



Baltic Earth

Earth System Science for the Baltic Sea Region



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Comparaison of regional and global oceanic reanalyses in the Mediterranean Sea

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OUTLINE of the poster

Simulations | horizontal | atm forcings | comments
| resolution | and resolution |

Global reanalysis | 20km | ERA-Interim 80km | previous operational configuration
Global reanalysis | 7km | ERA-Interim 80km | new operational configuration
Regional reanalysis | 7km | ALDERA 12km | dedicated regional configuration

Heat and salt contents variability

Transports through the Strait of Gibraltar

Surface mean circulation and eddy kinetic energy

Event comparison: dense water formation in the NWMed in 2013

Transports through the Strait of Gibraltar 1993-2012 (observed values)	Reanalysis	IN	OUT	NET
Water (Sv) IN : +0,75/+0,85 OUT : -0,70/-0,80 NET : ~+0,05	GLOBAL low res.	+1,49	-1,46	+0,030
	GLOBAL high res.	+1,12	-1,11	+0,004
	REGIONAL high res.	+0,81	-0,76	+0,049
T (°C) and net heat (normalised in W/m²) NET : +4/+7	GLOBAL low res.	17,1	13,2	+9,6
	GLOBAL high res.	16,4	13,2	+6,5
	REGIONAL high res.	17,1	13,3	+6,5
S (psu) and net salt (normalised in 10⁻³ psu/an) NET : +1,5/+2,5	GLOBAL low res.	36,32	38,36	-17
	GLOBAL high res.	36,41	38,43	-18
	REGIONAL high res.	36,53	38,44	+1.8



