



Philippine Geosciences and Remote Sensing Society

*Room 316 NEC Building University of the Philippines Diliman Quezon City, 1101 PHILIPPINES
Contact Numbers: (02) 981-8770, (02) 981-8500 loc.3945*

Proposal for

ISPRS Technical Commission V “Education and Outreach” (2022-2026)

by

Gay Jane Perez
Manila, Philippines

Josefino Comiso
Maryland, USA

Ayin Tamondong
Manila, Philippines

Introduction and Context

In line with the new ISPRS commission structure, Commission V “Education and Outreach” strives to continue promoting and stimulating education, know-how and technology transfer, and capacity building across all fields of geoinformatics, including remote sensing, photogrammetry, and spatial information sciences. Cutting-edge teaching methods are integrated with traditional and reliable approaches to produce a well-educated scientific workforce that is vital in bridging the gap between rapid advances in science and technology and its practical applications. This is applicable to different levels of learners - students, educators, and professionals. The Commission encourages the use and development of distance learning programs, web-based resources, citizen science, open-source software, and other related technologies as tools for data and knowledge sharing. Regional cooperation and support to international collaborative education programs shall foster longer-term and sustainable capacity building that enhances the ability to discover or acquire new information. Finally, the Commission promotes inclusivity and diversity by supporting youth forums and student consortium activities, empowering women in the profession, and engaging indigenous or underrepresented sectors in society.

Commission structure

During the last few decades, there have been rapid developments in information and communication technologies that include artificial intelligence, machine learning, cloud computing, and advanced platforms on the internet, which make geospatial information more widely and readily accessible. However, the challenge remains in realizing the end of the value chain where information is used to create socioeconomic impacts or benefits. Education and outreach are essential to bridge the gaps between advances in science and technology and practical applications, especially for less developed countries.

The commission intends to tackle this challenge through the following working group structure:

1. Framework for Multi-level Education & Training – Curriculum Development and Methodology
2. Promotion of International Collaborative Education Programs
3. Promotion of Regional Collaboration in Citizen Science and Geospatial Technology
4. Web-based Resource Sharing for Education and Research
5. Promotion of the Profession to Young People and Indigenous Community
6. Distance Learning - Education and Training Services
7. Promotion of Geospatial Artificial Intelligence
8. Promotion of Open Source on Geospatial Technology
9. Empowering Women in the Geospatial Community
10. Promotion of Geospatial Applications in Blue Economy (In celebration of UN Decade of Ocean Science - 2021 to 2030)
11. Realization of the value chain towards a space economy
12. Strengthening social inclusion through geospatial applications

Commission officers:

President: Dr. Gay Jane Perez, Philippine Space Agency (Philippines)

Vice-President: Dr. Josefino Comiso, NASA Goddard Space Flight Center (USA)

Secretary: Dr. Ayin Tamondong, University of the Philippines Diliman (Philippines)

Adviser: Prof. Kohei Cho, Tokai University (Japan)

Short biographies:

Dr. Gay Jane Perez is Deputy Director General for Space Science and Technology (DDG-SST) at the Philippine Space Agency (PhilSA). She is also an Professor at the Institute of Environmental Science and Meteorology of the University of the Philippines Diliman.

She is a graduate of the National Institute of Physics at the University of the Philippines Diliman, from which she received Bachelor of Science in Applied Physics (2003), Master of Science (2005), and Doctor of Philosophy in Physics (2009). She was a postdoctoral fellow at the NASA Goddard Space Flight Center (2010-2011).

Prior to her appointment at PhilSA, Dr. Perez has led various programs on satellite development in the Philippines as well as other projects that utilized satellite and remotely sensed data for environmental applications and climate studies.

Dr. Perez is a recipient of the National Academy of Science and Technology (NAST) Outstanding Young Scientists (OYS) Award, The Outstanding Women in the Nation's Service (TOWNS) Award (2019), and is the first Filipino woman to receive the ASEAN-US Science Prize for Women (2018).

Her research interests include Earth observation satellite product development, drought monitoring and forecasting, forest change detection, land cover/land use change, other satellite remote sensing applications for the environment, seasonal and climate prediction, climate change and variability, complex systems, and interdisciplinary applications of Physics.

Dr. Josefino Comiso has studied many polar processes and was among the first researchers to report dramatic changes in the Arctic sea ice cover and accelerated warming in the polar regions. He has been a member of satellite sensor teams, including the EOS-Aqua AMSR-E team, and has developed algorithms for the retrieval of sea ice concentration, surface temperature, and clouds. He was the chief scientist in numerous NASA aircraft missions in the

Arctic and Antarctic that included a flight over a nuclear submarine near the North Pole and has participated in multiple Antarctic field programs.

