Chinese-American Oceanic and Atmospheric Association

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About the COAA
COAA is a member-led, all-inclusive, non-profit, professional association supporting its members and promoting excellence in oceanic and atmospheric sciences and related activities. Members have many opportunities to share information, news, studies and concerns related to the fields of oceanic and atmospheric sciences through board work, submitting correspondence or articles to the COAA Newsletter, leading workshops and making presentations at the Annual Meetings, making contributions to the COAA website, and networking with people in a wide variety of careers (from well-known senior professionals to young environmental enthusiasts).

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October 22, 2017 Sunday – COAA held the 2017 Annual Workshop at Earth System Science Interdisciplinary Center (ESSIC), University of Maryland (UMD), College Park, Maryland. More than 20 scientists and students from Chinese National Satellite Meteorological Center (NSMC), NOAA, NASA, and UMD attended this event. The main objective of this workshop is to exchange experiences between professionals in satellite-based remote sensing field and to seek opportunities for further cooperation. The main event started with a warm welcome from Dr. Jianhe Qu, the president of COAA. He also gave a brief introduction to recent COAA activities and award opportunity (the Yuxiang Young Scholar Award).

Dr. Jun Yang, Director General for NSMC/China Meteorological Administration (CMA), gave a presentation entitled “Introducing the new generation of Chinese Geostationary Weather Satellite: Fengyun – 4A”. Dr. Yang highlighted the 4 state-of-the-art instruments on board Chinese most advanced weather satellite Fengyun (FY) 4A, blasted off the Launchpad at Xichang Satellite Launch Center on Dec. 11, 2016. The new satellite observation provides highly accurate and detailed information on various atmospheric components and near-Earth space environment. Besides that the new Fengyun 4A has capabilities for temperature/humidity sounding at a high vertical resolution and lighting detection on a global scale. Dr. Yang said, it is amazing that we have the 4 exciting instruments onboard a three-axis stabilized satellite. As a follow-up from the successful launch of FY 4A last year, they plan to send FY 4B and 4C in the next few years.

The second presentation “Satellite Observation and Climate Model Simulation of the Global Warming Process”, was given by Dr. Cheng-Zhi Zou, a Senior Scientist at NOAA/NCWCP. Dr. Zou introduced the background of global warming theory and emphasized the prominent role of long-term satellite records in improving our knowledge of global warming and modeling capability. He pointed out that satellite observations are more stable and accurate than other observations, however there are challenges such as channel differences or diurnal drift effect when using multiple satellite observations. He then introduced the tremendous progress made in mitigating artificial biases and uncertainties from different sensors on different platforms.

Dr. Yang and Dr. Zou’s presentations are followed by lively and interesting discussions. Participants from different agencies expressed their ideas and opinions on recent progresses made associated with satellite-based remote sensing applications.

(Reported by Chenxi Wang, photos provided by Jifu Yin)
January 8th 2018 Monday - COAA host the COAA-AMS Dinner Reception on Monday, January 8, 2018 starting at 6:30pm at Thompson Conference Center (TCC) in the University of Texas at Austin. This banquet is cohosted by Texas Geosciences, the University of Texas at Austin and sponsored by ERT Inc.

Dr. Jianhe Qu, the president of COAA, Dr. Gang Chen the president of COAA-SCC and Dr. Xuelu Lin from COAA-CC extended the guests a warm welcome and briefed them on recent COAA activities and achievements. Dr. Zonglang Yang from department of Geological Science, university of Texas firstly introduced the city of Austin and university of Texas at Austin. Dr. Yang also introduced his group and their current work in the Center for Integrated Earth System Science. Xiaonong Shen, Chenguang Cui, and Duanyi Hong from China Meteorological Administration (CMA) and Chinese Academy of Meteorological Sciences (CMAS) delivered speeches on current researches collaborations and administrations of CMA and CMAS. Dr. Zhaoyong Guan also attended the banquet and presented the contributions and current researches at Nanjing University of Information Science.

This year, COAA and Piesat Information Technology Co. Ltd. (PIEST) honored six young researchers with Yuxiang Young Scholar Award and Yuxiang Overseas Returnee Young Scholar Award. Mr. Yuxiang Wang, board chairman of PIES, congratulated the prize winners, highlighted their special contributions, and anticipated further achievements in their own fields. Winners of 2017 Yuxiang Young Scholar Award include: Dr. Lu Dong (DOE PNNL), Dr. Cenlin He (NCAR), Dr. Fengfei Song (DOE PNNL), Dr. Bingqiang Sun (TAMU), and Dr. Yuan Wang (Caltech). The Yuxiang Overseas Returnee Young Scholar Award winner is Dr. Xiaoming Hu (Sun Yat-sen University).

