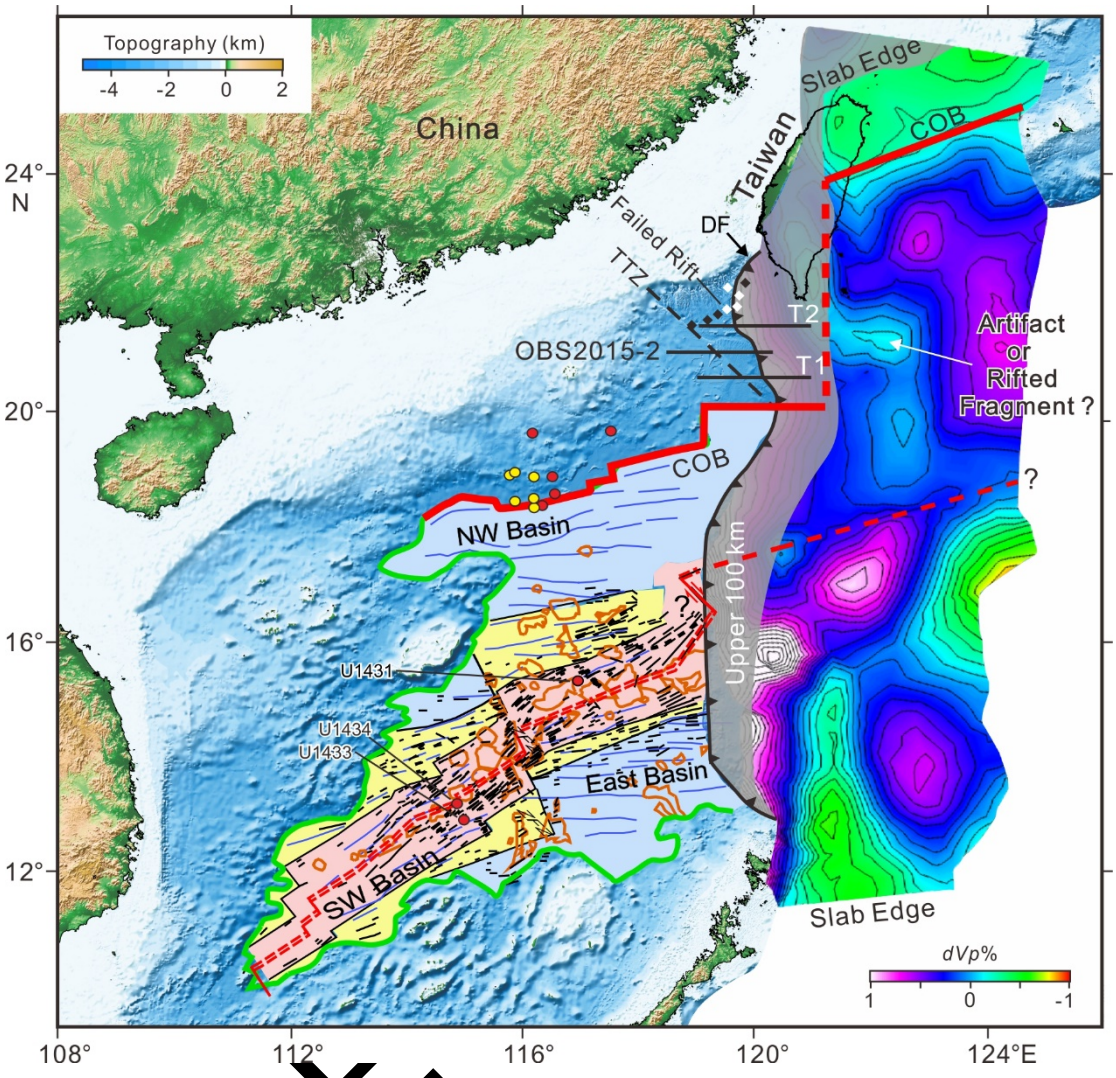


The South China Sea oceanic domain at the end of spreading (Liu et al., 2018). The SCS oceanic domain has been delimited by pink, yellow and light blue areas, which were characterized by N055°, N075° and N085° seafloor spreading directions, respectively. The unfolded Eurasian-SCS (Manila) slab with its tomographic velocity *dVp*, is attached to the SCS along the Manila trench and extends 400-500 km east of the Manila trench. The N-S grey shadow mask (<100 km width) corresponds to crust correction artifacts and was not interpreted. Major tectonic features are underlined. The green line is the continent-ocean boundary (COB), which delimits the typical oceanic domain. The newly established COB appears as a red line (instead of the green line) and has been extended in the unfolded Manila slab. The extinct spreading ridge (ESR) in the East basin is from Zhao et al. (2018). Outside the oceanic domain, the remaining parts of the SCS are continental and thinned continental domains. The eastern extension of the ESR appears as a red thick dashed line. Locations of wide-angle seismic profiles T1, T2 and OBS2015-2 in black. Manila trench, black line with triangles; DF, Deformation front; TTZ, Taiwan transfer zone.