

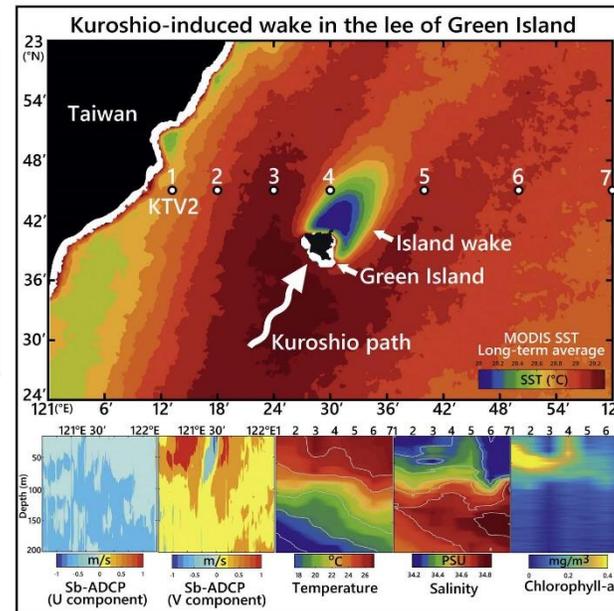
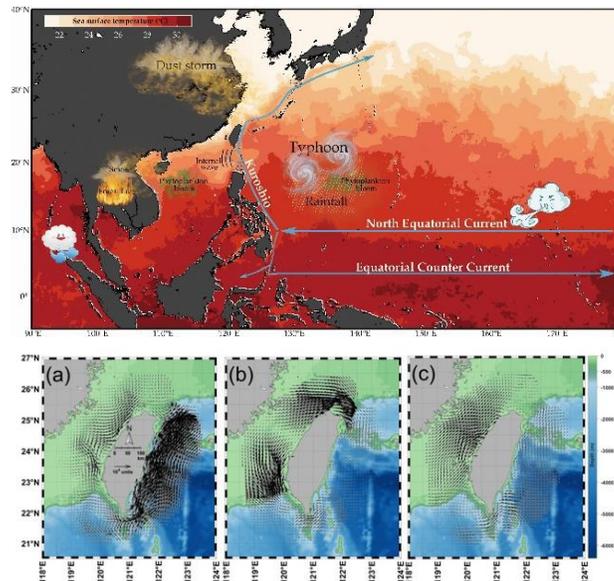
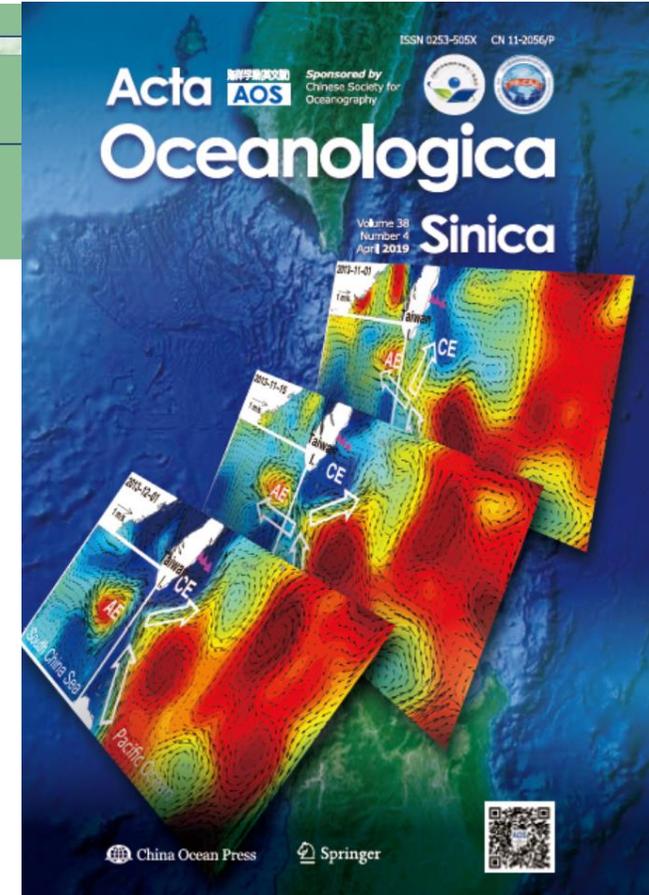
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研究領域：海洋遙測、海洋動力、海氣作用、全球變遷

研究內容：

- 綠島尾渦流的變化
- 渦流對黑潮的作用
- 颱風與海洋的交互作用
- 臺灣周圍海流分析



Chung-Ru Ho, Distinguished Professor

Laboratory of Environmental Remote Sensing



Education :

- Applied Ocean Science, University of Delaware, USA (Ph.D.)

