The geological structure and geodynamic of Oceania's sedimentary basins

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The sedimentary basins of Oceania developed mainly during the Cenozoic tectonic stage in different geodynamic settings:

- within the Australian continental margin, where continental, deltaic, littoral, and open marine clastic, less commonly carbonate deposits accumulated during Mesozoic-Cenozoic times. The inception of sedimentary basins here was preceded by the breakup of the Paleozoic and older stable crust, producing rift grabens;
- within the mobil zones of transitional crust - the active continental and oceanic margins, where island arc systems were formed along with the subduction of the oceanic lithosphere in the Zavaritsky - Benioff zones.

The structural and dynamic layering of Oceania's crust enables lateral communication between the monogenous cratogenic and near-thalassogene island arc basins, on the one hand, and the heterogeneous polystructural basins, including foredeeps (foldbelt-platform), rift, and backarc-continental margin basins.

Of special structures in Oceania are the rift basins. The Mesozoic rifts were onset on the Gondwana continental margin. The final episodes of the Mesozoic are manifested as a "geocratic epoch", when much of the region was emergent. The beginning of the Cenozoic was marked by resumption of rifting. The rifting centers largely coincided with the Mesozoic rifts and the weakened zones of the deep-seated faults separating the crustal blocks of various ages, and acted as depocenters. The middle Miocene-Pliocene post-rift sagging marked the "failure" of the regional rift systems, and the sedimentary basins approximated their present-day pattern.