

# 大南海地区新生代板块构造活动

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摘要: 在新生代澳大利亚板块和欧亚板块之间的大洋中, 存在一些地块(微板块); 同时, 澳大利亚板块北部边缘的一些地块先后和澳大利亚板块分离, 向北运动, 与一些和欧亚板块分离出来的地块先后发生碰撞缝合。在此期间, 由于地块分离而发生海底扩张, 产生许多小洋盆, 如南海、苏录海、苏拉威西海、安达曼海等, 最后形成了东南亚地区今日的构造景观。笔者从大南海地区新生代的构造演化史之框架来研究南海地区新生代的构造演化历史, 认为南海地区新生代的构造活动既与印度板块和欧亚板块的碰撞有关, 也与太平洋板块向欧亚板块的俯冲活动有联系; 同时, 还受到澳大利亚板块向北运动之影响。南海地区在新生代发生过两次海底扩张, 第一次海底扩张发生在42~35 Ma前, 是受印度板块和欧亚板块碰撞而引起欧亚大陆之下向东南方向之地幔流的影响而发生的, 其海底扩张方向为NW-SE, 产生了南海西南海盆; 第二次海底扩张发生于32~17 Ma前。由于太平洋板块向欧亚板块俯冲, 俯冲的大洋岩石圈已达700 km深处, 阻挡了欧亚大陆的上地幔向东南方向之流动, 从而转向南流动, 引起南海地区南北向海底扩张, 即新生代第二次海底扩张, 产生了南海中央海盆。南海新生代洋盆诞生之后, 由于大南海地区继续有地块碰撞和边缘海海底扩张, 对南海南部地区产生挤压, 从而使这里的沉积发生变形, 这就引起万安运动(南海南部)。

关键词: 板块运动; 板块俯冲; 地块运动; 海底扩张; 磁异常条带

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## Cenozoic plate tectonic activities in the Great South China Sea area

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Abstract: There existed some blocks (micro-plates) in the oceans between Australia and Asia in the Cenozoic, when some blocks were separated from the Australian plate and moved northward and collided and sutured with some blocks that were separated from the Eurasian plate. In this period small ocean basins such as the South China Sea, Sulu Sea, Celebes Sea and Andaman Sea formed as a result of block separation and seafloor spreading, and finally the present tectonic framework formed in the Great South China Sea area. After a study of the Cenozoic tectonic history of the Great South China Sea area, the authors believe that Cenozoic tectonic activities in the Great South China Sea were not only related to collision between the Indian Plate and Eurasian Plate but also to subduction of the Pacific Plate beneath the Eurasian Plate and were also affected by the northward movement of the Australian Plate. In the South China Sea Basin there occurred two events of seafloor spreading in the Cenozoic. The first seafloor spreading, which was oriented in a NW-SE direction, occurred before 42-35 Ma BP under the influence of the southeastward mantle flow beneath the Eurasian continent caused by India-Eurasia collision. The first seafloor spreading gave rise to the Southwest Basin of the South China Sea. The second seafloor spreading took place before 32-17 Ma BP. As the Pacific plate was subducted beneath the Eurasian plate to 700 km depth, the SE-directed flow of the upper mantle of the Eurasian continent was blocked and then turned toward the south, thus causing N-S-trending seafloor spreading in the South China Sea area, i.e. the second seafloor spreading. The second seafloor spreading resulted in the formation of the Central Basin of the South China Sea. After the Cenozoic South China Sea Basin was produced, collision between the blocks and seafloor spreading continued in the Great South China Sea area, and under the compression of these northward blocks the south margin of the South China Sea, sediments in the area were deformed, thus producing the Wanan movement (at about 10 Ma BP) on the south margin of the South China Sea.

Key words: plate movement; plate subduction; block movement; seafloor spreading; magnetic anomaly lineation