Multi-model assessment of the late-winter stratospheric response to El Niño and La Niña
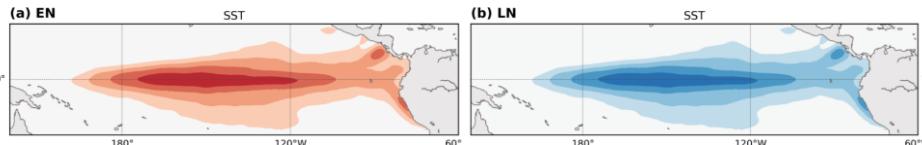
Bianca Mezzina, Froila M. Palmeiro, Javier García-Serrano, Ileana Bladé, Lauriane Batté, Marianna Benassi

MEDSCOPE — MEDiterranean Services Chain based On climate PrEdictions

UNIVERSITAT DE BARCELONA

BSC — Barcelona Supercomputing Center — Centro Nacional de Supercomputación

METEO FRANCE

CMCC — Centro Euro-Mediterraneo sui Cambiamenti Climatici

GOBIERNO DE ESPAÑA — MINISTERIO DE ECONOMIA Y COMPETITIVIDAD

SCREEN CAPTURE WELCOME

Experiments

Forcing:

(a) EN — SST

(b) LN — SST
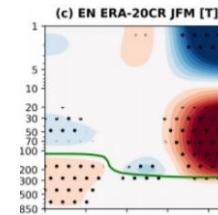
Models:

EC-EARTH
(EC-EARTH3.2)
512×256, L91, 0.01 hPa

CNRM
(ARPEGE6.3)
256×128, L91, 0.01 hPa
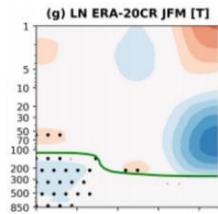
CMCC
(CAM5.2)
360×180, L46, 0.3 hPa

Forced response [T]

zonal mean

What we expect

EN

(c) EN ERA-20CR JFM [T]

LN

(g) LN ERA-20CR JFM [T]

