

การเปลี่ยนแปลงชายฝั่งตามฤดูกาลของชายฝั่งทะเลประจวบคีรีขันธ์



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SEASONAL SHORELINE CHANGES OF THE PRACHUAP KHIRI KHAN COAST

Mr. Ratthakorn Songmuang

A Thesis Submitted in Partial Fulfillment of the Requirements  
for the Degree of Master of Science Program in Geology

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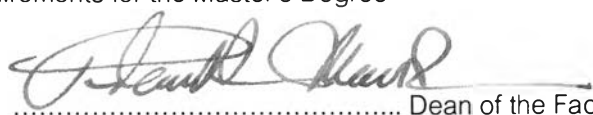
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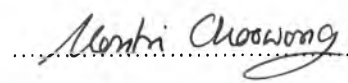
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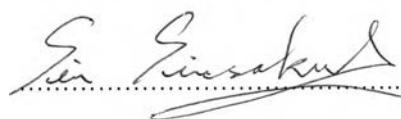
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การศึกษาการเปลี่ยนแปลงชายฝั่งตามฤดูกาลเป็นวิธีหนึ่งที่จะช่วยในการวิเคราะห์ถึงการกัดเซาะชายฝั่ง ส่วน  
สาเหตุของการเปลี่ยนแปลงชายฝั่งนั้น มีด้วยกันหลายประการซึ่งขึ้นอยู่กับสภาพทางธรณีวิทยาในแต่ละพื้นที่ ปัจจัยทาง  
กายภาพ และปัจจัยจากการกระทำโดยมนุษย์ การกัดเซาะชายฝั่งบริเวณจังหวัดประจวบคีรีขันธ์ที่ผ่านมาได้มีการศึกษา  
บ้างแล้ว โดยพื้นฐานของวิธีการมาจากการคำนวณและหาค่าการเปลี่ยนแปลงจากข้อมูลโทรสัมผัส ในพื้นที่ที่ศึกษาได้มีการ  
รายงานพื้นที่เสี่ยงต่อการกัดเซาะชายฝั่งไว้สูงถึง 5 เมตรต่อปีโดยเฉพาะบริเวณพื้นที่ศึกษาปราณบุรี ซึ่งการศึกษาและข้อ  
สันนิษฐานของวิทยานิพนธ์นี้ได้มุ่งเน้นในแง่ของการประเมินสาเหตุของการกัดเซาะชายฝั่งในแต่ละพื้นที่ศึกษาซึ่งถูก  
ควบคุมโดยปัจจัยเฉพาะที่แตกต่างกันออกไป และเพื่อเป็นการพิสูจน์ข้อสันนิษฐานของวิทยานิพนธ์นี้ ความเข้าใจในระบบ  
การเคลื่อนตัวของตะกอนและลักษณะการเคลื่อนตัวในรอบปีเป็นสิ่งสำคัญอย่างแรกที่จะต้องพิจารณา

วิธีการศึกษาที่สำคัญของวิทยานิพนธ์นี้ คือ การศึกษาการเปลี่ยนแปลงของตะกอนหน้าหาดทั้งในแนวระดับและ  
แนวระนาบ การศึกษาด้วยวิธีนี้ได้มุ่งเน้นไปที่บริเวณชายฝั่งปราณบุรี ชายฝั่งในบริเวณอ่าวประจวบคีรีขันธ์ และแนวชายฝั่ง  
บริเวณหาดวนกร ซึ่งในแต่ละพื้นที่ก็มีลักษณะทางธรณีสัณฐานที่แตกต่างกันออกไป การประเมินเชิงพื้นที่โดยใช้วิธีและ  
ข้อมูลทางโทรสัมผัสในวิทยานิพนธ์นี้ ได้ทำการศึกษาทางลักษณะธรณีสัณฐานวิทยา รวมไปถึงการศึกษาจากภาพถ่ายทาง  
อากาศในช่วงเวลาที่ต่างกัน การตรวจวัดการเปลี่ยนแปลงเชิงพื้นที่โดยเฉพาะระดับของตะกอนหน้าหาดจะทำให้เข้าใจใน  
ระบบการเปลี่ยนแปลงของตะกอนในฤดูกาลที่แตกต่างกัน