Dr. Comiso has received several NASA performance and group achievement awards and is the recipient of the Exceptional Achievement in Science Medal, which is one of the most prestigious award given to a NASA employee. In addition he also received several science awards from professional societies. He has authored or co-authored five books, several book chapters and more than 130 refereed journal articles. He was the coordinating lead author of the Cryosphere Chapter of the Intergovernmental Panel on Climate Change (IPCC), Working Group 1 report on the “Climate Change 2013: The Physical Science Basis.”

Dr. Comiso received his Bachelor of Science degree in physics from UP Diliman, Masters of Science degree in physics from Florida State University, and PhD in Physics from the University of California in Los Angeles. Dr. Comiso was elected as a Corresponding Member of the Philippine National Academy of Sciences and Technology (NAST) and is currently a Scientist Emeritus at NASA Goddard Space Flight Center.

Dr. Ayin Tamondong is an Assistant Professor at the University of the Philippines Department of Geodetic Engineering. Dr. Tamondong received her BS in Geodetic Engineering in 2008, MS in Remote Sensing in 2012 from the University of the Philippines Diliman, and PhD in Global Engineering for Development, Environment, and Society from Tokyo Institute of Technology in 2022. Dr. Tamondong is a recipient of the JICA scholarship (AY 2019-2022), Sy Ling Chat Professorial Chair Award (2015-2018), ERDT Scholarship (AY 2008-2010), and DOST Scholarship (AY 2002-2004).

Thematic ambitions

With the above structure, the commission presidents want to support advancement in the following fields:

- Curricula development on geoinformatics at basic education, professional, and decision-making levels;
- Cost-effective digital class teaching/training approaches and web-based sharing of resources for mass awareness programs;
- Regional/International cooperation in capacity building, citizen science, and geospatial technology;
- Engaging tutors/trainers and preparing educational material and support, including open-source software education;
- Engaging young people in remote sensing, photogrammetry, and spatial information sciences through Students Consortium; and

- Organizing regional and international summer schools, seminars, workshops, tutorials, and cooperation with industry.

Events and other activities:

The commission will organize and contribute to (at least) the following events and activities:

Symposium of Commission 5:

The Symposium will be held during the first quarter of 2024. The Symposium venue will probably be in Cebu, Philippines, with an international airport supporting 36 domestic and 37 international routes. Cebu is the country's oldest city. Made up of the main island and 167 surrounding islands, Cebu boasts tropical weather with several pristine beaches, making it an ideal location for both business events and leisure. There are also universities with thriving geoinformatics programs that can serve as local partners in organizing the symposium. We intend to organize a 3-day symposium with plenary talks and parallel technical sessions. It will be in a hybrid format that can host up to 500 participants. We plan on having two submission possibilities: full papers to be assessed by double-blind peer review for ISPRS Annals and abstracts review for ISPRS Archives. The symposium can coincide with the National Remote Sensing Conference of the Philippine Geosciences and Remote Sensing Society. We will also organize a Summer School before or after the symposium. It will be organized in coordination with our university partner and can accept up to 30 student participants. It will run for five days with a one-day field trip to a coastal area.

Further activities:

The commission will contribute to other ISPRS events such as the Geospatial Week 2023 and 2025 and various workshops, tutorials, seminars, and other training programs. The setup will be discussed with the working group chairs/co-chairs, other commission presidents, and organizers. The Philippines will host at least two on-site workshops with the following possible venues: Legazpi City and Quezon City/Iloilo City. The workshops can cater to around 50 participants.

Provisional financial plan:

The commission will support easy and cheap communication via digital media wherever possible. Together with the Philippine Geosciences and Remote Sensing Society (PhilGRSS), the home institute of the commission officers will support their attendance to all relevant official ISPRS meetings in the context of chairing Commission V. Additional funds from the Department

of Science and Technology (DOST) can also be requested to support the travel of the commission officers.

An initial estimate of the financial budget of the symposium reveals a total budget of US \$200T, including all costs for staff, proceedings, rental of session halls, catering, etc.

This leads - based on a very conservative estimate of sponsorship - to a regular registration fee of \$400 to \$500 (depending on the type of registration). Special discounts are planned for students and PhD candidates, in order to encourage young scientists to participate and interact with renowned scientists.

The estimated cost for the conduct of the summer school is \$30T. Each on-site workshop will also cost around \$30T.