Professional experience :

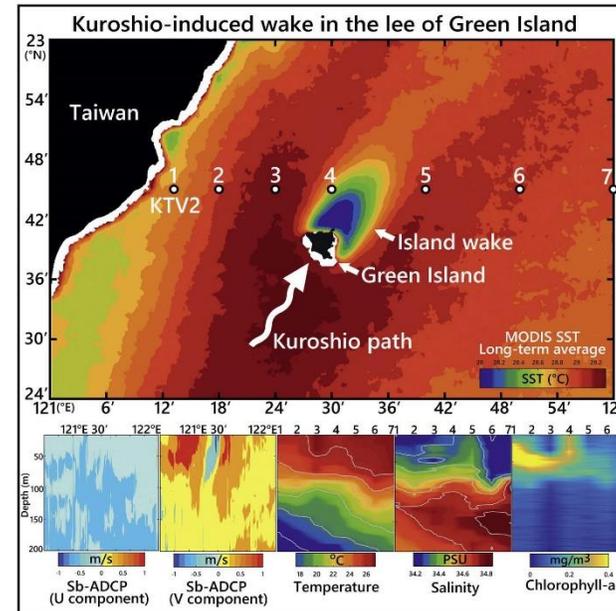
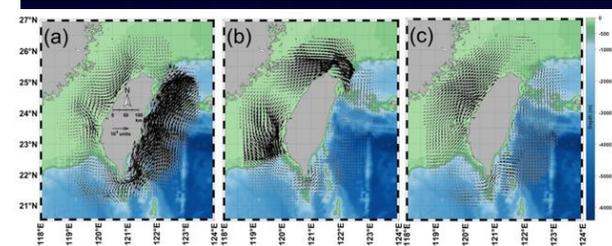
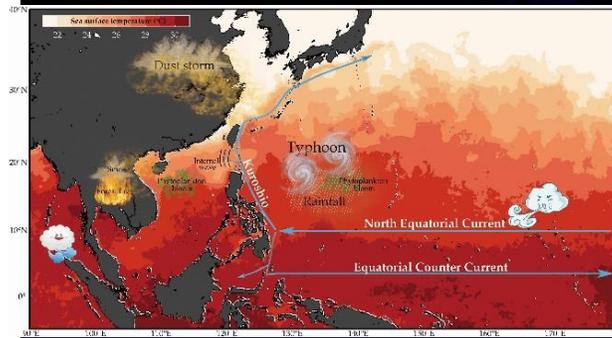
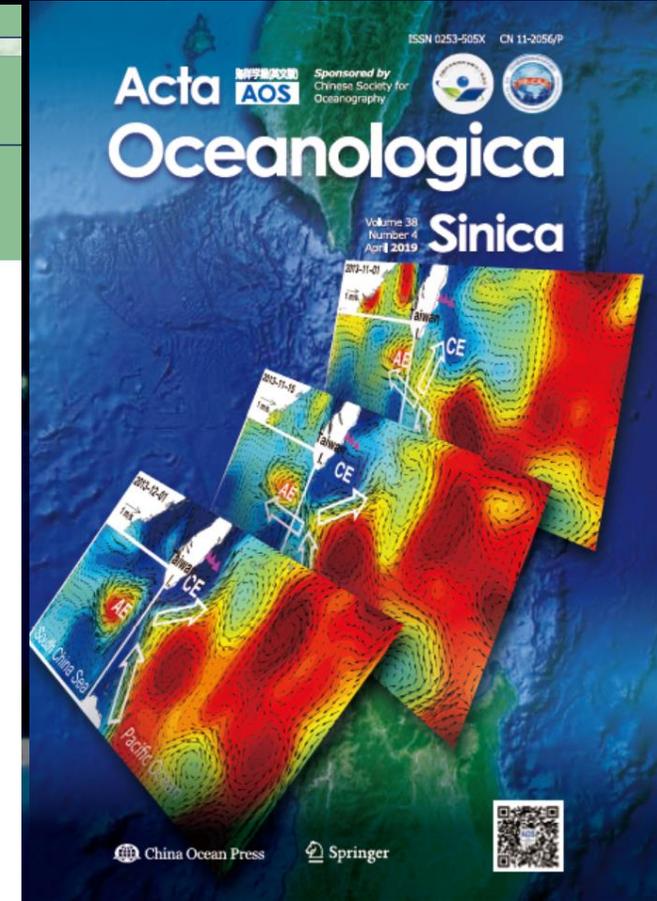
- Associate Vice President for Research and Development, NTOU
- Deputy Director General, National Museum of Marine Science & Technology
- Chair, Department of Marine Environmental Informatics, NTOU
- Chair, Department of Oceanography, NTOU