In AMS 2018, Dr. Kou-Nan Liou was awarded the Carl-Gustaf Rossby Research Medel and COAA lifetime contribution prize for his intellectual leadership and seminal contributions to improving the theory and application of atmospheric radiative transfer and its interactions with clouds and aerosols. He gave an enthusiastic speech at the reception titled “A brief reflection of my academic journey: All things are possible and dream the impossible dream.” In this rousing speech at Thompson Conference Center, Dr. Liou used three Chinese proverbs to summarize three critical stages in his 40-year career: “塞翁失马焉知非福 (A setback may turn out to be a blessing in disguise)”, “欲穷千里目更上一层楼 (To enjoy a grander sight, climb to a greater height)”, and “己欲立而立人，己欲达而达人 (wishing to be established himself, seek also to establish others; wishing to be enlarged himself, he seeks also to enlarge others).” As one of the top scientists in atmospheric sciences, Dr. Liou constantly encourages young scientists to “dream the impossible dream” and never give up in the spirit of “all things are possible”.

(Reported by Jiexia Wu, Chenxi Wang, edited by Hao He, photos provided by Yang Zongliang)
各位 COAA 的华人专业人士及朋友：

请利用 2017 Combined Federal Campaign (CFC) 支持全美唯一的华人海洋大气专业团体「美华海洋大气学会」 (Chinese-American Oceanic and Atmospheric Association, COAA)。COAA 是合法的可减免课税的非营利社团，也是 CFC 核定的可捐款社团。

**COAA 的 CFC 指定号码是 60027。** 请各位在 CFC 捐款时，考虑将一部份钱捐给 COAA，大力支持美国华人海洋大气方面专业社团的活动。并请告诉您的同事及朋友，请他们也利用 CFC 支持 COAA。


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谢谢您的支持与捐助！

美华海洋大气学会 COAA 敬上
Dr. Cheng-Zhi Zou is a Physical Scientist at the NOAA/Center for Satellite Applications and Research (STAR) located in College Park, Maryland. Dr. Zou received his PhD from the University of Oklahoma in 1995 and has been working at NOAA/STAR since 1997. He has been mainly engaged in measuring long-term changes in the atmospheric temperatures using satellite observations and evaluation of data products for climate change studies from different sources including those from satellite retrievals, climate reanalyses, and climate model simulations. He has developed a set of atmospheric temperature climate data records capable of detecting climate trends from the lower troposphere to the upper stratosphere during the satellite era. He conducted satellite retrievals to derive climate products such as polar winds. He also collaborated with colleagues on using mesoscale models to simulate and analyze a variety of atmospheric clouds and coastal wave phenomena observed by satellites.

Dr. Zou has published over 50 articles in AMS, AGU, and other leading journals including Nature and PNAS. He is also the Co-Chair of ITSC Climate Working Group and was a former chair of the GSICS Microwave Working Group. He has received Department of Commerce Silver Medal Award and NOAA Administrator’s Award for advancement of satellite calibration and development of atmospheric temperature climate data records. He is a referred reviewer for many journals in the atmospheric science field.

Dr. Zou's working experience in satellite climatology has endowed him a precious opportunity to witness the climate change of our planet during the past few decades. In this article, we are fortunate to have him sharing his experience, visions and suggestions with COAA members.

Q: How did you decide to study atmospheric science?
Zou: The decision was driven mainly by curiosity. As a teenager, I was fascinated by the mysteries of the deep space. I recall counting the number of stars in the sky and trying to memorize their names, although I have forgotten all of them by now. After my College Entrance Examination in 1978, I was admitted by the University of Science and Technology of China (USTC), and had the chance to choose a department for my college studies. When looking through all the departments at USTC, I saw the word ‘space’ in the ‘The Department of Earth and Space Sciences’. I did not know much about what this department would offer at the time, but the phrase ‘space sciences’ sounded fascinating to me. That particular year, however, the Department of Earth and Space Sciences did not offer a ‘space sciences’ major—it only had majors in Earth Physics and Atmospheric Physics. When it came time to make a decision, I naturally chose Atmospheric Physics as my major, as it is closer to space. That was the moment I got into the atmospheric science field. My specific research topics had changed over the years within the atmospheric science field, gradually moving into satellite meteorology and climatology. In the end, my research in the satellite area appears to align quite well with my initial fascination with space. This makes me feel quite lucky.
Q: Which accomplishments are you most proud of in your professional life, including your group achievements?