Dr. Gay Jane Perez

gpperez1@up.edu.ph

Professor

Institute of Environmental Science and Meteorology
University of the Philippines, Diliman

gay.perez@philsa.gov.ph

Deputy Director General
Philippine Space Agency



Educational Background

Postdoctoral Fellow (May 2010 to December 2011)
NASA Goddard Space Flight Center, USA
Supervisor: Dr. Josefino C. Comiso

Doctor of Philosophy in Physics. (April 2009)
National Institute of Physics, University of the Philippines - Diliman
Recipient of Dean's Medallion for Most Outstanding PhD Graduate
Dissertation: Understanding the dynamics of unassisted group egress
Advisor: Prof. Caesar A. Saloma

Master of Science in Physics. (April 2005)
National Institute of Physics, University of the Philippines - Diliman
Thesis: Herding behavior in escape panic
Advisor: Prof. Caesar A. Saloma

Bachelor of Science in Applied Physics. (April 2003)
National Institute of Physics, University of the Philippines - Diliman
Recipient of Dean's Medallion for Best Undergraduate Thesis in Applied Physics
Thesis: Investigation of escape panic dynamics in a real system.
Advisor: Prof. Caesar A. Saloma

Research and Development Projects

<i>Title</i>	<i>Position</i>	<i>Funding Agency</i>	<i>Date of Implementation</i>
Weather Information-integration for System Enhancement (WISE)	Project Leader	DOST-GIA	Mar 2013 – Feb 2015

Fish Mapping Using Space Technology (FishMUST)	Project Leader	DOST-PCAARRD	Sep 2013 – Aug 2015
Drought and Crop Assessment and Forecasting (DCAF)	Project Leader	DOST-GIA/DOST-PCAARRD	Nov 2013 – Mar 2016
PhI-Microsat Project 5: Remote Sensing Product Development	Project Leader	DOST-GIA	Oct 2014 – Dec 2018
Soil Moisture Studies in the Philippines Using Satellite Remote Sensing	Project Leader	UP NSRI	Jan – Dec 2013
Changes in Philippine Forest Cover Based on Landsat-derived Global Forest Cover Dataset (2000-2012)	Project Leader	UP NSRI	Jan – Dec 2015
Coral Reef Visualization and Assessment, CorVA-9	Project Leader	DENR	2015 – Dec 2017
Drought and Crop Assessment and Forecasting (DCAF) Phase 2	Project Leader	DOST-PCAARRD	May 2018 – Feb 2021
Site Suitability Assessment for Mussel	Study Leader	DOST-PCAARRD	Oct 2016 – Mar 2018
STAMINA4Space Ground Receiving, Archiving, Science Product Development and Distribution	Project Staff	DOST	Jan 2019 – Dec 2019

Understanding Lightning and Thunderstorm	Project Staff	DOST-PCIEERD	Apr 2019 – Feb 2021
STAMINA4Space Advanced Satellite Development and Know-How Transfer for the Philippines Project (ASP)	Project Leader	DOST	Dec 2019 – Dec 2021

Other Research Interests

Satellite Remote Sensing of the Environment; Seasonal and Climate Prediction; Climate Change and Variability; Complex Systems; Interdisciplinary Applications of Physics

Awards and Recognition

Title	Awarding Body	Date Granted
Outstanding Young Scientist – Satellite Technology (Physics)	National Academy of Science and Technology	July 14, 2021
The Outstanding Women in the Nation's Service (TOWNS)	TOWNS Foundation	October 10, 2019
Resolution No. 142 (filed as SR No 923) "Resolution recognizing and congratulating Dr. Gay Jane Perez for being awarded as 1st place winner in the ASEAN-US Science Prize for Women"	Senate of the Philippines	May 22, 2019
Asian Scientist 100	Asian Scientist Magazine	May 2019
ASEAN-US Science Prize for Women	ASEAN, US Government and Underwriters Laboratories	October 2018

Best Young Author Award	International Society for Photogrammetry and Remote Sensing	September 2012
DOST-PCASTRD Outstanding Dissertation in Advanced S&T – Physics	DOST- PCASTRD	2009
Dean’s medallion for excellence in PhD studies	UP Diliman College of Science	2009
Most Outstanding PhD graduate in Physics	National Institute of Physics	2009
Commission on Higher Education (CHED) Outstanding Research and Publication (REPUBLICA) Zonal and National Winner	CHED	2004
Gawad Chancellor, Best Publication - Science and Technology cluster	University of the Philippines Diliman	2004
Dean’s medallion for Best Undergraduate Thesis in Applied Physics	UP Diliman College of Science	2003