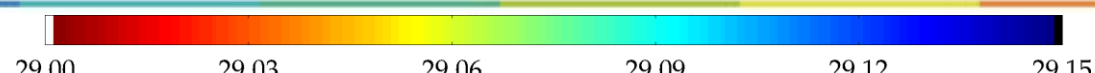
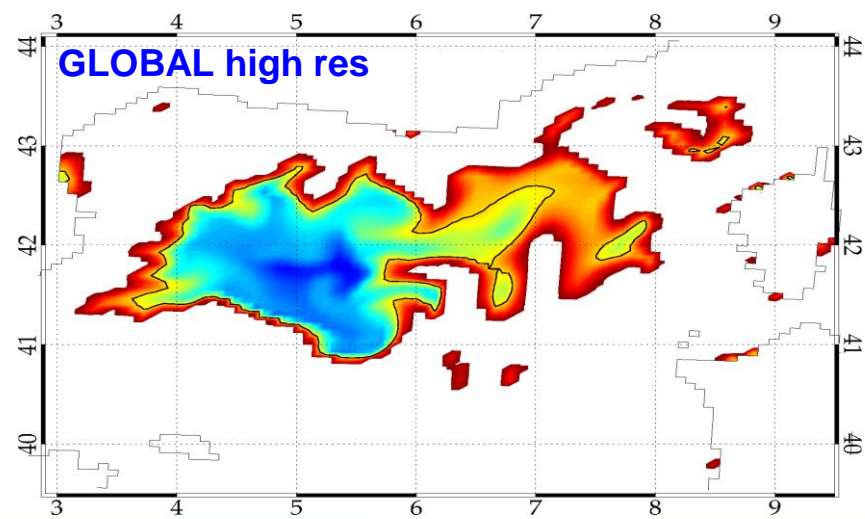
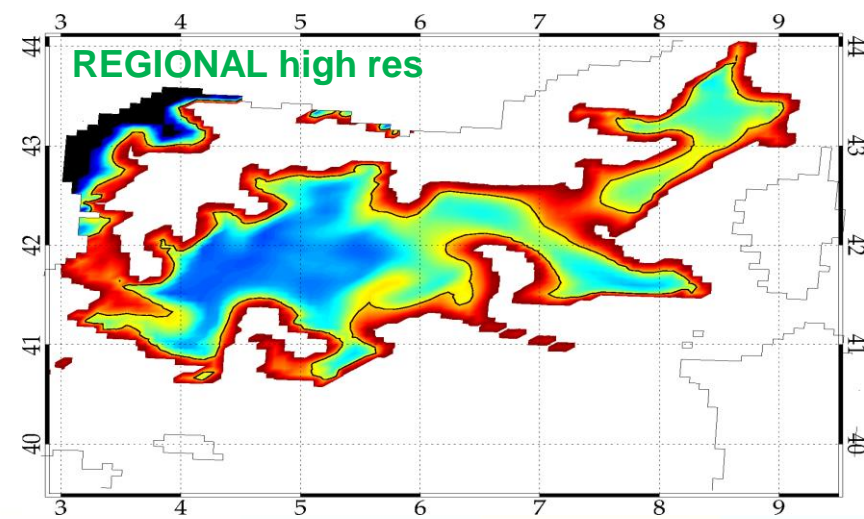
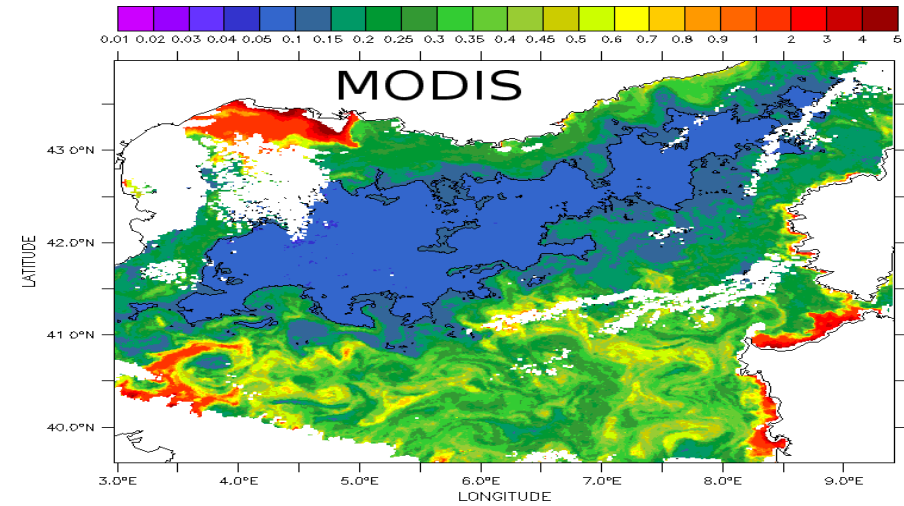
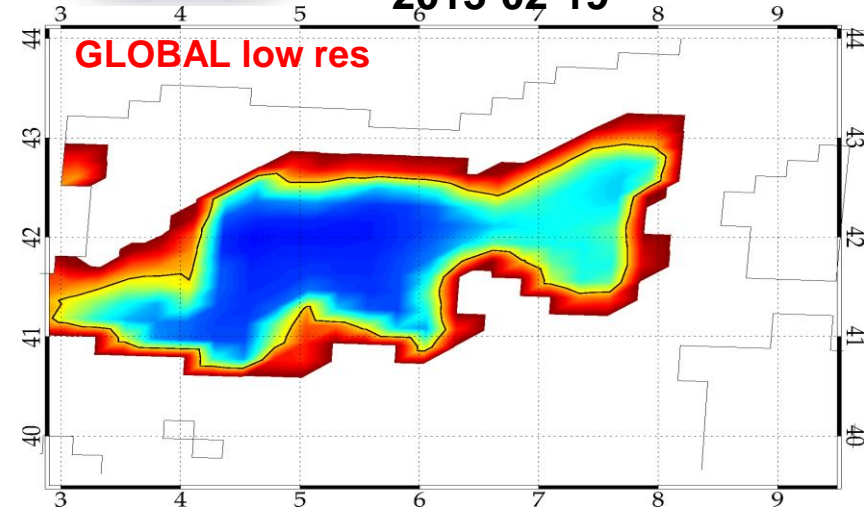


Event comparison: dense water formation in the north-western Mediterranean during winter 2013

Sea surface potential density anomaly (in kg.m^{-3}) Satellite observation of Chl-a concentration

2013-02-19

2013-02-19





EVALUATION OF OCEAN SYNTHESSES

COST Action ES1402

<http://www.eos-cost.eu>

A COST Action to **improve the coordination** of European efforts

in the evaluation of ocean syntheses:

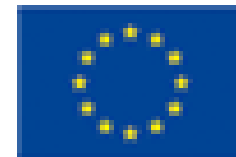
- better understanding of the value and use of ocean syntheses
- promote the use of ocean syntheses

Chairs:

Aida Alvera-Azcárate (University of Liège, BE)

Keith Haines (University of Reading, UK)

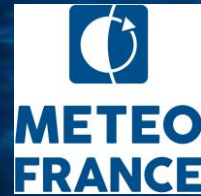
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Thank you for your attention
See you in front of the posters

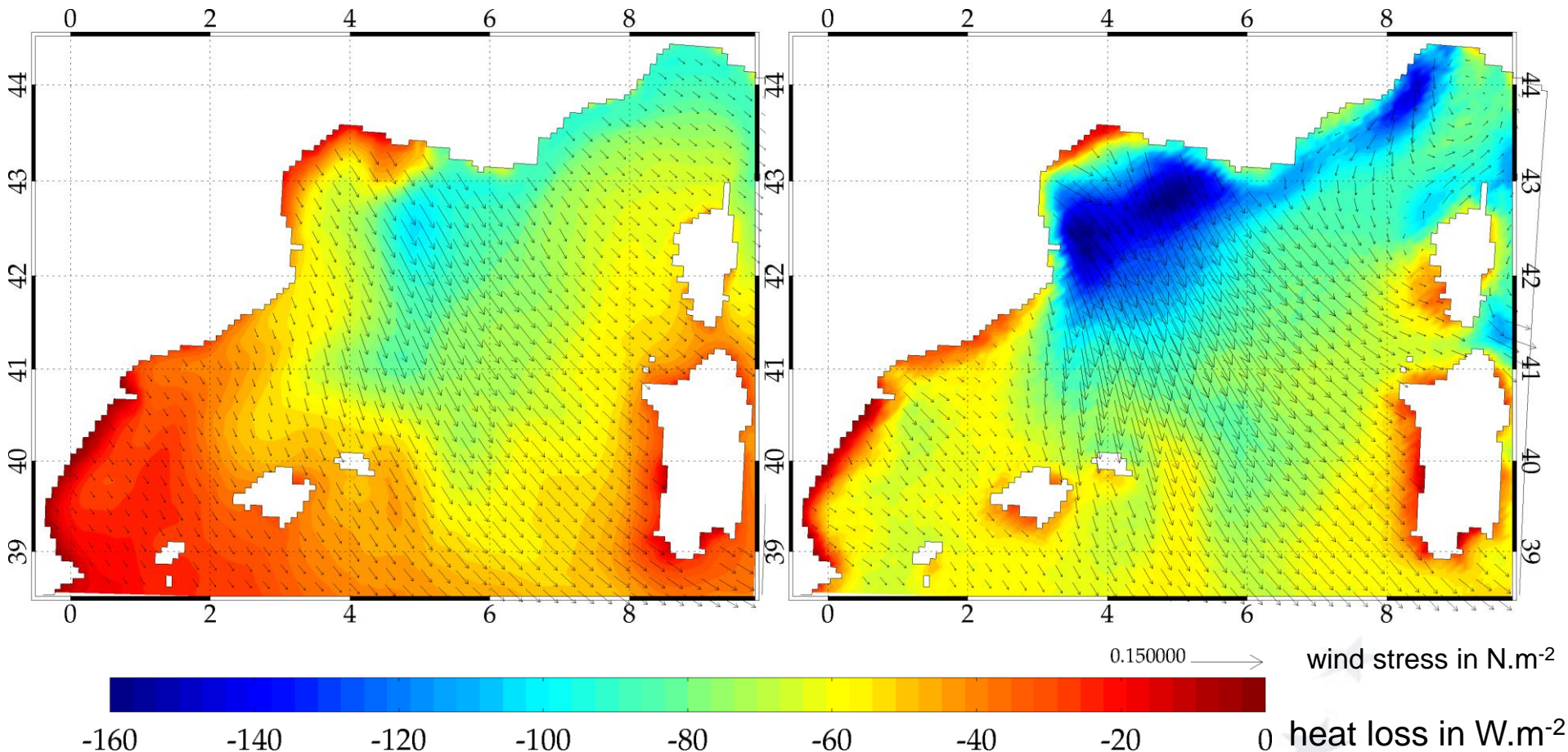




JFM climatology of heat loss and wind stress 1993-2012 averaged

Global reanalysis
ERA-Interim forcings

Regional reanalysis
ERA-Interim downscaling forcings (ALDERA)