Zou: My proudest accomplishment is that I led a team and developed a set of satellite-based atmospheric temperature climate data records for climate change monitoring and investigation. This is a comprehensive project that has spanned many years and is still ongoing. The purpose of the project was to create long-term atmospheric temperature time series that capable of detecting climate trends using microwave and infrared sounding observations onboard over fifteen historical and currently operational polar-orbiting environmental satellites. The project was rather challenging because the climate trend signals are only on the order of 0.1 Kevin per decade, which is far below the designed calibration accuracy of a microwave instrument onboard operational satellites. To make the climate trends with small magnitudes detectable, accurate and comprehensive recalibration and bias correction algorithms on satellite observations are required. Through over 15 years of effort, my team has developed an atmospheric temperature climate data record, with global coverage and spanning over 39 years, for climate trend monitoring from the lower troposphere to the upper stratosphere using satellite microwave and infrared sounding observations.

The dataset has now become one of the widely used observational references in the climate change community for investigating climate trends and variability in the satellite era and for validating climate model simulations of global climate change in the past. Users of the dataset include IPCC, academic institutes, climate service providers, the general public, and decision makers. The dataset has made a positive impact on investigating global climate change issues, which will aid in the global decision-making process regarding human society's climate change mitigation and adaptation efforts.

I am also very proud that this accomplishment was a collaborative effort and involved many COAA members as project team members, including Dr. Haifeng Qian, Dr. Likun Wang, Dr. Wenhui Wang, Dr. Jian Li, Mrs. Mei Gao, Mrs. Zhaohui Cheng, and Dr. Xianjun Hao. Each of these scientists has made invaluable contributions to the project. The dataset simply could not be created without their dedicated work in both satellite data processing and algorithm development. I would like to use this opportunity to express my sincere appreciation of their unforgettable efforts over the years in making this project a great success. I would also like to thank colleagues within and external to NOAA who had been involved in the project by either providing funding support or through useful discussions on dataset development and applications.

Q: Who influenced you the most in your professional life and why?

Zou: I feel very lucky and grateful to have met many people who have helped and shaped me in so many ways at different stages of my professional life. Prof. Xiujie Zhou and Prof. Peicai Yang were my advisors during my early career as a graduate student in China. It was the first time I learned how to do scientific research. Prof. Zhou with broad knowledge and unique, profound insight into nearly all atmospheric science fields, is a gold-standard role model to me. I was very fortunate to start my career under his guidance. His encouragement, enthusiasm and deep dive into scientific research really inspired me to get on a new step of my work. Intellectual interactions with Prof. Yang were dynamic and full of excitement, and his friendship and professional advice during these years are lifelong benefits to me.
My Ph.D. study was conducted under the guidance of Prof. Tzvi Gal-Chen at the University of Oklahoma. The fundamental theory and knowledge of climatology and meteorology as well as the critical thinking skills that I have learned from Prof. Gal-Chen have benefited my entire professional life.

My first job as a researcher started under the supervision of Dr. Mike Van Woert. With his encouragement, I was able to explore different topics on satellite retrievals and satellite data applications. This experience helped me building a good foundation for my work on satellite climatology in later years. The research-friendly culture that Dr. Van Woert created for his research team set up a great example for me to learn how to be a scientific team lead.

**Q: How are you interacting with Chinese-speaking scientists in Asia?**

**Zou:** I interact with Chinese-speaking scientists by organizing seminars and attending scientific meetings. I have given seminars to the China Meteorological Administration and Chinese Academy of Sciences while attending international conferences held in China. I also attended seminars by Chinese-speaking scientists whenever possible. These seminars and meetings help me foster the mutually beneficial exchange of ideas and scientific progress in topical areas.

**Q: What are your perspectives for future direction in our field?**

**Zou:** In climatology, our ultimate goal is to be able to project and even predict future climate change using comprehensive ocean-atmosphere-chemistry coupling models. This capability in climate models will provide human society with necessary information for making informed decisions on mitigation and adaptation to climate change. Ocean models at their current stage show deficiencies in simulating well-known inter-annual and inter-decadal climate features. One possible direction could be to improve the capabilities of ocean models, including sea ice models, in long-term climate change projection and prediction. In observational fields, improved satellite observations on atmospheric winds are needed for data assimilations in numerical weather prediction models for further improvement of weather forecasting skills. Finally, sustained satellite observations are critical for understanding long-term climate change processes and for providing necessary information to predict future climate changes.