Scholarship/Fellowship

- ASTHRDP Postdoctoral Fellowship (2010-2011)
- University of the Philippines Presidential Scholarship (2005-2009)
- DOST – SEI Undergraduate Scholarship RA – 7687 (1998-2003)

ISI or Scopus-indexed Publications

- A Veloria, **GJ Perez**, G Tapang, and J Comiso, “Improved Rainfall Data in the Philippines through Concurrent Use of GPM IMERG and Ground-Based Measurements,” *Remote Sensing* 13(15), 2859 (2021).
- **GJ Perez**, J Comiso, and MG Cayetano, “Swidden Agriculture and Biomass Burning in the Philippines,” in Vadrevu et al., *Biomass Burning in South and Southeast Asia*, 1st Ed., Taylor & Francis Group, pp 16 (2021).

- **GJ Perez**, J Comiso, LV Aragonés, HC Merida, and PS Ong, “Reforestation and Deforestation in Northern Luzon, Philippines: Critical Issues as Observed from Space,” *Forests* 11, 1071.
- E Castro, T Ishida, Y Takahashi, H Kubota, **GJ Perez**, and JJ Marciano, “Determination of Cloud-top Height through Three-dimensional Cloud Reconstruction using DIWATA-1 Data,” *Scientific Report* 10, 7570 (2020).
- T Ishida, J Kurihara, FA Viray, SB Namuco, EC Paringit, **GJ Perez**, Y Takahashi, and JJ Marciano, “A novel approach for vegetation classification using UAV-based hyperspectral imaging,” *Computers and Electronics in Agriculture* 144, 80-85
- JC Comiso, RA Gersten, LV Stock, J Turner, **GJ Perez**, and K Cho, “Positive Trend in the Antarctic Sea Ice Cover and Associated Changes in Surface Temperature,” *Journal of Climate* 30, 2251-2267
- **GJ Perez**, et al., “Forecasting and monitoring agricultural drought in the Philippines,” *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences – ISPRS Archives* 41, pp. 1263-1269
- RAG Faelga, EC Paringit, **GJ Perez**, (...), FAM Tandoc, MV Malabanan, “Mangrove plantation forest assessment using structural attributes derived from LiDAR data,” *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences – ISPRS Archives* 41, pp. 617-623
- RAG Faelga, EC Paringit, **GJ Perez**, (...), FAM Tandoc, GP Zaragosa, “Validation of the separability measure for Rhizophoraceae and Avicenniaceae using point density distribution from LiDAR,” *Proceedings of SPIE – The International Society for Optical Engineering* 9879, 98791F
- JC Comiso, **GJ Perez** and LV Stock, “Enhanced Pacific Ocean Sea Surface Temperature and Its Relation to Typhoon Haiyan,” *Journal of Environmental Science and Management* Vol. 18 No. 1
- C Saloma, **GJ Perez**, CA Gavile, JJ Ick-Joson, and C Palmes-Saloma, “Prior individual training and self-organized queuing during group emergency escape of mice from water pool,” *PLOS ONE* DOI:10.1371/journal.pone.0118508
- **GJ Perez** and JC Comiso, “Seasonal and Interannual Variability of Philippine Vegetation as Seen from Space,” *Philippine Journal of Science* Vol. 143 No. 2 pp. 147-155

Other Publications

- A Veloria, **GJ Perez**, GA Tapang, “Spatio-temporal validation of interpolated rainfall measurements from Philippine synoptic stations,” *PISIKA* Vol.1 No. 1(2018).
- J Madalipay, **GJ Perez**, et al., “Land Cover and Water Type Classification Using Images Captured by the Philippines’ First Earth-Observing Microsatellite Diwata-1,” *ACRS 2017 – 38th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia*
- H Merida and **GJ Perez**, et al., “Assessing Land Use/Land Cover Change In A Small Island Protected Area Through Google Earth Engine: The Case Of Batanes” *ACRS 2017 – 38th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia*
- B Fallarcuna, **GJ Perez**, “Forest cover dynamics in the Philippines from Landsat-derived forest cover dataset (2000-2012),” *Journal of the Philippine Geosciences and Remote Sensing Society* Volume 2 (2016)
- RAG Faelga, EC Paringit, **GJ Perez**, (...), FAM Tandoc, GP Zaragosa, “Separability and Variability of Rhizophoraceae and Avicenniaceae in Natural Mangrove Forest Using Point Density Distribution from Lidar Data,” *Journal of the Philippine Geosciences and Remote Sensing Society* Volume 2 (2016)
- RG Nacario, G Bagtasa, **GJ Perez**, “Rainfall detection using the infrared bands of Himawari-8 AHI in the Philippines,” *Proceedings of the ACRS 2016 – 37th Asian Conference on Remote Sensing*

