



## **Non-arboreal pollen (NAP) and terrestrial non-pollen palynomorph (NPP) indicating fluctuation of East China Sea Coastal Water (ECSCW): piston core (St-21) from Ulleung Basin, Korea**

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Piston core samples (St-21) collected from the northern part of Ulleung Basin, Korea yielded a great amount of palynomorph including arboreal pollen (AP), non-arboreal pollen (NAP) and non-pollen palynomorphs (NPP). Abundance of NAP changes significantly throughout the core, showing high percentages (ca. < 20 %) during 12-16ka, 43ka, and 98ka, whereas low percentages (ca. > 10 %) during 18ka, 33ka, and 65ka. Such a fluctuation of NAP would have been controlled by freshwater run-off into the East Sea during the period of last glaciation, most probably by influx of East China Sea Coastal Water (ECSCW) because there has not been a large river along the coast surrounding the East Sea. Other palynomorph (freshwater algae and fungal spore) originated from terrestrial environments also shows similar trend. Because influx of ECSCW, in general, tends to increase during the period of warm climate while decrease at the time of cold seasons, horizons with high percentages of NAP and terrestrial NPP indicate warm climates, introducing more NAP and terrestrial NPP into the East Sea. Such interpretation is also supported by principle component analysis (PCA).