Expertise :

Ocean Remote Sensing, Dynamical Oceanography, Typhoon-ocean Interaction, Global Change

Research interest :

- Green Island wakes
- Kuroshio-eddy interaction
- Typhoon-ocean interaction
- Ocean Current around Taiwan





Article

Temporal Variation and Spatial Structure of The Kuroshio-Induced Submesoscale Island Vortices Observed from GCOM-C and Himawari-8 Data

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應用 GCOM-C 和 Himawari-8 衛星觀測黑潮引起的亞尺度島嶼尾渦時間變化和空間結構

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重要研究成果

- 了解綠島尾渦流的特性，對於未來黑潮發電的場址的選擇有關鍵性的作用。
- 研究結果指出綠島尾渦流在平均流速1.15公尺/秒時，平均脫落週期為14.8小時，符合理想的Strouhal-Reynolds數擬合曲線關係。
- 尾流區的結構變化快速，每個觀測站的水文會因不同的渦度狀態混合而不同。

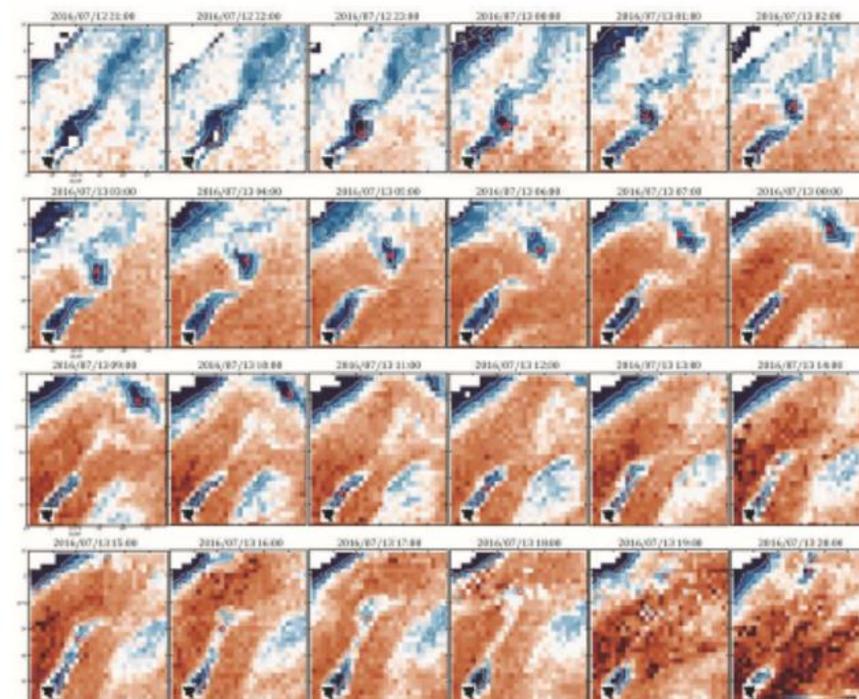


Figure 9. The 24-hour continuous Himawari-8 SST images from 21:00 UTC on 12 July 2016 to 20:00 UTC on 13 July 2016. Red stars and red dots represent the center positions of the two vortex cases.