- MJ Felix, **GJ Perez**, “Cloud masking using red and near-infrared bands,” Proceedings of the ACRS 2016 – 37 Asian Conference on Remote Sensing
- EM Leonardo, LA Fulgencio, MJ Felix, **GJ Perez**, “Evaluation of MODIS ocean color products for coastal applications: a case study in Lian, Batangas,” Proceedings of the ACRS 2016 – 37th Asian Conference on Remote Sensing
- EM Leonardo, FM Felicio, **GJ Perez**, “Assessment of fish production volume vis-à-vis night light derived products in the Philippine municipal waters,” Proceedings of the ACRS 2016 – 37 Asian Conference on Remote Sensing
- **GJ Perez**, JC Comiso, “Monitoring Philippine Vegetation Using Satellite NDVI and EVI Data,” Journal of the Philippine Geosciences and Remote Sensing Society Volume 1 (2015)
- MD Macapagal and **GJ Perez**, “Detection of agricultural drought events in the Philippines using MODIS land products,” ACRS 2015 – 36th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia
- B Fallarcuna, **GJ Perez**, “Quantifying forest cover changes in the Philippines from 2000-2012 from Landsat-derived global forest cover dataset,” ACRS 2015 – 36th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia
- RAG Faelga, EC Paringit, **GJ Perez**, (...), GP Zaragosa, “Separability and variability of *Rhizophoraceae* and *Avicenniaceae* in a natural mangrove forest using point density distribution from LIDAR data,” ACRS 2015 – 36th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia
- GM Macam, **GJ Perez**, “Evaluating the potential of downscaled CFSV2 for drought forecasting using MODIS and TRMM observations,” ACRS 2015 – 36th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia
- EMC Leonardo, **GJ Perez**, “Predicting abundance of different tuna species in the Philippines,” ACRS 2015 – 36th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia
- EMR Macapagal, **GJ Perez**, “Evaluation of Soil Moisture Estimates Derived from the Advanced Microwave Scanning Radiometer 2 (AMSR2) in the Philippines,” ACRS 2015 – 36th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia
- RO Olivares, M Macapagal, **GJ Perez**, “Extreme value analysis of evaporative stress index as input to assess agricultural drought risk in the Philippines,” ACRS 2015 – 36th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia
- J Pangasinan, MJ Felix, **GJ Perez**, “Performance of empirical CI-a derivation algorithms on the coastal waters of Bagac and Polillo,” ACRS 2015 – 36th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia
- RB Badrina, JS Combinido, **GJ Perez**, “Impact of land use change on weather research and forecasting (WRF) output: A case study for the Philippines,” ACRS 2015 – 36th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia
- MJ Felix, J Pangasinan, **GJ Perez**, “Estimation of chlorophyll-a concentration on oligotrophic open waters of the Philippines: A case study for Polillo,” ACRS 2015 – 36th Asian Conference on Remote Sensing: Fostering Resilient Growth in Asia
- DM Dela Torre and **GJ Perez**, “Phenology-based classification of major crops areas in Central Luzon, Philippines from 2001-2013,” 35th Asian Conference on Remote Sensing 2014, ACRS 2014: Sensing for Reintegration of Societies
- JP Punay, **GJ Perez**, “Evaluation of MODIS Cloud Product-derived rainfall estimates,” 35th Asian Conference on Remote Sensing 2014, ACRS 2014: Sensing for Reintegration of Societies
- EM Macapagal and **GJ Perez**, “Soil moisture studies in the Philippines using AMSR-E/AMSR2,” 34th Asian Conference on Remote Sensing 2013, ACRS 2013 4, pp. 3322-3329
- J Punay and **GJ Perez**, “Rainfall retrieval algorithm using MODIS cloud mask and cloud products,” 34th Asian Conference on Remote Sensing 2013, ACRS 2013 2, pp. 1494-1500

Previous Teaching Positions

- Assistant Professor (June 2009 to October 2011), National Institute of Physics, UP Diliman
- Instructor 7 (June 2005 to May 2009), National Institute of Physics, UP Diliman
- Instructor 1 (June 2004 to May 2005), National Institute of Physics, UP Diliman
- Teaching Associate (June 2003 – May 2004), National Institute of Physics, UP Diliman

