**How to calculate the orientation of the "Neutral Tangent Plane"**

In the ocean, water moves in the direction in which a fluid can move, without having to change its buoyancy. This direction is called the neutral surface or neutral tangent plane. Calculating and using this direction is fundamental in (numerical) ocean modeling. This paper provides a new numerical method to calculate, at each location, the orientation of the neutral surface. The new method is much better than any existing method that is currently used. This turns out to be very important for improving the physics in an ocean model (for example heat transport and mixing). This paper argues that all (numerical) ocean models will need to implement a method that is based on the concepts explained in this paper.