

High-resolution seismic profiles and core sediment sampling have been conducted to investigate the sequence stratigraphy and depositional evolution of late Quaternary deposits in the southeastern Yellow Sea. Approximately (1560) line-km data of chirp and sparker profiles was acquired. Along with seismic profiling, 25 piston core samples were collected. High-resolution seismic profiles show the Holocene mud deposit and the complex sedimentary structure. The late Quaternary deposits on the study area can be divided into three sequences (Unit A, B, and C, from oldest to youngest). The lowermost Unit A, overlying the acoustic basement, forms confused inner reflectors and incision-fills. The thickness of Unit A increases slightly toward southwest. Unit B is characterized by parallel reflections and ridge-and-swale topography. The uppermost Unit C displays acoustically transparent or subparallel reflectors with homogeneous seismic facies, regionally including acoustic anomalies related to shallow gas.

Core samples were analyzed for sediment texture (grain size, sand, silt and clay contents), physical properties (porosity, water content, bulk density, grain density and shear strength), and acoustic properties (compressional wave velocity and attenuation). Unit A and Unit B comprise the sandy sediments with shell fragments, whereas Unit C is composed of homogeneous and soft mud, partially including the gassy sediments. Through the comparison with piston cores, deep drilling core ECSDP-102 and the high resolution seismic features, the depositional sequence is interpreted by three systems tracts: falling stage systems tract (FSST; Unit A), transgressive systems tract (TST; Unit B), highstand systems tract (HST; Unit C).

PRELIMINARY STUDY ON THE QUATERNARY MARINE TERRACE DEPOSITS IN THE SOUTHEASTERN COAST OF KOREA: IMPLICATIONS IN RELATIVE SEA-LEVEL CHANGE

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Marine terraces along the eastern coast of Korean Peninsula have been well known and studied in geomorphological aspects. They are generally related to the interaction between global sea-level changes and tectonical uplift due to opening of the East Sea (Sea of Japan). In this study terrace deposits at three sites in southern part of the eastern coast in Korea are described in sedimentological and stratigraphical aspects. Terrace deposit at Site 1 is underlain by the Miocene Duho Formation of the Pohang Basin with unconformity. It is comprised of sandy mud, conglomerate, planar- to cross-laminated fine- to medium-grained sand and cross-laminated fine- to medium-grained sand in ascending order, which are interpreted to be backshore to upper shoreface deposits. Terrace deposits at Site 2 is composed of sandy mud or silt, planar- to cross-laminated fine- to medium-grained sand, cross-laminated fine- to medium-grained sand and planar- to cross-laminated fine- to medium-grained sand in ascending order, that is interpreted to be offshore, shoreface to foreshore, backshore and shoreface deposits. Terrace deposits at Site 3 consist of clast-supported conglomerates. They show thickening- and coarsening-upward profile that is interpreted to be storm deposits. Paleoenvironmental changes at each site can be correlated with MIS based on their relative elevations and absolute age data by previous studies. Site 1 may be correlated with the early MIS 3. Site 2 may be corresponding to the boundary between MIS 4 and MIS 3. Although absolute age of Site 3 deposits is unknown, Site 3 seems to be correlated with the Site 1 based on the elevation. This study can provide the information not only to understand relative sea-level changes but also to interpret tectonic history in East Sea (Japan Sea) during the Quaternary.

MAGDALENIAN IN SWITZERLAND: RE-COLONIZATION OF A NEWLY ACCESSIBLE LANDSCAPE

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During the Last Glacial Maximum, most of Switzerland was covered with ice. However, less than 50 km north from the ice sheet, human presence is confirmed as early as 23 000 cal BP. Numerous sedimentary sequences from lakes and mires have produced a wealth of proxy data demonstrating that environmental conditions improved rapidly after the retreat of the glaciers

from the Jura mountains and the Swiss Plateau. This newly accessible landscape offered manageable, albeit severe, living conditions for plant, animal and human communities. Until recently, the prevailing opinion of the Magdalenian re-colonization of Switzerland was thus that it did not start before the warming of the Greenland Interstadial 1e. However, according to all newly obtained AMS-dates, the Magdalenian re-occupation of this region falls within the cold, treeless environment of the Oldest Dryas period; it even appears likely that the Magdalenian tradition did not extend into the succeeding warm phase of GI 1e. More than 40 Magdalenian sites, among which famous sequences in caves and rock shelters, such as Kesslerloch, as well as large open air sites, such as Champréveyres, Monruz and Moosbühl, have produced diverse techno-assemblages that find good counterparts in other parts of Europe. The exploitation of the flint resources was of mainly local and regional extent. In contrast to this, ornamental mollusks, amber, art objects and other decorative/symbolic elements show widespread, multidirectional long-distance connections with the upper Danube valley, the Paris or the Mainzer basin, the Pyrenees, the Baltic, the Atlantic and Mediterranean. This vast pattern of exchange reflects the well established interaction network throughout Europe. Current investigations on the mobility of Magdalenian populations of the Swiss Plateau and the Jura mountains attempt to elucidate the dynamics of land use throughout the seasonal cycle in order to get a better view of the settlement system during this time period.

GENETIC STRUCTURE AND DIVERSITY OF A WIDESPREAD EUROPEAN TREE SPECIES (*FAGUS SYLVATICA*) AT ITS WARM DISTRIBUTION EDGE

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Ongoing global warming affects species distribution. Consequences of a shift of the climate envelope include poleward expansion of populations of the cold range edge as well as extinction of populations at the warm limit. In principle, the most threatened populations should be those located at the southern periphery of a species range (in northern hemisphere). Yet, in Europe, these southernmost populations originate from the mid-Pleistocene and have endured many major climate changes including glacial/interglacial cycles. Due to this long history, these relict populations include a large part of the species genetic diversity, distributed among an array of small isolated, highly differentiated, populations. We investigated populations of beech (*Fagus sylvatica*) using a multidisciplinary approach (macrofossil soil charcoal analysis and population genetics) to assess the Quaternary history of isolated populations at the warm distribution edge. In the plains of southwest France, beech is drought limited. Models predict a complete regional extinction of the populations in the next 50 yr caused by a dryer climate. We compared the patterns of genetic diversity and differentiation of peripheral populations, sampled exhaustively after intensive prospection, with that of populations from the Pyrenean refuge where beech thrive at higher, more humid elevations and with that of less isolated populations (near the core of the range). Given that these rear-edge populations could date from the mid-Pleistocene (a hypothesis assessed using macrofossil soil charcoal), we expect a genetic structure in southwest France showing high regional genetic diversity with low intrapopulation diversity but high interpopulation differentiation. We also expect a strong differentiation with populations of the other regions caused by the long isolation history through glacial cycles. This research will help resolve issues about resilience of peripheral populations to Quaternary climate changes.

THE UPPER PLEISTOCENE ALTERNATION OF MARINE AND CONTINENTAL DEPOSITS UNDER THE ENGLISH CHANNEL. HOW TO EXPLAIN THE EASTERN DISTURBANCE

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The incorporation of poorly known sedimentological data previously collected in the Central English Channel to the scheme already established for the Western English Channel brings new constraints to better understand the origin of the alternation we observed between the marine and continental deposits in this domain.