Affiliation and Membership

- President, Philippine Geosciences and Remote Sensing Society – May 2012 to present
- Secretary General, Samahang Pisika ng Pilipinas (Physics Society of the Philippines) – January 2013 to 2014
- Member, American Geophysical Union – 2011 to present
- Associate Member, Samahang Pisika ng Pilipinas – 2004 to present
- Associate Member, National Research Council of the Philippines – 2004 to present
- Member, Instrumentation Physics Laboratory (National Institute of Physics) – 2000 to 2011

CURRICULUM VITAE: JOSEFINO C. COMISO

Senior Scientist, Emeritus since 2017, NASA/GSFC, Earth Sciences Division

Address: Cryospheric Sciences Laboratory Code 615, NASA Goddard Space Flight Center, Greenbelt, MD 20771

Ct: 301-614-5708, 240-893-3298, josefino.c.comiso@nasa.gov; josefino_comiso@yahoo.com

RESEARCH AREA OF INTEREST: (a) satellite algorithms and radiative transfer modeling studies for Earth surface parameters, (b) climate and environmental change studies using historical satellite and in situ data; (c) role of Odden and polynyas in ocean convection, bottom water formation and global thermohaline circulation; and (d) air-sea-ice interactions and biological processes in coastal and polar regions.

Expertise: Climate Change, Polar Oceanography, Sea Ice, Physics and Satellite Remote Sensing in the microwave, infrared, and visible regions.

EDUCATION:

1972 Ph.D. Physics, University of California at Los Angeles (UCLA)

1966 M.S. Physics, Florida State University, Tallahassee, FL

1962 B.S. Physics, University of the Philippines (UP), Quezon City, RP

PREVIOUS POSITIONS:

1998-2017 Senior Scientist, NASA/GSFC

1979-98 Physical Research Scientist, NASA/GSFC

1977-79 Senior Member of the Technical Staff, Computer Science Corporation

1973-77 Post-Doctoral Fellow and Research Associate, Univ. of Virginia

1972-73 Assistant Research Physicist, UCLA

1963-64 Instructor, Physics Department, University of the Philippines

1962-63 Scientist, Philippine Atomic Research Center, Quezon City, Philippines

PROFESSIONAL SOCIETY MEMBERSHIPS:

American Geophysical Union, American

Meteorological Society, American Physical Society, Oceanographic Soc., PORSEC & IEEE

HONORS AND AWARDS:

Presidential Award for Filipino Individuals and Org. Overseas (PAFIOO, 2022)

Ten Outstanding Filipino-American (TOFA) (2020)

Hall of Fame Award, Phil-American Academy of Science and Engineering (2019)

Best Paper in 2018 Award, NASA/Hydrosphere, Biosphere and Geophysics Division (2018)

Elected Corresponding Member of the Philippine National Academy of Science & Tech. (2016)

NAST/DOST Outstanding Book of the Year Award (2015)

NASA/GSFC Career Achievement Award (2014)
NASA Exceptional Scientific Achievement MEDAL (2013)
Distinguished Achievement Medal in Science and Engineering (UP, Diliman, 2013)
NASA Group Achievement Awards (1982, 2003)
Award of Excellence in Science and Technology, PhilDevUSA, 2010
Outstanding Achievement in Science Medal (Pan Oceanic Remote Sensing Conference, 2008)
Outstanding Achievement in Science and Medicine (Filipinas Magazine, October 2008)
Most Distinguished Alumnus (UP Alumni Association of America, 2007)
Fellow, Japanese Society for the Promotion of Science (2006)
Elected to the Electromagnetics Academy (1990)
NASA/GSFC Group Achievement Awards (1991, 1994, 1996, 1999, 2003)
Performance or Special Service Awards, GSFC (1987, 91, 94, 96, 00, 04, 05, 08, 09, 10, 11, 12)
Peer Award for Best Paper, Laboratory for Oceans, NASA/GSFC (1988)
Who's Who in the World; in Frontiers of Science & Technology; and in Electromagnetics

PROFESSIONAL EXPERIENCE:

Coordinating-lead author of IPCC 2014 WG1/AR5 Report (Climate Change: Scientific Basis)
Contributing author in 2 chapters of IPCC 2007/WG1 Report and expert reviewer of WG3.
Chief Scientist: NASA Aircraft/Nuclear Submarine Arctic Sea Ice Project, 1987
Chief Scientist: NASA Aircraft Okhotsk Sea and Antarctic Campaigns, 2003 and 2004
Principal Investigator (PI) of the sea ice components of the following field projects:
 1986, 1988, 1989, 1992 Antarctic Scientific Cruises
PI/Team member: EOS/Aqua AMSR-E facility instrument (2000-2018)
PI/Team member: Japanese JAXAADEOS-2 AMSR Satellite (2000-2004)
PI/Team member: JAXA GCOM-W AMSR2 AMSR2 instrument (2011-Present)
PI for JERS1 Synthetic Aperture Radar (SAR) and ERS1 (and ERS2) SAR Polar Projects.
Chairman of Working Group on Cryosphere (WG Commission VIII/10), ISPRS, 2012-2016
Executive Board Member of the Pan Oceanic Remote Sensing Conference (PORSEC).
Member, IOCCG (International Ocean-Colour Coordinating Group (2013-2016).
Member, Networks for Centres of Excellence (NCE) Expert Panel for the Canadian
 Advanced Polar Science Network (CAPSNet), 2012
Member of US National Climate Assessment Evaluation Group, 2011.
WCRP/CliC Observational Products Panel (OPP) member, 1999-2005
Science Advisory Group Member of the MIMR instrument (ESA&NASA), 1992-1996
Member of AMS Committee on Polar Meteorology and Oceanography (1990-93)
Editorial Staff of an AGU Monograph, the Phil. Journal of Science, and Annals of Glaciology
Guest Editor and Coordinator of an AGU/JGR-Oceans Special Section (2006 to 2008)
President (1987-1988) and Chairman of the Board of Directors (2001-2003) of the Philippine
 American Academy of Science and Engineering (PAASE)
Adjunct Professor (2008-2020) Mariano Marcos State Univ., Univ. of the Philippines (2020)
Visiting Scientist/Professor at the Univ. of the Philippines (1995, 2008, 2016), University of
 Tasmania (1996, 97), Woods Hole Oceanographic Institution (1998, 2000), Chiba Univ.
 (2006), Mariano Marcos University (2009, 2012), Hadley Meteorological Institute (2009).
STX Evaluation Board (1992-2002); NASA Multicultural Diversity Committee (1995-96)

PUBLICATIONS:

BOOKS:

Comiso, J. C., V. Espaldon and D. Eslava (editors), (2021, submitted) "Rediscovering Laguna de Bay: A Vital Natural Resource in Crisis," UP Press, Diliman, Quezon City, RP.

- IOCCG (2015). Ocean Colour Remote Sensing in Polar Seas. Babin, M., Arrigo, K., Bélanger, S., Benoit-Gagné, M., Comiso, J., Forget, M-H., Frouin, R., Goyens, C., Hill, V., Hirawake, T., Matsuoka, A., Mitchell, G., Perovich, D., Reynolds, R., Stamnes, K., Wang, M. IOCCG Report Series, Volume 16, International Ocean-Colour Coordinating Group, Dartmouth, Canada.
- Comiso, J. C., C. Blanche, V. Espaldon, F. Lansigan and T. Sarigumba et al., (2014) "Changing Philippine Climate: Challenges to Agriculture, Natural Resources and the Environment," University of the Philippines Press, Diliman, Quezon City, Philippines.
- IPCC, 2014: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp.
- Comiso, J.C., 2010. Polar Oceans from Space, Springer Publishing, New York, doi 10.1007/978-0-387-68300-3.
- Gloersen P., W. Campbell, D. Cavalieri, J. Comiso, C. Parkinson, H.J. Zwally, Arctic and Antarctic Sea Ice, 1978-1987: Satellite Passive Microwave Observations and Analysis, NASA Spec. Publ. 511, 1992.
- Parkinson, C. L., J. C. Comiso, H. J. Zwally, D. J. Cavalieri, P. Gloersen, and W. J. Campbell, Arctic Sea Ice 1973-1976 from Satellite Passive Microwave Observations, NASA Spec. Publ. 489, 1987.
- Zwally, H. J., J. C. Comiso, C. L. Parkinson, W. J. Campbell, F. D. Carsey, and P. Gloersen, Antarctic Sea Ice 1973-1976 from Satellite Passive Microwave Observations, NASA Spec. Publ. 459, 1983.