Obs

What we get

(d) EN (EC-EARTH) JFM [T] — dog ate homework

(e) EN (CNRM) JFM [T] — 100

(f) EN (CMCC) JFM [T] — 100

(j) LN (EC-EARTH) JFM [T] — 100

(k) LN (CNRM) JFM [T] — 100

(l) LN (CMCC) JFM [T] — 100
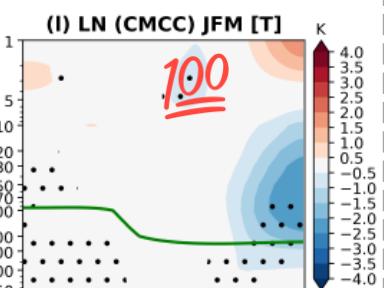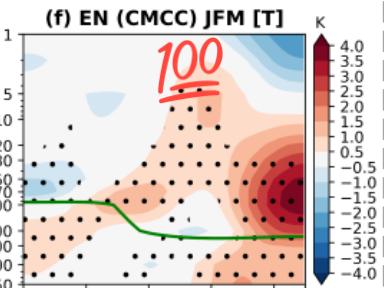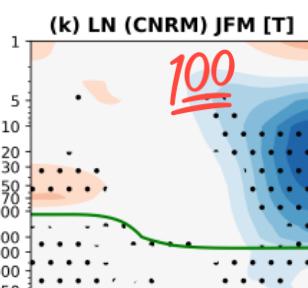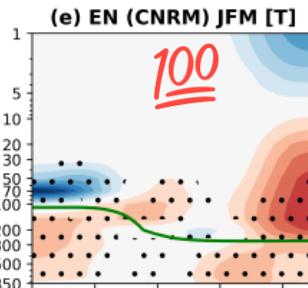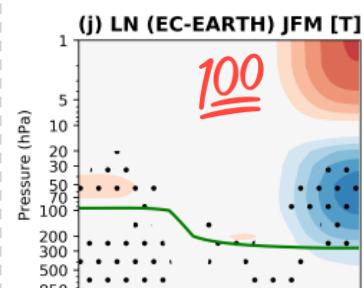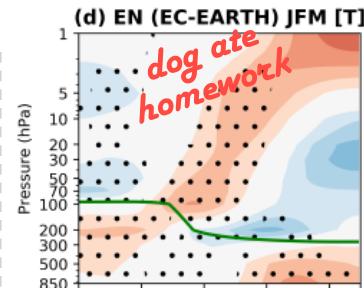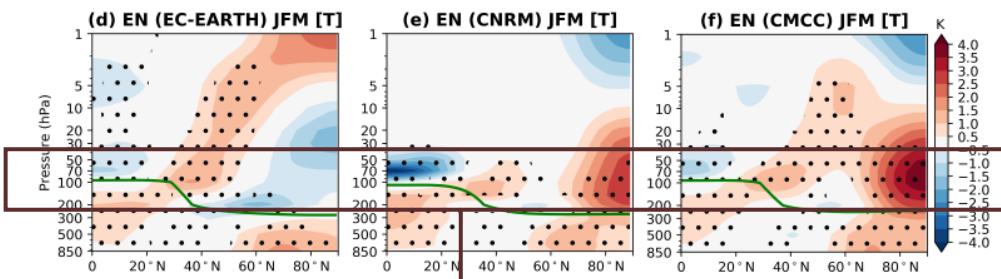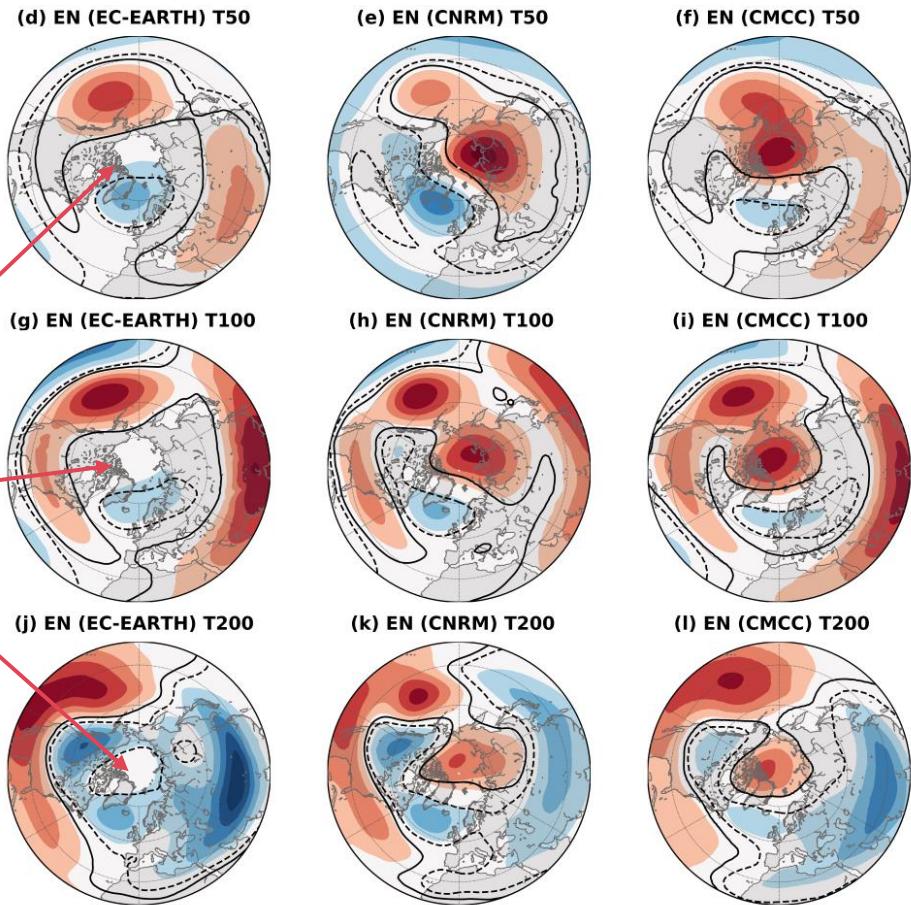
Models (anomalies wrt control experiment)

SCREEN CAPTURE WELCOME

(d) EN (EC-EARTH) JFM [T] **(e) EN (CNRM) JFM [T]** **(f) EN (CMCC) JFM [T]**

Lon-lat maps of T

(d) EN (EC-EARTH) T50 **(e) EN (CNRM) T50** **(f) EN (CMCC) T50**

MISSING

HAVE YOU SEEN THIS MAN?