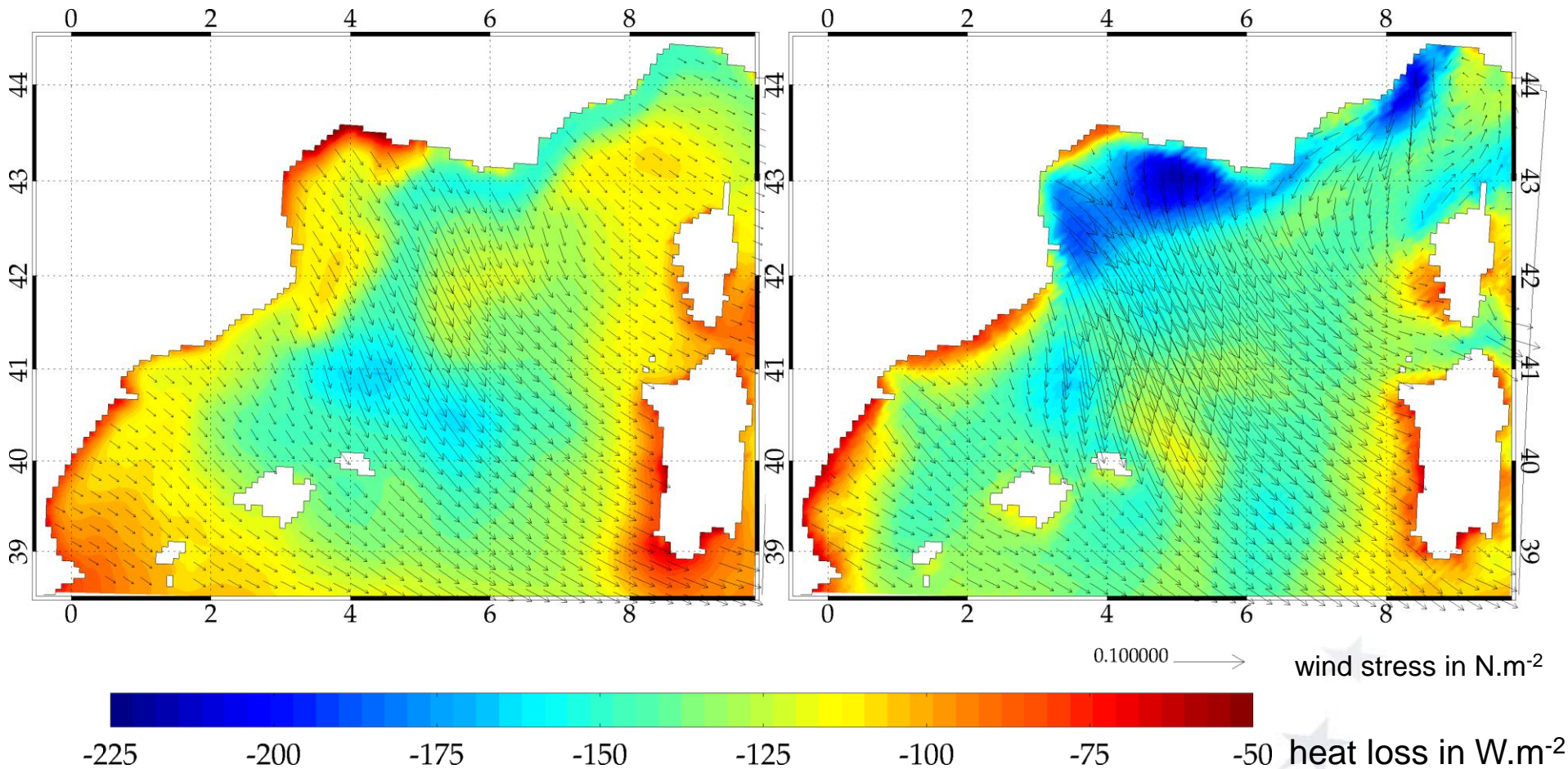




Oct-Nov-Dec climatology of heat loss and wind stress 1993-2012 averaged

Global reanalysis ERA-Interim forcings

Regional reanalysis ERA-Interim downscaling forcings (ALDERA)

