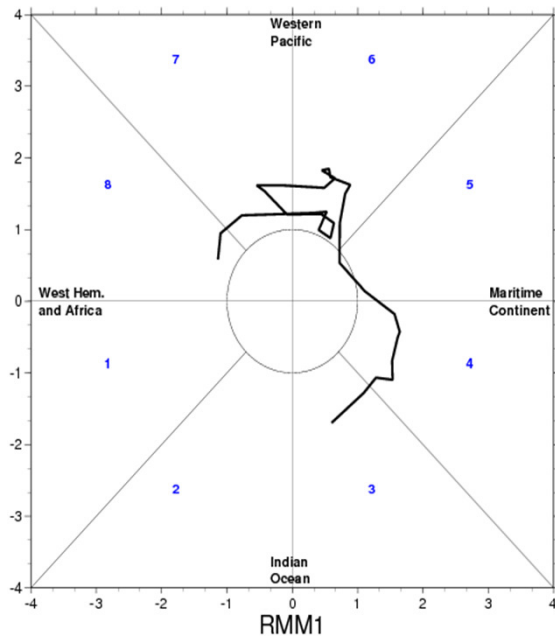


# RELAX2-Control

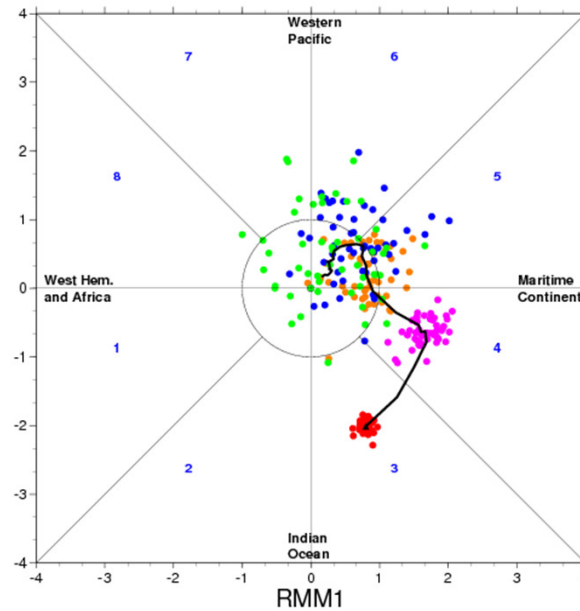


# Impact of relaxation on the MJO

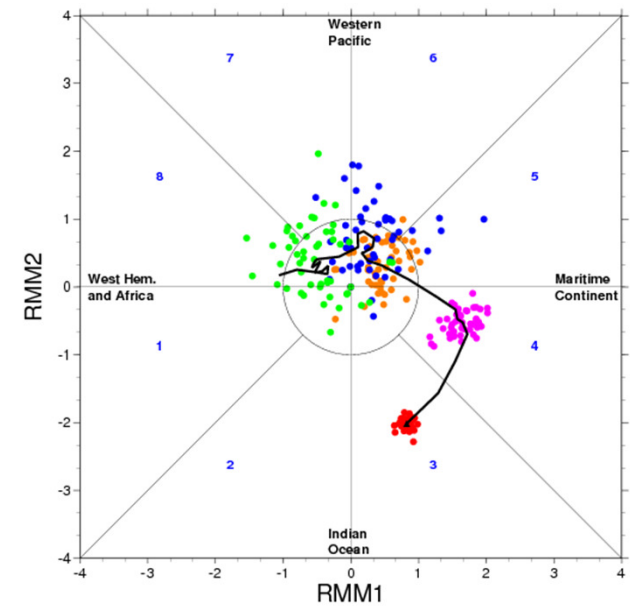
ERA INTERIM



Control



RELAX 2  
(NH relaxed)



————— Ensemble mean

● 51 Ens. Members day 1

● 51 Ens. Members day 5

● 51 Ens. Members day 10

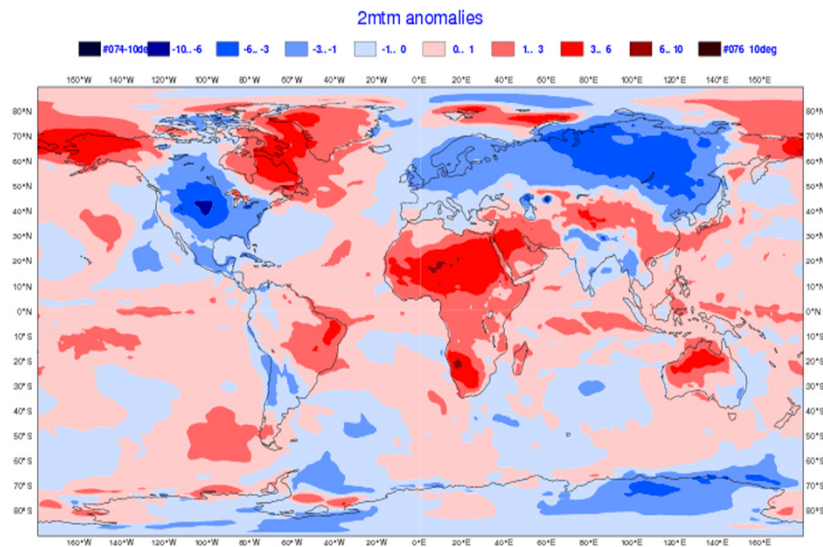
● 51 Ens. Members day 15

● 51 Ens. Members day 20



# Relaxation in the Tropics

2013 initial conditions



2012 initial conditions