Article

Diurnal to Seasonal Variations in Ocean Chlorophyll and Ocean Currents in the North of Taiwan Observed by Geostationary Ocean Color Imager and Coastal Radar

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應用 GOCI 衛星影像和岸際雷達觀測臺灣北部海域葉綠素和洋流的晝夜到季節性變化

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²國立臺灣海洋大學海洋工程研究中心

重要研究成果

- 臺灣北部海域平均退潮流速夏季為0.43公尺/秒、冬季為0.27公尺/秒；平均漲潮流速夏季為0.26公尺/秒、冬季為0.45公尺/秒。
- 臺灣西北海岸冬季平均葉綠素濃度超過2.0毫克/立方公尺。
- 台灣北部海域潮起潮落的影響，可導致近岸葉綠素濃度在短時間內發生較大變化。

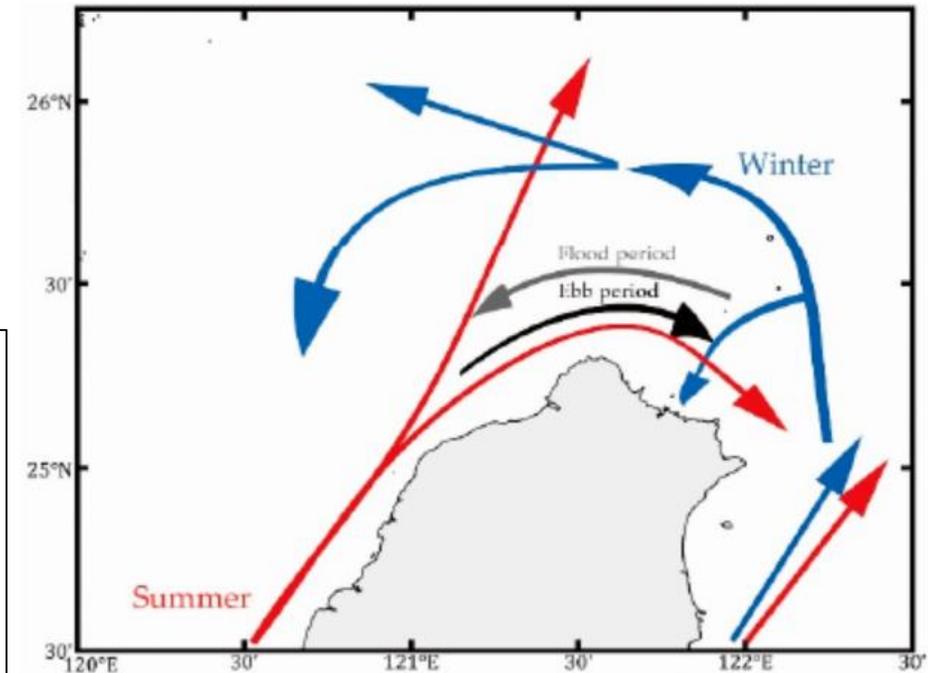


Figure 17. A schematic diagram of the main characteristics of the flow field in the north of Taiwan.

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RESEARCH ARTICLE
10.1029/2019JC015226

Tide-Induced Periodic Sea Surface Temperature Drops in the Coral Reef Area of Nanwan Bay, Southern Taiwan

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- Key Points:**
- Himawari-8 satellite and coastal radar data are used to analyze the characteristics of eddy-induced sea surface temperature drop in a bay
 - In summer, ebb current-induced cyclonic eddies cause 2 °C sea surface temperature drops that reduce thermal stress
 - The average life cycle of eddies was 6.6 hr with propagation speed of 0.35 m s⁻¹, which was close to the tidal currents around the bay

重要研究成果

- 應用Himawari-8衛星和岸際雷達數據分析渦旋引起南灣海水表面溫度下降特徵。
- 在夏季，退潮引起的氣旋渦旋導致海面溫度下降攝氏 2 度，因而降低熱應力。
- 渦旋的平均生命週期為 6.6 小時，傳播速度為 0.35 公尺/秒，接近海灣周圍的潮流。

