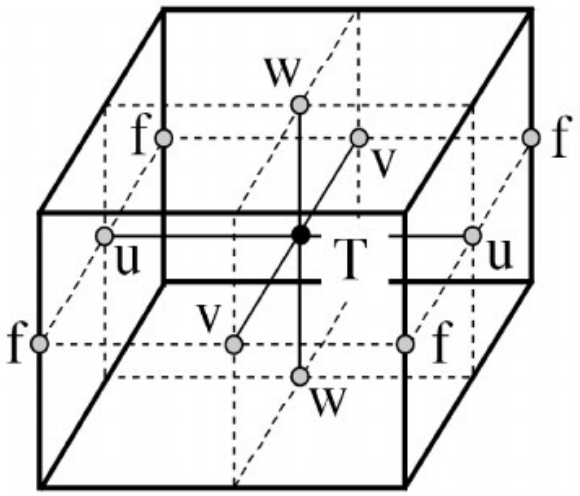

Figure 2.1.: Position of variables in an Arakawa-C grid: T indicates the position, where temperature and salinity (and their derivatives) as well as sea surface height are defined; u,v and w show the location of the three velocity components and f indicates where vorticity is defined. (Figure taken from Madec (2008), figure 3.1)

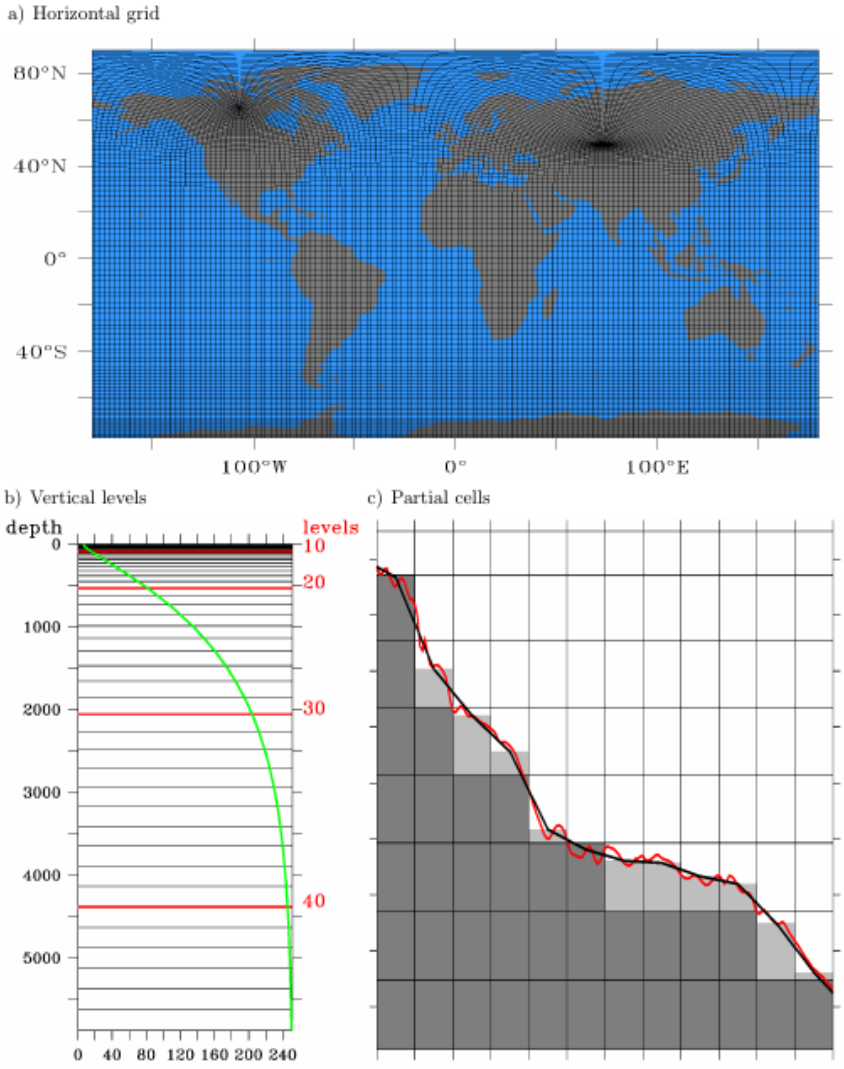

Figure 2.2.: Specifics of the ORCA grid: a) horizontal, tri-polar grid, every fifth grid line of an ORCA05 (0.5°) grid is plotted; b) vertical resolution, indicating the depth of the model layers (black lines) and their thickness (green curve) in meters, the red lines mark every tenth level; c) partial cells along the bottom: the section shows full cells (dark grey) and the partial cells (light grey) according to the model's bathymetry (black curve); the red curve depicts the topography as given by ETOPO2 [U.S. Department of Commerce and Atmospheric Administration (2006)].

[Schwarzkopf, 2016]

nav_lon (y, x)	
nav_lat(y, x)	
nav_lev(z)	
tmask(t, z, y, x)	3-D ocean mask on T-grid
umask(t, z, y, x)	U
vmask(t, z, y, x)	V
fmask(t, z, y, x)	F
tmaskutil(t, y, x)	2-D surface ocean mask on T-grid excluding “mirror-points”
umaskutil(t, y, x)	U
vmaskutil(t, y, x)	V
fmaskutil(t, y, x)	F
glamt(t, y, x)	Lambda (Longitude) on T-grid
glamu(t, y, x)	U
glamv(t, y, x)	V
glamf(t, y, x)	F
gphit(t, y, x)	Phi (Latitude) on T-grid
gphiu(t, y, x)	U
gphiv(t, y, x)	V
gphif(t, y, x)	F
e1t(t, y, x)	Grid cell size in x (delta(x)) on T-grid
e1u(t, y, x)	U
e1v(t, y, x)	V
e1f(t, y, x)	F
e2t(t, y, x)	Grid cell size in y (delta(y)) on T-grid
e2u(t, y, x)	U
e2v(t, y, x)	V
e2f(t, y, x)	F
e3t_1d(t, z)	Size (height) of non-partial-cell boxes on T,U,V-grid
e3w_1d(t, z)	W
e3t_0(t, z, y, x)	Grid cell size in z (delta(z)) on T-grid
e3u_0(t, z, y, x)	U
e3v_0(t, z, y, x)	V
e3w_0(t, z, y, x)	W
gdept_1d(t, z)	Depth of T,U,V levels
gdepw_1d(t, z)	W
gdept_0(t, z, y, x)	Depth of grid cell (including partial cells) on T-grid
gdepu(t, z, y, x)	U
gdepv(t, z, y, x)	V
gdepw_0(t, z, y, x);	W
mbathy(t, y, x)	Bottom Level
ff(t, y, x)	Coriolis parameter

misf(t, y, x)	? “Ocean points at model boundaries”
isfdraft(t, y, x)	? 0 eveywhere