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Seismic stratigraphy and depositional history of late Quaternary deposits in the Yellow Sea.

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To identify the seismic stratigraphy and depositional history of late Quaternary deposits in the Yellow Sea, approximately 52,600 line-km of Chirp seismic profiles and 5,060 line-km of Sparker seismic profiles were analyzed. The Yellow Sea are correspond to three sedimentary environments: (1) a various scale sand ridges/waves and mud belt (the western inner-shelf of the Korean Peninsula), (2) recent- and paleo-channels, erosional and broad surface (the center of the Yellow Sea), and (3) prodelta mud patch (the eastern offshore of China). Based on the seismic stratigraphic analysis of seismic profiles, the late Quaternary deposits in the Yellow Sea are divided into five distinctive seismic units (units CY1∼5), consisting of two depositional sequences that can be defined as erosional and disconformable strata. Each unit show different seismic facies and geometry, and is clearly separated by each bounding surface. The major depositional processes and sediment dispersal systems during the late Quaternary in the Yellow Sea are: (1) regressive estuarine/deltaic deposits (unit CY1), (2) transgressive incised channel fill (unit CY2), (3) transgressive sand sheet (unit CY3), (4) transgressive sand ridges (unit CY4), and (5) prodelta/recent mud (unit CY5). The depositional sequences follow the general concepts of sequence stratigraphy very well. Lower sequence (DI) correspond to the falling stage systems tract regarded as regressive estuarine or deltaic deposits (unit CY1), whereas upper sequence (DII) consists of a set of the transgressive (units CY2, CY3, and CY4) and highstand systems tract (unit CY5) formed since the last-glacial period.