

Conclusions

- ❑ Numerical simulation using ROMS model with refined local surface forcing is able to elucidate the generation, pathways and forms of the CDW dispersion in meander, patch and lens structures.
- ❑ The behavior of CDW dispersion pattern is critically controlled by local surface winds and tidal mixing.
- ❑ Climatological simulation in summer shows the CDW spreading eastward covering approximately 150 km x 150 km in horizon and 5m in thickness.
- ❑ Refined surface forcing in summer pulls the CDW northeastward, and the local instability and tidal stirring generate meander, patch and lens structures.
- ❑ The scale of patches ranges from 50 km to 150 km in horizon and 10 m to 20 m in thickness.
- ❑ The moving speed of CDW patches is estimated at approximately 40 cm/s along the major axis of meandering spreading.
- ❑ Life span of the patches is about 10 to 20 days.
- ❑ In the meandering zone of the CDW, anti-cyclonic vorticity enhanced by tidal stirring contributes to local mixing of the CDW.
- ❑ In summer, the simulated dispersion of the CDW is consistent with satellite-tracked drifter path. Beginning with northeastward, the CDW pathways run southeastward, then being entrained to either Jeju Current or Tsushima Current.