**Q: What is your major advice to young scientists in our field?**

**Zou:** Both the world and our field are changing rapidly. It poses unprecedented challenges but also offers great opportunities. In this fast-changing world, I would encourage the young scientists in our field to engage in active connections with both senior scientists and with each other. Continued education aiming at learning and mastering more techniques will help the young scientists to overcome challenges, seize opportunities and develop successful professional life. Finally, I wish young scientists to live a happy life no matter what to do in pursuing their professional achievements.

Acknowledgement: The views and opinions contained in this interview are those of the interviewee and should not be construed as an official National Oceanic and Atmospheric Administration or U.S. Government position, policy, or decision.
1. **The Institute of Oceanography, National Taiwan University (IONTU)**

The Institute of Oceanography, National Taiwan University (IONTU), invites applications for one or two faculty position(s), at the level of assistant professor or higher, starting on August 1, 2018. Applicants should hold a doctoral degree in research fields related to marine sciences, including physical oceanography, chemical oceanography, marine geology & geophysics, marine biology/fisheries or biological oceanography. Applicants should send (1) curriculum vitae (including publication list), (2) PDF reprints of up to three representative publications (published after June 2014), (3) a proposal for future research and teaching preferences, via e-mail before **January 21, 2018** to: Prof. Yu-Heng Tseng, Chair, Faculty Search Committee, Institute of Oceanography, National Taiwan University (*tsengyh@ntu.edu.tw*; please also Cc to *chienchung@ntu.edu.tw*)

Tel: +886-2-3366-1374  
Fax: +886-2-2362-6802

Please visit [http://www.oc.ntu.edu.tw](http://www.oc.ntu.edu.tw) for general information of IONTU.

Please also arrange for three recommendation letters to be sent directly to the Chair of the Faculty Search Committee. Upon receipt of the application, an acknowledgement email will be sent to the applicant within a week. Applicants who do not receive the acknowledgement email please contact the Chair of the Faculty Search Committee for confirmation.

2. **Postdoc Position on Open Geographic Modeling and Simulation at Key Lab of Virtual Geographic Environments (VGEs) (Ministration of Education of PRC), Nanjing, China**

The Key Lab of Virtual Geographic Environments (VGEs) (Ministration of Education of PRC) at Nanjing Normal University seeks 1-2 outstanding postdoctoral researcher with expertise in open geographic modeling and simulation in Nanjing, for a period of two years.

The candidate must have a strong affinity and familiarity with the interdisciplinary field of geographic modeling and simulation, system design and development on geographic model sharing and integration, geographic computation. Candidates should hold a Ph.D. or be in the final stages of a Ph.D. program, and has published 1-2 journal articles. The candidate must under the age of 35.

The Key Lab of Virtual Geographic Environments (VGEs) was ranked in the first place during the Key Laboratory (Geography) assessment of the Ministry of Education in 2015. The school of geography ranks in the top 5 geography departments in the nation, and recently, it was included in the national “double first rated” program for major funding from the central government of China.
Salary: ¥ 160,000 -180,000 per year, plus additional achievement awards

Prof. Min Chen, http://schools.njnu.edu.cn/geog/person/min-chen

Contact: Prof. Min Chen, chenmin0902@163.com

3. Researcher for Microwave Integrated Retrieval System

UMD/ESSIC has an opening for a researcher to work within the Cooperative Institute for Climate and Satellites-Maryland. The scientist will work directly on the algorithm development team for the Microwave Integrated Retrieval System (MiRS) within NOAA/NESDIS/STAR, which is the operational microwave only satellite retrieval algorithm (https://www.star.nesdis.noaa.gov/mirs/). MiRS is an inversion algorithm based on physical forward modeling and can invert observed multichannel radiances simultaneously to determine key components of the atmosphere and surface state: Atmospheric Temperature Profile, Atmospheric Water Vapor Profile, Total Precipitable Water, Land Surface Temperature, Surface Emissivity Spectrum, Sea-Ice Concentration, Snow Cover Extent, Snow-Water Equivalent, Integrated Cloud Liquid Water, Integrated Ice Water Path, Integrated Rain Water Path, Rainfall Rate, Snowfall Rate, Sea Ice Age, and Snow Grain Size.

Responsibilities will include algorithm maintenance and improvement, extension of the algorithm to new satellite/sensor systems, calibration/validation activities to assess retrieval performance, interaction with MiRS stakeholders, including operational users, other researchers, and NOAA management. Other activities include participation in algorithm and product readiness reviews, attendance at conferences, workshops, and meetings to present results to the scientific community.