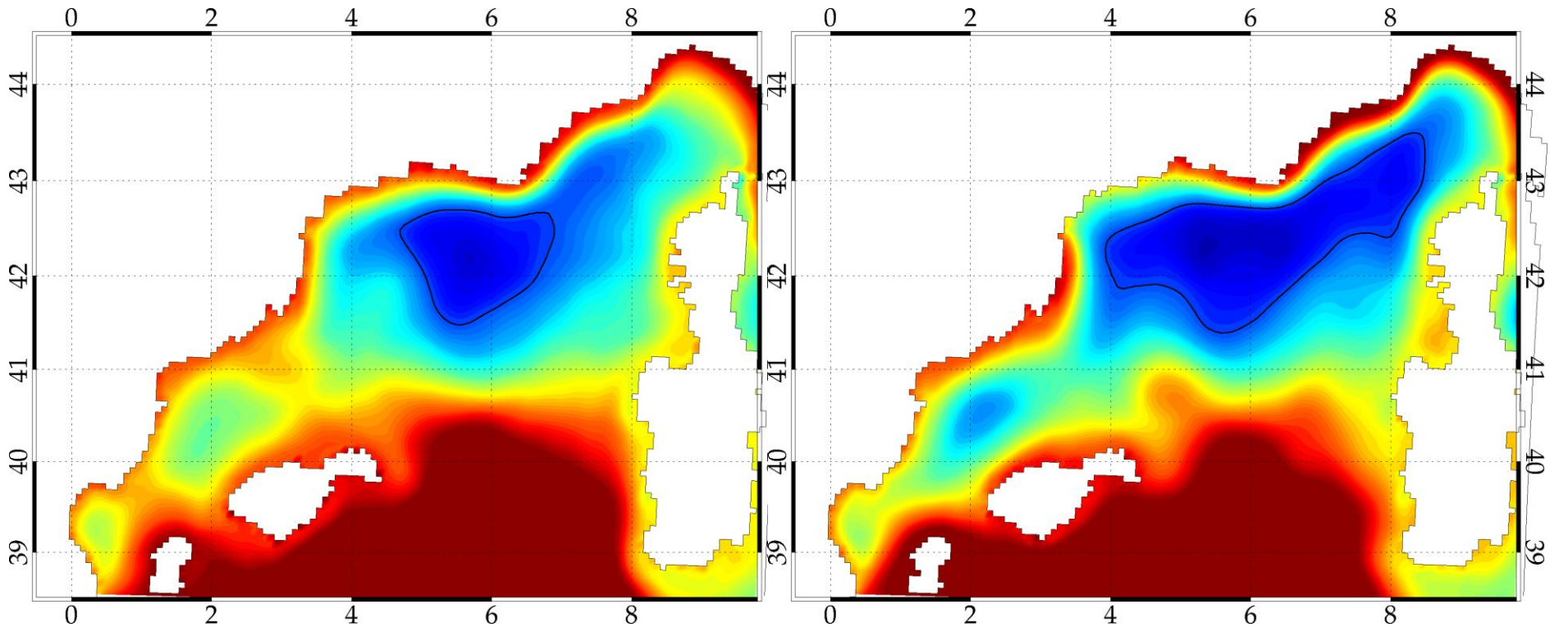




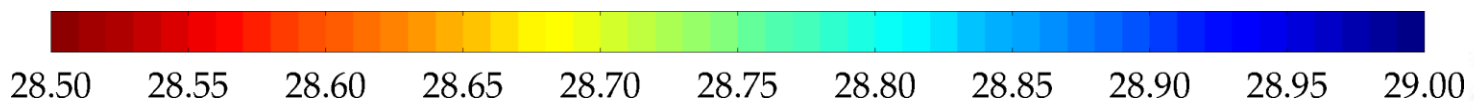
Oct-Nov-Dec climatology of sub-surface density 1993-2012 averaged

Global reanalysis
ERA-Interim forcings

Regional reanalysis
ERA-Interim downscaling forcings (ALDERA)



contour line = 28.9 kg.m^{-3}



~100m-depth
potential density
in kg.m^{-3}