(g) EN (EC-EARTH) T100 **(h) EN (CNRM) T100** **(i) EN (CMCC) T100**

(j) EN (EC-EARTH) T200 **(k) EN (CNRM) T200** **(l) EN (CMCC) T200**

Temperature anomalies wrt control experiment

Lon-lat maps of Z

(a)EN(EC-EARTH) Z50 **(b)EN(CNRM) Z50** **(c)EN(CMCC) Z50**

(d)EN(EC-EARTH) Z100 **(e)EN(CNRM) Z100** **(f)EN(CMCC) Z100**

(g)EN(EC-EARTH) Z200 **(h)EN(CNRM) Z200** **(i)EN(CMCC) Z200**

Geopotential height anomalies wrt control experiment
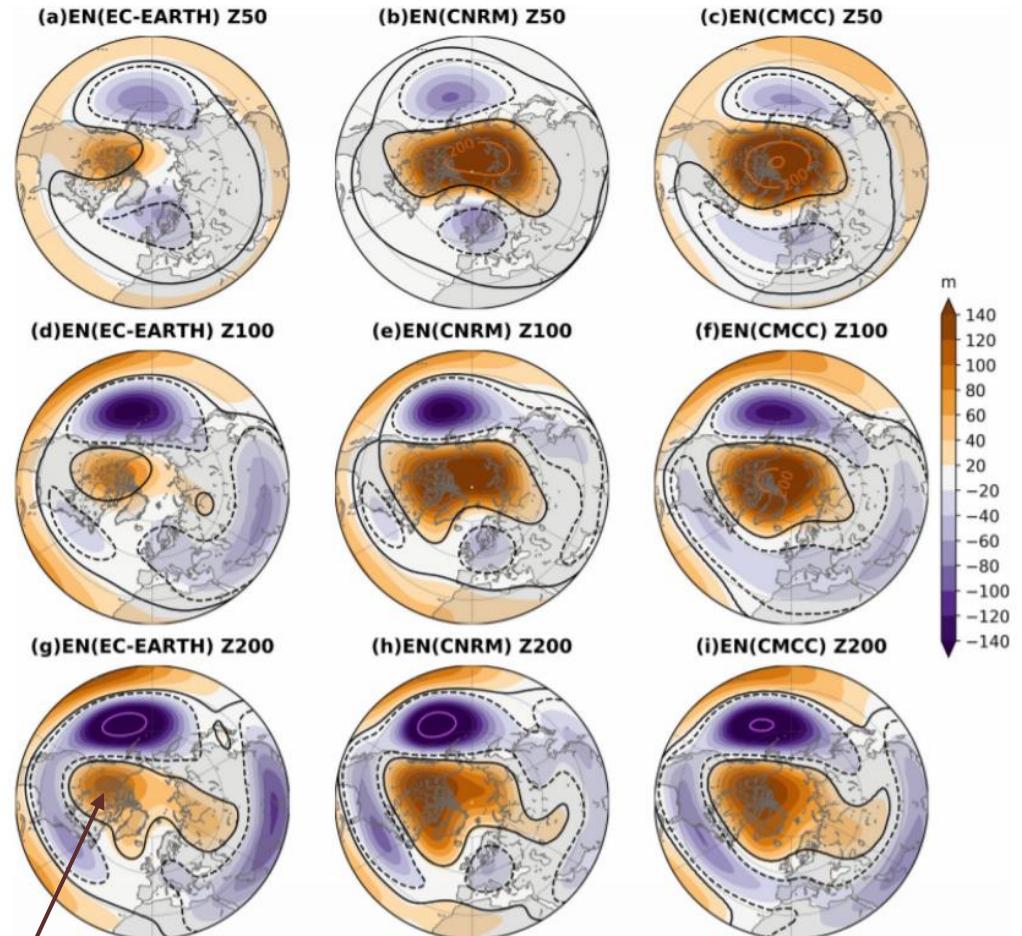
This guy matters

...& much more!