

**Will deep water formation collapse in the North Western Mediterranean Sea by the end of the 21<sup>st</sup> century?**

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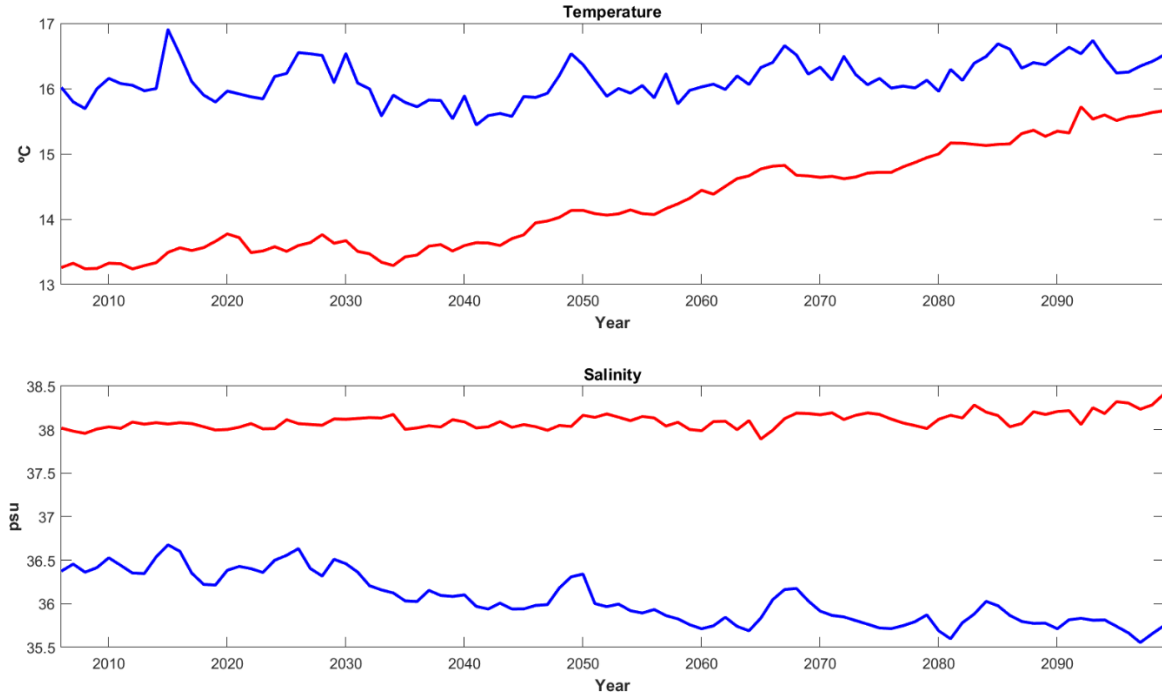
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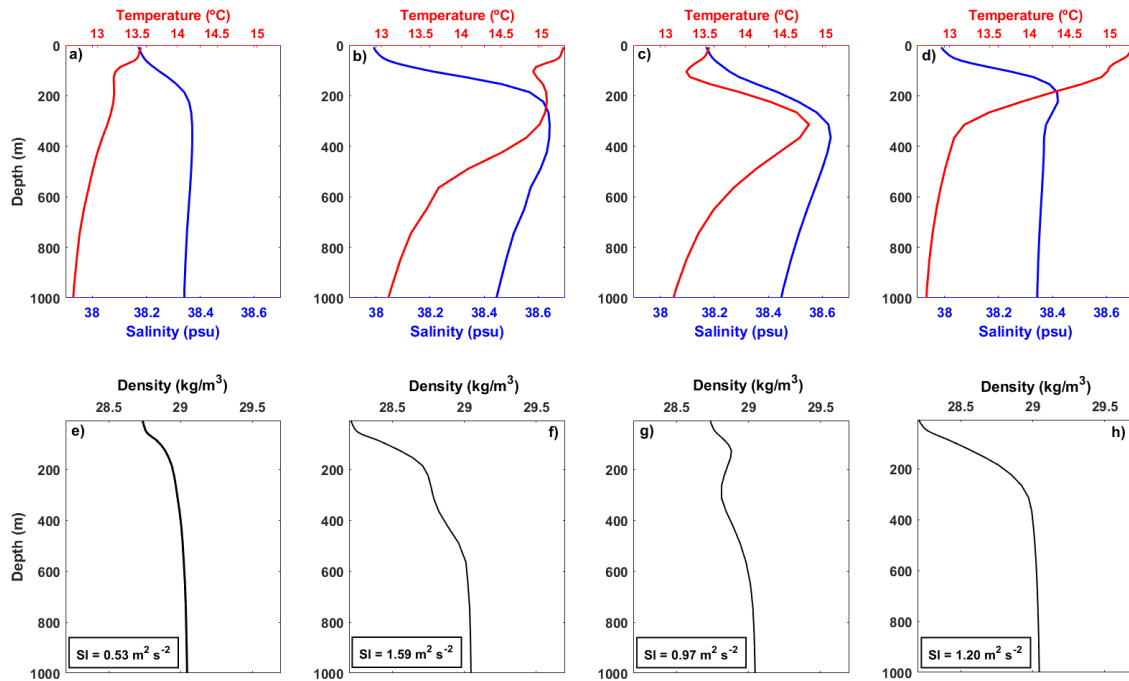
Tables S1 to S2

**Introduction**

This supporting information contains additional figures and tables that help support the conclusions made in the main manuscript with more details.



**Figure S1.** Interannual time series (2006-2099) of a) temperature and b) salinity inflow and outflow waters at Gibraltar Strait under RCP8.5 scenario.



**Figure S2.** Spatially and temporally averaged vertical profiles of temperature, salinity and density in the GoL values corresponding to the (a, e) pre-collapse period (2006-2041), (b, f) post-collapse period (2070-2099), (c, g) pre-collapse period with characteristics of MAW (0-200 m depth) and the post-collapse period with properties of deeper layers (200-1000

m depth) and (d, h) post-collapse MAW and pre-collapse deeper layers. It is shown the stratification index ( $m2s-2$ ) for each case (e, f, g, h).

Years	2009	2010	2011	2012	2013	2014	2021	2029	2031	2032	2033	2034	2037	2040	2041
<b>MLD<sub>max</sub></b> (m)	1589	1518	1802	1506	1229	1978	1244	1294	2126	1627	2122	1216	1043	1037	1238

**Table S1.** Maximum MLD for convective years simulated by ROM in the GoL for the 2006-2099 period.

	Temperature (°C·yr <sup>-1</sup> )	Salinity (psuy·r <sup>-1</sup> )
<b>0–200 m</b>	+0.028	-1.5·10 <sup>-4</sup>
<b>200–600 m</b>	+0.024	+4.1·10 <sup>-3</sup>
<b>600–1000 m</b>	+0.008	+2.1·10 <sup>-3</sup>

**Table S2.** Trend computed from yearly winter means of temperature (°C yr<sup>-1</sup>) and salinity (psu yr<sup>-1</sup>) computed for 4 layers (0–200 m, 200–600 m, 600–1000 m, 1000m–bottom) by ROM model in the GoL for the 2006–2099 period.