Qualifications:
The qualified candidate should have a PhD (preferred minimum of 5 years of experience) in remote sensing retrieval methods and radiative transfer modelling, especially using passive microwave or infrared measurements. Qualified candidates with an M.S. degree (preferred 10 years of experience) will also be considered. Additionally, demonstration of strong programming skills, particularly in Fortran90/95, C/C++, IDL, and Unix scripting is required. Strong scientific communication skills as demonstrated by refereed publications and conference presentations is also required. This position requires U.S. citizenship or permanent resident status.

To Apply: Interested candidates should send a CV with a list of at least 3 professional references and a cover letter explaining how your qualifications meet the posted requirements to christopher.grassotti@noaa.gov. Closing Date: Monday, November 25, 2019
We would like to bring your attention to the following two sessions (more info below) that will be held at the upcoming AOGS in Honolulu, Hawaii from the 3rd to the 8th of June, 2018. Submit your abstract to Asia Oceania Geosciences Society annual meeting in Honolulu, Hawaii by the 19th of January 2018!

1. Section OS - Ocean Sciences

**Session Title**
Ocean Salinity Variability and Its Impact on Weather, Climate and Biogeochemistry

**Main Convener(s)**
Dr. Hailong Liu (Shanghai Jiao Tong University, China), liuhailong@gmail.com

**Co-convener(s)**
Dr. Nathalie Goodkin (Nanyang Technological University, Singapore), nathalie@ntu.edu.sg
Dr. Sunghyun Nam (Agency for Defense Development, Korea, South), namsh6513@gmail.com
Dr. Xidong Wang (Hohai University, China), xidong_wang@yahoo.com

**Session Description**
This session highlights research investigating ocean salinity as an important driver of ocean circulation and upper ocean mixing and a key indicator of the global water cycle. With a growing database of satellite and in situ observations, progress has been made toward characterizing spatial variations and intraseasonal to interannual changes in salinity. However, challenges remain, particularly for quantifying long-term fluctuations and their climate impacts. This session seeks to bring together recent efforts aimed at better understanding salinity variability and its links to weather/climate and biogeochemical phenomena. Contributions are invited on all aspects of salinity variations from the perspectives of observations, paleo-proxies and numerical models, including phenomena such as the Madden–Julian oscillation (MJO), El Niño Southern Oscillation (ENSO), monsoons, and the Meridional Overturning Circulation (MOC).

2. Section AS - Atmospheric Sciences

**Session Title**
Impacts of Haze and Dust in East Asia: Mechanism, Observations, and Model Assessments

**Main Convener**
Dr. Yuan Wang, California Institute of Technology, USA

**Co-Convener**
Prof. Jianping Guo, Chinese Academy of Meteorological Sciences, China
Prof. Chuanfeng Zhao, Beijing Normal University, China
Prof. Yong-Sang Choi, Ewha Women's University, South Korea
Prof. Daizhou Zhang, Prefectural University of Kumamoto, Japan

**Session description**
East Asia is experiencing an unprecedented rate of changes to the environment and climate, including the frequently reported episodes of severe haze pollution. Meanwhile, dust storms are prevalent in many East Asian regions, and dust particles originating from East Asia can travel across the Pacific to North America and beyond. Anthropogenic haze and natural dust aerosols, due to their interactions with radiation and clouds, potentially exert significant impacts on the
regional and global climate. Such impacts can specifically extend to the land and hydrologic systems, as well as certain climate or weather features such as the monsoons and extreme weather events. Making scientific progress on these issues in this region is critical for sound policy making and the well-being of about half of the world’s population.

This session aims to capture the current understanding of the aerosol-cloud-precipitation-climate interactions in East Asia. This session invites papers on any of the following or related subjects: (1) theoretical studies on the aerosol-cloud-radiation interactions; (2) observational experiments and datasets of aerosols and aerosol-cloud-radiation interactions over East Asia; (3) spatial and temporal variations of aerosol, cloud and precipitation in the region; (4) source characterization of aerosol emissions and sinks; (5) impacts of Asian aerosols on extreme weathers and large-scale circulation systems. We hope that this session will serve as a forum for a diverse range of discussions of haze-dust related researches.

Call for Contributions to COAA Newsletter

COAA is made possible by your support and contribution. We would like to invite and encourage you to send us any news or info that you would like to share with the COAA community. These info and news include but are not limited to:

- Awards (received by you or your colleagues);
- Nomination of COAA Spotlight candidates;
- Major achievements (by you, your colleagues, students, or staff);
- Workshops or conferences you or your organization will host;
- Important events or milestones of your lab/group/organization;
- Fun, educational, photogenic, or surprising photos (especially from the field);
- Local chapter/group news (interest, initiation, establishment, announcement, events, etc.)

Please send your announcements to: news@coaaweb.org