

### **Important warning about the oxygen and nutrient units labels in the WOA18 data files on the JOA Suite site versus the actual WOA18 oxygen and nutrient units**

The dissolved oxygen and nutrient data used by NOAA/NODC/NCEI in the release version of WOA18 are in "mass" units ( $\mu\text{mol}/\text{kg}$ ) as opposed to the traditional "volume" units ( $\text{ml}/\text{l}$  and  $\mu\text{mol}/\text{l}$ , respectively) used in past editions of the WOA. However, due to a Java OceanAtlas 'bug' uncovered during testing the WOA18 files, it was found to be necessary to artificially change the units *labels* for dissolved oxygen and nutrients to " $\mu\text{mol}/\text{l}$ " even though *the data numbers themselves are actually in  $\mu\text{mol}/\text{kg}$  units*. No conversions are done - only the units themselves are deliberately stated wrongly in the file headers. **The WOA18 .joa files on the site with the artificially 'repaired' (but in reality wrong) units names have "massx" in their file name.** This situation will be rectified if/when this bug is repaired. [In other words, the WOA18 files on the site will be replaced with ones whose headers state the correct oxygen and nutrient units. The numerical values will not change.]