จากลักษณะทางธรณีสัณฐานวิทยา บ่งชี้ว่าลักษณะการสะสมตัวและการกัดเซาะในพื้นที่อ่าวประจวบคีรีขันธ์มี  
ความสมดุลในระบบการเคลื่อนตัวของตะกอนในรอบปี ส่วนแนวตะกอนหน้าหาดที่วัดได้ในบริเวณปราณบุรีแสดงให้เห็น  
ว่ามีการสะสมตัวมากกว่าการกัดเซาะ ข้อสรุปที่สำคัญอีกประการหนึ่งก็คือ สาเหตุหลักของการเปลี่ยนแปลงชายฝั่งย่อมมี  
ส่วนเกี่ยวข้องอย่างมากกับลักษณะพายุในรอบปี ลักษณะวงจรการเปลี่ยนแปลงของตะกอนในรอบปีก็เป็นสิ่งสำคัญที่จะ  
ช่วยให้เข้าใจถึงการเปลี่ยนแปลงของชายฝั่งในบริเวณนั้น ๆ และการเข้าใจในลักษณะการเปลี่ยนแปลงสภาพภูมิประเทศ  
ของชายฝั่งก็เป็นสิ่งสำคัญที่จะช่วยให้ทราบถึงลักษณะการเปลี่ยนแปลงของชายฝั่งได้อย่างถูกต้องและแม่นยำ

ภาควิชา.....ธรณีวิทยา.....ลายมือชื่อนิสิต.....*วิโรจน์ ดาวฤกษ์*  
สาขาวิชา.....ธรณีวิทยา.....ลายมือชื่ออาจารย์ที่ปริกษา.....*มนตรี ชูวงษ์*  
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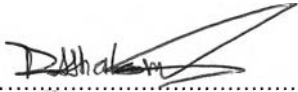
RATTHAKORN SONGMUANG: SEASONAL SHORELINE CHANGES OF THE PRACHUAP KHIRI KHAN COAST. THESIS ADVISOR: ASST.PROF.VEEROTE DAORERK, THESIS CO ADVISOR: Mr.MONTRI CHOOWONG , 104 pp. ISBN 974-14-1877-9.

The study of seasonal coastal change is one method to help analyzing the erosion of the coast. Causes of coastal changes are varied from place to place. Coastal changes around Prachuap Khiri Khan areas have previously defined and orderly ranked mostly based on the spatial calculation from remote sensing data, e.g., the most risky areas of erosion has been reported to have the land lost up to 5m/year at Pranburi area. This rate becomes equivocal in terms of how to analyse the causes of erosion and how much of geological data were taken into account. Thus, the assumption of this research was set up on that the causes of erosion differ from one individual area and might be controlled by specific geological factors. To prove this assumption, the understanding of annual sediment depositional cycle and current movement is the first aim to take into consideration.

One important method of this work is the measurement of coastline, beach and shorefaces vertically and horizontally. This research focuses in Pranburi truncated beach ridges plain, Prachuap Khiri Khan Bay, and Wanakorn beach ridge plain where there are difference in morphology. Remote sensing data (series of aerial photographs taken in different period of time) were used to integrate and select the appropriate areas for evaluating sediment cycle and currents. Annual checks and measurement of shoreface profiles were designed in order to understand the changes in sediment budget in different season.

Based on geomorphological aspects, the deposition and erosion in Prachuap Khiri Khan Bay showing the equilibrium or balance of annual sediment gain and loss from the shoreface. Shoreface profiles of Pranburi and Wanakorn areas show similarity that annual depositional rate of shoreface sands seem to have a larger number than erosion. The analysis in shoreface slope was also taken in account. Clearly, shoreface slope relies on the volume of sediment gain and loss from the coast.

One conclusion arisen from this research is that the major cause of coastal changes in the study areas is much relied on seasonal monsoon storms. Annual sedimentary cycles are of very important key to explain erosion and deposition along the individual shoreline area. The understanding in the annual change of shoreface topography is another important way to analyse the precise short-term and long-term rates of erosional and depositional scenarios rather than using only remote sensing measurement.

Department.....Geology..... Student's signature.....

Field of study.....Geology.. .....Advisor's signature.....

Academic year.....2005..... Co-advisor's signature.....

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