

蔡富容 副教授 大氣化學模擬研究室



學歷：美國紐約州立大學 奧本尼分校 理學博士

經歷：國立台灣海洋大學 海洋環境資訊系 副教授

國立台灣海洋大學 海洋環境資訊系 助理教授

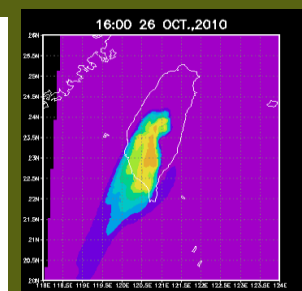
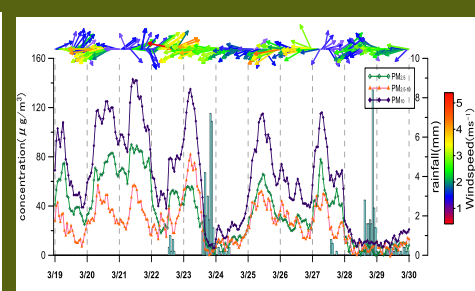
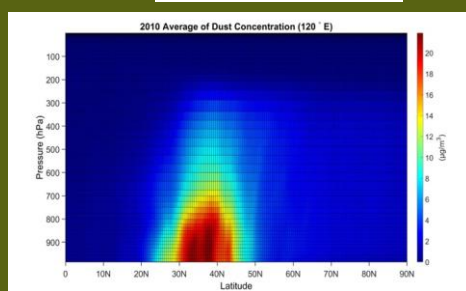
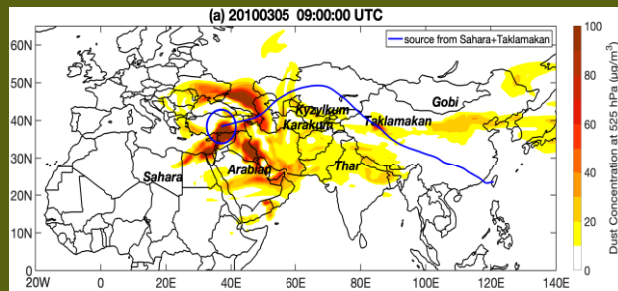
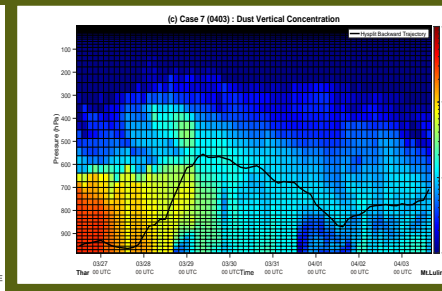
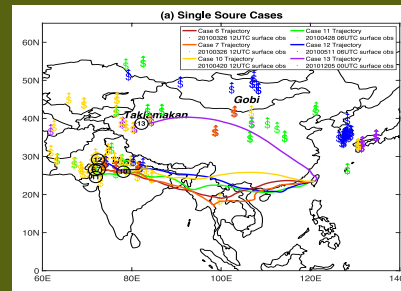
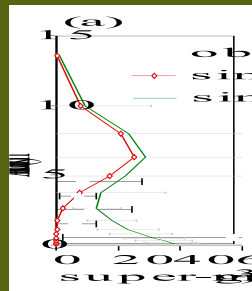
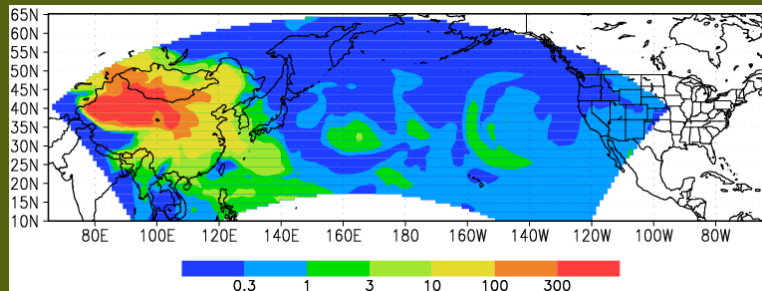
中央研究院 環境變遷研究中心 博士後研究員

國立台灣大學 大氣科學系 博士後研究員

研究領域：大氣化學、海洋環境、環境變遷、海氣環境交互作用

研究內容：

- 探討在東亞地區的地面及高空沙塵顆粒的來源、傳輸路徑與機制、及其各成份對海洋葉綠素與基礎生產力的影響。
- 分析生質燃燒的來源、傳送機制、模擬分析其成份、估算其物種對大氣與海洋的影響。
- 了解大氣氣態污染物及懸浮微粒的來源、擴散與傳輸、及各種成份對大氣與海洋的貢獻。



Fujung Tsai, Associate Professor

Laboratory of Atmospheric Chemistry Modeling

Education :

- University at Albany, State University of New York, USA (Ph.D.)

