

**Jun Cheng**  
**School of Geosciences, University of South Florida**

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4202 E. Fowler Ave., NES 117,  
Tampa, FL 33620

Phone: 813-974-2759  
Email: jun@mail.usf.edu

**EDUCATION**

University of South Florida (Tampa, FL)

Ph.D. in Geology, 2015

Dissertation: Multiple Scale of Beach Morphodynamic Processes: Measurements and Modelling

Major Professor: Dr. Ping Wang

Nanjing University (Nanjing, China)

M.Sc. in Physical Geography, 2009

Thesis: Growth Limit of Tidal Flat along the Coast of Jiangsu Province, China

Major Professor: Dr. Shu Gao

Nantong University, (Nantong, China), 2006

B.Sc. in Geography

**PROFESSIONAL EXPERIENCE**

01/2016 – Present	Postdoctoral Researcher School of Geosciences, University of South Florida
08/2014 – 12/2015	Research Assistant School of Geosciences, University of South Florida
08/2009 – 07/2014	Teaching Assistant Department of Geology, University of South Florida
09/2006 – 06/2009	Research Assistant School of Geographic and Oceanographic Sciences, Nanjing University, China

**TEACHING EXPERIENCE**

Instructor for an undergraduate course ‘GLY 4734 Beaches/Coastal Environments’ at USF

Co-Instructor for summer field camps (coastal geology section) at USF

Teaching Assistant in undergraduate courses (one course each semester from fall 2009 to spring 2014)

Introduction to Oceanography

Beaches and Coast Environments

Sedimentary Processes and Depositional Environments

MS Thesis Committee Member:

Zhaoxu Zhu (completed in 2016),

Thesis title ‘Storm induced Beach Profile Changes along the Coast of Treasure Island, West-Central Florida’

Ruoshu Zhao (completed in 2018),

Thesis Topic ‘Comparison of Beach Changes Induced by Two Hurricanes along Sand Key Barrier Island’

Zachary Westfall (completed in 2018),

Thesis Topic ‘Morphodynamics of Shell Key Barrier Island: Its Generation and Development’

## **RESEARCH EXPERIENCE**

### **Field investigation**

Shallow sediment sampling.

Geomorphology survey using GPS-RTK, and Total Station.

Bathymetry survey using echo sounder.

Hydrodynamic measurement (wave, tides, and currents) using ADCP (Acoustic Doppler Current Profiler), ADV (Acoustic Doppler Velocimeter), and pressure sensor.

### **Laboratory measurement**

Large scale laboratory measurement of longshore sediment transport (LSTF at U.S. Army Corps of Engineer Research and Development Center, Vicksburg, Mississippi).

### **Data analysis**

Data analysis using Matlab and Excel.

Coastal hydrodynamic and morphology modeling using Delft3D, Xbeach and CMS.

Application of Remote Sensing technique in coastal areas (ENVI, ArcGIS).

## **RESEARCH GRANT**

**Cheng, J (PI)**, Chen, Y., Du, D, Lu, M., 2013-2014, Multivariate Nonlinear Modeling of Beach-Profile Evolution: a Case Study along Pinellas County coast, Florida (\$5000), Funded by the University of South Florida Graduate School.

## **RESEARCH PROJECTS PARTICIPATED**

RAPID: Emergency Field Investigation of Oil-Beach interaction along the Alabama and Florida Beaches Following the BP Deep water Horizon Oil Spill. Funded by National Science Foundation (Wang, P., PI, 2010-2011)

**My role was to assist in fieldwork documenting distribution of surficial and buried oil contaminants across sandy beaches.**

Inlet Management Study for Pass-A-Grille and Bunces Pass, Pinellas County, Florida.  
Funded by Department of Environmental Protection of Florida (Wang, P. PI, 2016-2017)

**I was in charge of field operations and numerical modelling.**

Physical Monitoring of the Sand Key and Treasure Island/Long Key Nourishment Projects.  
Funded by Pinellas County Florida (Wang, P. PI, 2012-2017, 2018-2023)

**I am in charge of field operations and assisting in report writing.**

## PUBLICATIONS

### *Peer-reviewed Journal Papers*

**Cheng, J.** and Wang, P., (Accepted). Unusual Beach Changes Induced by Hurricane Irma with a Negative Storm Surge and Post-storm Recovery, *Journal of Coastal Research*. DOI: 10.2112/JCOASTRES-D-19-00038.1.

Guo, Q., Pu R, Tapley, K., **Cheng, J.**, Li, J., Jiao, T. (Accepted). Impacts of Coastal Development Strategies on Long-Term Coastline Changes: A Comparison between Tampa Bay, USA and Xiangshan Harbor, China, *Applied Geography*.

**Cheng, J.**, and Wang, P. (2018). Dynamic Equilibrium of Sandbar Position and Height along a Low Wave Energy Micro-tidal Coast, *Continental Shelf Research*, 165,120-136.