臺灣南灣珊瑚礁區潮汐引起的週期性海面溫度下降

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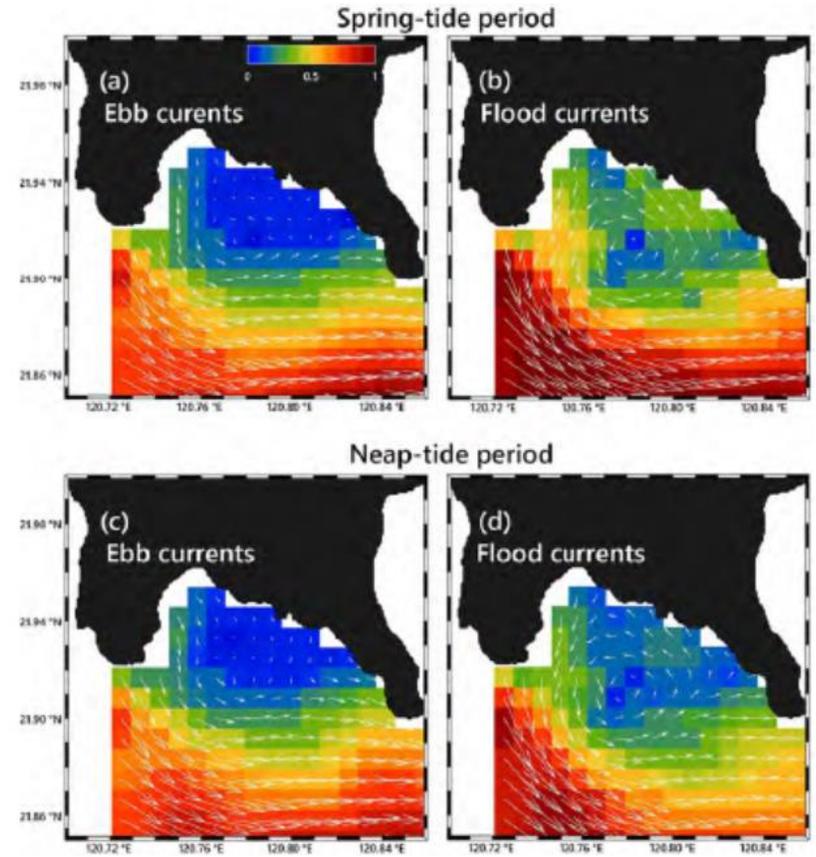


Figure 8. Ebb-flood cycle current field (vectors and velocity) for the (a, b) spring and (c, d) neap tide periods; data averaged from April to June 2016.



Article

Characteristic Analysis of Sea Surface Currents around Taiwan Island from CODAR Observations

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CODAR觀測臺灣周圍表面海流特徵分析

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重要研究成果

- 黑潮表層海流具有明顯的季節變化，夏季流速快但變動性也大。
- 偶極渦對撞擊黑潮是一種經常發生的現象。在大多數情況下，氣旋/反氣旋渦流在夏季發生在北/南側，而在冬季則相反。這些特徵導致黑潮下游輸送量夏季減少，冬季增加。
- 衝擊黑潮的單渦有各種週期，包括日、季內、季間和年。
- 潮流是台灣海峽表面環流的主要組成，而季風也是台灣海峽表面海流之。

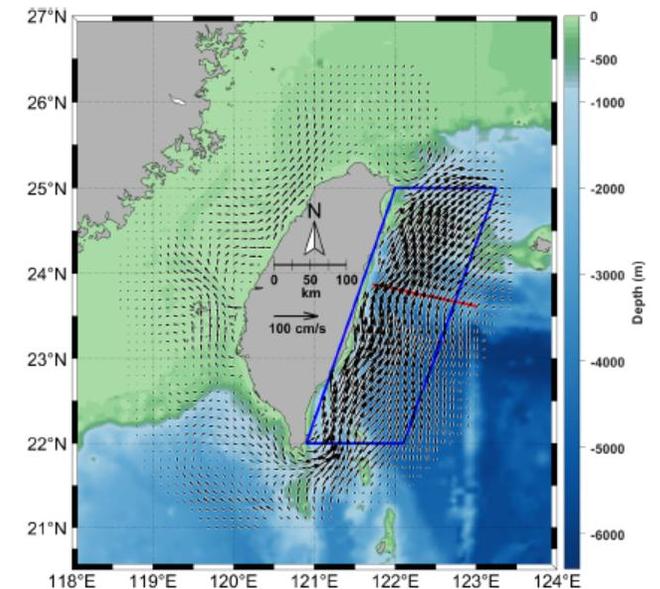


Figure 4. Mean current field of reconstructed data and the KTV1 line (red line). The blue parallelogram stands for the area of core current.