Professional experience :

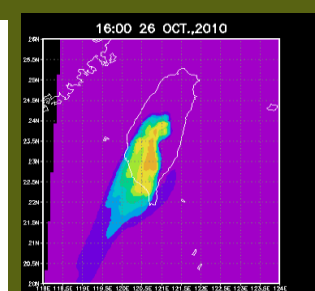
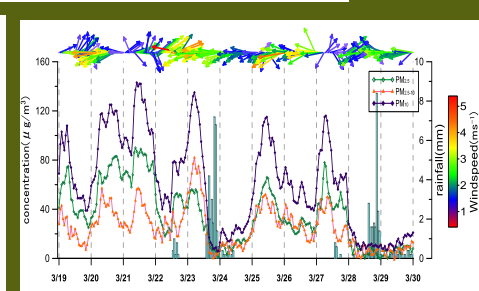
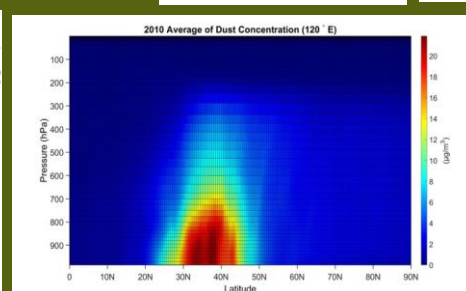
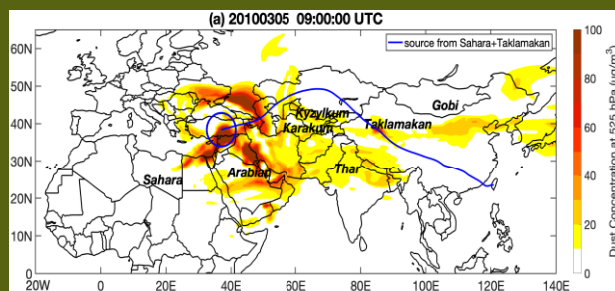
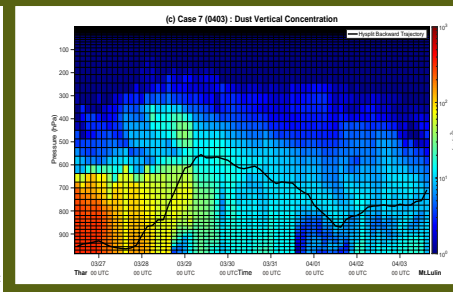
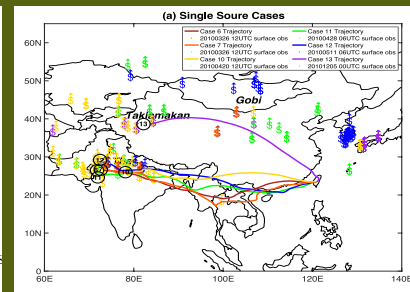
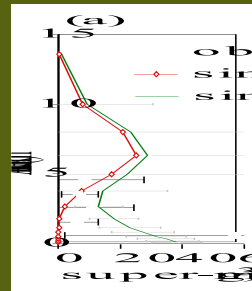
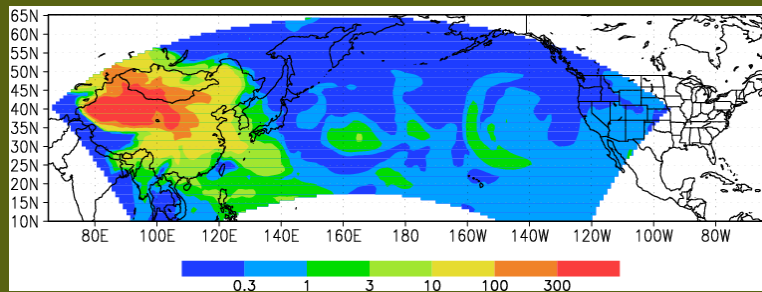
- Associate Professor, Department of Marine Environmental Informatics, NTOU
- Assistant Professor, Department of Marine Environmental Informatics, NTOU
- Postdoc, Research Center for Environmental Changes, Academia Sinica
- Postdoc, Department of Atmospheric Sciences, NTU

Expertise :

Atmospheric Chemistry, Marine Environment, Environmental Changes, Air-sea Environmental Interactions

Research interest :

- The major research theme of our lab is to explore sources, and transport routes and mechanism of dust particles at surface level and high altitudes over East Asia, and impacts of their components on marine phytoplankton and primary productivity.
- We analyze sources and transport routes of biomass burning emissions, and estimate their impacts on atmospheric and marine environment.
- Our interest includes understanding the sources, dispersion, and transport of all kinds of gas-phase pollutant and aerosol species, modeling their components and estimate their impacts on atmospheric and marine environment.





Investigation of long-range transported PM_{2.5} events over Northern Taiwan during 2005–2015 winter seasons

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Fujung Tsai^d, Charles C.-K. Chou^e

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^b Department of Atmospheric Sciences, National Central University, Chung-Li, Taiwan

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^e Research Center for Environmental Changes, Academia Sinica, Taipei, Taiwan



2005–2015年冬季期間北台灣長程傳送的PM_{2.5}之調查

洪維婷¹、呂承萱¹、王聖翔²、陳聖博^{1,2}、蔡富容³、周崇光⁴

1. 美國紐約州立大學奧本尼分校大氣研究中心
2. 國立中央大學大氣科學系
3. 國立臺灣海洋大學海洋環境資訊系
4. 中央研究院環境變遷研究中心

重要研究成果

- 2005–2015年冬季期間北台灣共有50個長程傳輸的PM_{2.5}高濃度個案，利用懸浮微粒的再分析資料將這些個案區分為硫酸鹽為主、沙塵為主、及兩者混合的三種事件來分析，結果發現80%的傳輸事件與亞洲沙塵有關，且20%的事件以沙塵為主。
- 大陸沙塵的傳送路徑受大氣低層700 hPa的槽線主導。雖然硫酸鹽為主與沙塵為主的事件的PM_{2.5}濃度平均皆約44 $\mu\text{g m}^{-3}$ ，但沙塵為主的PM₁₀濃度高達114 $\mu\text{g m}^{-3}$ ，這些物種的長程傳輸對亞洲下游影響大。

