

Real-time application of MODES to the operational medium-range forecasts of ECMWF

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<http://meteo.fmf.uni-lj.si/MODES>



Real-time modal view of the ECMWF forecast

<http://meteo.fmf.uni-lj.si/MODES>

M O D E S

Energy spectra
Horizontal maps
Equatorial cross-sections
Hovmöller diagrams
Kelvin wave energy

Total circulation
Balanced circulation
Inertio-gravity circulation
Kelvin waves

+ 00
+ 24
+ 48
+ 72
+ 96
+ 120

2015 08 25
2015 08 24
2015 08 23
2015 08 22
2015 08 21
2015 08 20
2015 08 19
2015 08 18
2015 08 17
2015 08 16
2015 08 15
2015 08 14
2015 08 13
2015 08 12
2015 08 11
2015 08 10
2015 08 09
2015 08 08
2015 08 07
2015 08 06
2015 08 05
2015 08 04
2015 08 03
2015 08 02

Total circulation
Northern hemisphere
Total circulation lev 74 (approx. 197 hPa) +000 h

Start: 2015082500:00UTC

4 8 12 16 20 24 28 32 36 40 44 48 52 56

Total circulation
Northern hemisphere
Total circulation lev 114 (approx. 850 hPa) +000 h

Start: 2015082500:00UTC

2 4 6 8 10 12 14 16 18 20 22 24 26 28

Horizontal winds and geopotential (as perturbations with respect to the mean, in grey shading) in the Northern Hemisphere extratropics at the two ECMWF model levels. Top panel: model level 74 (approx. 197 hPa). Bottom panel: model level 114 (approx. 850 hPa). Colorbar

About
Bibliography
F.A.Q
Graphics
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NEWS

26.8.15
Website upgrade. Images older than 12 June are available from [ARCHIVE](#).

10.5.15
MODES workshop to be held 26-28 August at NCAR.

24.4.15
MODES software description paper published.

26.11.14
Hovmöller forecast and verification added

26.11.14
Kelvin wave energy forecast and verification added

26.11.14
News added

10.10.14
Various animations added

01.10.14
Website launched

Real-time modal view of the ECMWF forecast

Permanent job at ECMWF: interpolation of the operational 10-day forecast from 00 UTC to N128 grid (512x256 points) on 137 model levels from the surface up to 1 Pa with 12 hour step



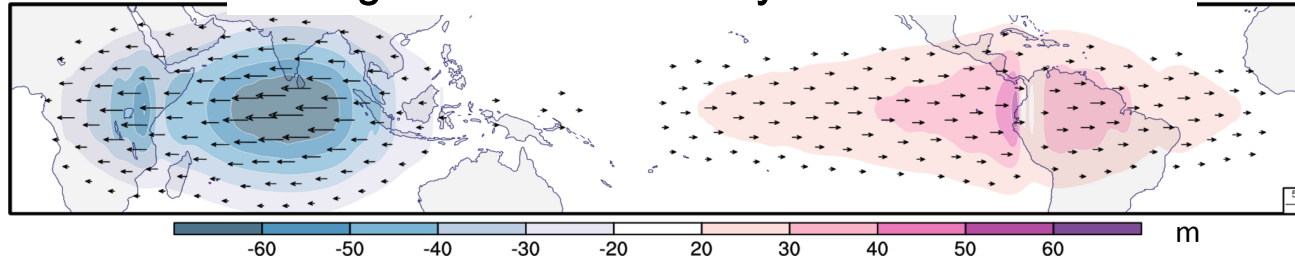
Projection to the 3D normal modes: as soon as 00 UTC forecast is available, projection is performed to 200 zonal waves, 70 meridional modes and 70 vertical structure functions. Filtering of the balanced and inertio-gravity circulation and the Kelvin waves is carried out for the whole 3D space.



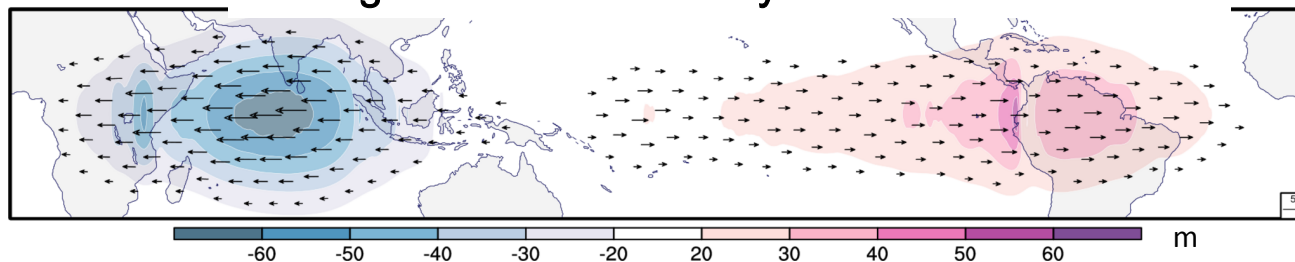
Visualization is performed partly in Matlab (spectra and equatorial cross sections), partly in NCL (maps of circulation) and the MODES webpage is refreshed by the morning coffee time.

Archive of the MODES products since Oct 2014

Average Kelvin wave in July 2015 at 100 hPa



Average Kelvin wave in July 2015 at 150 hPa



Average Kelvin wave in July 2015 at 850 hPa

