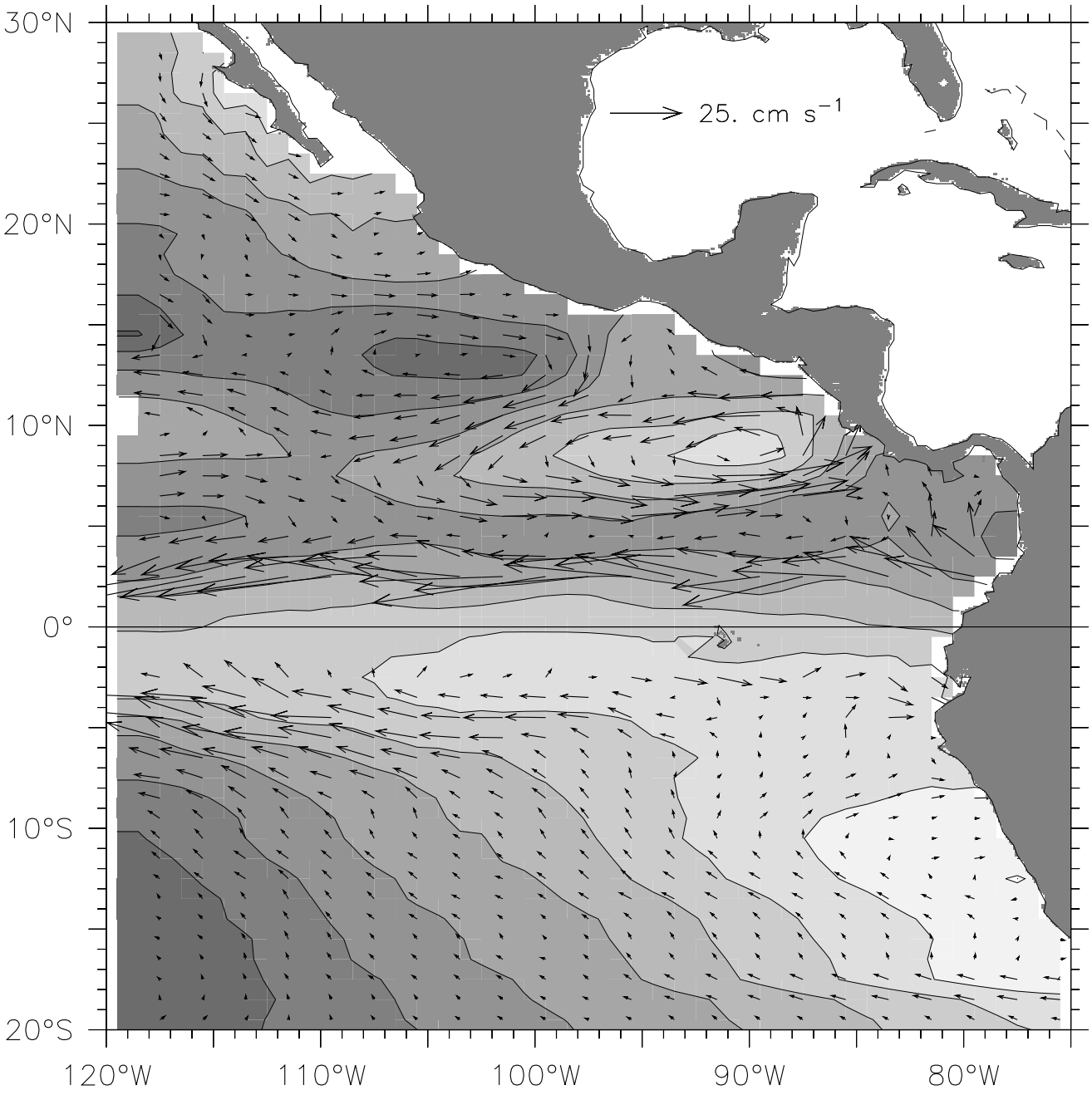Dynamic ht and surface geostrophic currents