Qian, P., Zheng, X.M., **Cheng, J.**, Han, Y.J., Dong, Y., Zhang, J.G. (2018). Tracing the provenance of Aeolian loess in the Yangtze River Delta through zircon U-Pb age and geochemical investigations. *Journal of Mountain Science*, 15 (4), 708-721.

Guo, Q., Pu R. Li, J., **Cheng, J.** (2017). An Enhanced Normalized Difference Water Index for Water Extraction Using Satellite Remote Sensing Imagery. *International Journal of Remote Sensing*. 38 (19), 5430-5445.

Guo, Q., Pu, R., **Cheng, J.** (2016). Anomaly detection from hyperspectral remote sensing imagery. *Geosciences* 6(4), 56.

**Cheng J.**, Wang, P., and Smith, R.E. (2016). Hydrodynamic Conditions Associated with an Onshore Migrating and Stable Sandbar. *Journal of Coastal Research* 32(1): 153-163.

**Cheng, J.**, Wang, P., and Guo. Q. (2016). Measuring Beach Profiles along a Low-Wave Energy Microtidal Coast, West-Central Florida, USA. *Geosciences*, 6 (4), 44.

**Cheng, J.** and Wang, P. (2015). Extracting Turbulence under Breaking Waves in the Surf Zone. *Journal of Waterway, Port, Coastal, Ocean Engineering*. (141)6:06015003-1-06015003-10.

Pu, R., and **Cheng, J.** (2015). Mapping Forest Leaf Area Index Using Reflectance and

Textural Information Derived from WorldView-2 Imagery in a Mixed Natural Forest Area in Florida, US. *International Journal of Applied Earth Observation and Geoinformation*. 42: 11-23.

***Peer-reviewed book chapter***

Zhang, J.C., Dongdong Chu, D.D., Wang, P., Hughes, J., **Cheng, J.** (2016). Hydrodynamic Modelling of Salinity Variations in a Semi-Engineered Mangrove Wetland: The Microtidal Frog Creek System, Florida. *Contributions to Modern and Ancient Tidal Sedimentology: Proceedings of the Tidalites 2012 Conference*.

Wang, P., and **Cheng J.**, (2017). Storm Impacts on the Morphology and Sedimentology of Open Coast Tidal Flats, in: Ciavola, P. and Coco, G. (Eds.) *Coastal Storms: from Forecasting to Prediction*, Wiley

Wang, P., Stone, G., **Cheng, J.** (2017). Nearshore wave measurement. In Earth Sciences Series, *Encyclopedia of Coastal Science*, 2 Edition.

Wang, P., Li, C., **Cheng, J.** (2018). Open-Coast Tidal Flat Deposits. In Earth Sciences Series, *Encyclopedia of Coastal Science*, 2 Edition.

***Papers published in conference proceedings***

**Cheng, J.**, and Wang, P (2015). Measuring and Modeling Beach-Profile Response to Tropical Storm Debby, West-Central Florida. *Proceedings of Coastal Sediments 2015*, World Scientific Publisher.

Wang, P., **Cheng, J.**, Horwitz, M.H., and Legault, K.R. (2015). Comparing Two Numerical Models in Simulating Hydrodynamics and Sediment Transport at a Dual Inlet System, West-Central Florida. *Proceedings of Coastal Sediments 2015*, World Scientific Publisher.

**Cheng, J.**, Wang, P., Vallee, M.A. (2019). Longshore variation of sandbar morphodynamics under energetic conditions. *Proceedings of Coastal Sediments 2019*, World Scientific Publisher.

Wang P., **Cheng, J.**, Vallee, M.A. (2019). Management Study at Multiple Natural and Engineered Tidal Inlets, West-central Florida, USA. *Proceedings of Coastal Sediments 2019*, World Scientific Publisher.

Vallee, M.A., Wang, P., **Cheng, J.** (2019). Regional Scale Morphological Changes of the Barrier Island at the Bay Entrance in Response to Engineering Activities in Tampa Bay. *Proceedings of Coastal Sediments 2019*, World Scientific Publisher.

Rodgers, M., Vallee, M, Wang, P., **Cheng, J.** (2019). Measuring complex beach-dune morphology and nearshore processed using UAVs. *Proceedings of Coastal Sediments 2019*, World Scientific Publisher.

*Papers originally published in Chinese* (in Chinese with English abstract).

**Cheng, J.**, Gao, S., Wang, Y., and Min, F. (2009). Grain Size Characteristic of Surficial Sediments and Their Response to Hydrodynamics over the Coastal Waters of Northern Jiangsu Province. *Marine Geology & Quaternary Geology*

## **SERVICE**

Reviewer for several Journals

Journal of Coastal Research

Marine Geology

Continental Shelf Research

Estuarine, Coastal and Shelf Science

Journal of Waterway, Port, Coastal, and Ocean Engineering

Coastal Engineering Journal

International Journal of Sediment Research

EOS

Co-editor for the Coastal Sediment International Conference Proceeding 2015

Session chair for the second Young Coastal Science and Engineers Conference at University of Delaware, 2015