BOOK CHAPTERS:

- Perez, G. J., J. C. Comiso, M. G. Cayetano, (2021) Swidden Agriculture and Biomass Burning in the Philippines, in "Biomass Burning in South and Southeast Asia," eds: K. P. Vadrevu, T. Ohara, and C. Justice, CRC Press, NY, ISBN:978-0-429-02225-8.
- Comiso, J. C. (2020) Variability and trends of the Global Sea Ice Cover and Sea Level: Effects on Physicochemical Parameters, In: Climate and Fresh Water Toxins, edited by Luis M. Botana, M. Carmen Lauzao and Natalia Vilarino, De Gruyter, Berlin, Germany.
- Comiso, J. C., (2019) Climate Change and Sea Ice, International Encyclopedia of Geography, Wiley-AAG, doi: 10.1002/9781118786352.wbieg0568.pub2 (<http://www.aag.org/encyclopedia>)
- Comiso, J. C., D. Hall, and I. Rigor (2019), Asymmetry in Surface Temperatures in the Polar Regions as Observed from Space, in "Taking the Temperature of the Earth," ed. by Glynn Hulley and Darren Ghent, Springer, <https://doi.org/10.1016/B978-0-12-814458-9.00005-8>.
- Mildrexler, D., Oyle, and J. C. Comiso, (2019) Surface Temperature Inter-relationships, in "Taking the Temperature of the Earth," ed. by Glynn Hulley and Darren Ghent, Springer, <https://doi.org/10.1016/B978-0-12-814458-9.00005-8>.
- Comiso, J. C. (2015) Variability and trends of the Global Sea Ice Cover and Sea Level: Effects on Physicochemical Parameters, In: Climate and Fresh Water Toxins, edited by Luis M. Botana, M. Carmen Lauzao and Natalia Vilarino, De Gruyter, Berlin, Germany.
- Comiso, J. C., (2014) Climate Change and Sea Ice, International Encyclopedia of Geography, Wiley-AAG International Encyclopedia of Geography, (<http://www.aag.org/encyclopedia>)
- Comiso, J. C., (2014) Sea ice concentration and extent, Encyclopedia of Remote Sensing, Springer-Verlag Berlin Heidelberg, doi:10.1007/Springer Reference_327226, 21 p.
- Vaughan, D.G., J.C. Comiso, I. Allison, J. Carrasco, G. Kaser, R. Kwok, P. Mote, T. Murray, F.

- Paul, J. Ren, E. Rignot, O. Solomina, K. Steffen and T. Zhang, 2013: Observations: Cryosphere. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- Walker, D. A., B.C. Forbes, M.O. Leibman, H.E. Epstein, U.S. Bhatt, J.C. Comiso, D.S. Drozdov, A.A. Gubarkov, G.J. Jia, E. Karlejaarvi, J.O. Kaplan, V. Khumutov, G.P. Kofinas, T. Kumpula, P. Kuss, N.G. Moskalenko, M.K. Reynolds, V.E. Romanovsky, F. Stammer, and Q. Yu (2011) Cumulative effects of rapid land-cover and land-use changes on the Yamal Peninsula, Russia, Chapter 9 in *Eurasian Arctic Land Cover Land Use*, ed. by G. Gutman and P. Goismann. Springer, Amsterdam, 306p.
- Goetz, S. J., H. E. Epstein, D. Alcaraz, P. S. A. Beck, U. Bhatt, A. Bunn, J. Comiso, G. J. Jia, J. O. Kaplan, H. Lischke, A. Lloyd, Q. Yu, and D. A. Walker (2011) Recent changes in Arctic vegetation: satellite observations and simulation model predictions, Chapter 2 in *Eurasian Arctic land cover and land use in a changing climate*, ed. by G. Gutman and A. Reissell, Springer, Amsterdam, 306p.
- Comiso, J.C. (2010) Variability and Trends of the Global Sea ice Cover, Chapter 6, in *Sea Ice - An introduction to its physics, biology, chemistry, and geology*, ed. by David Thomas and Gerhard Dieckmann, Wiley, Blackwell, Oxford, UK, pp. 205-246.
- Comiso, J. C., and M. Drinkwater, 2007. Antarctic Polynyas: ventilation, bottom water, and high productivity for the world's oceans, *Our Changing Planet*, ed. by M. King, C. Parkinson, K. Partington, and R. Williams, Cambridge University Press.
- Drinkwater, M. and J.C. Comiso, 2007. Sea Ice: the shifting crust of the Southern Ocean, *Our Changing Planet*, ed by M. King, C. Parkinson, K. Partington, and R. Williams, Cambridge University Press.
- Comiso, J.C., 2003. Large Scale Characteristics and Variability of the Global Sea ice Cover Chapter 4, in *Sea Ice - an introduction to its physics, biology, chemistry, and geology*, ed. by David Thomas and Gerhard Dieckmann, Blackwell, Scientific LTD., pp. 112-142.
- Comiso, J.C., and A.L. Gordon, 1998. Interannual variabilities of summer ice minimum, coastal polynyas, and bottom water formation in the Weddell Sea, in *Antarctic sea ice physical properties and processes*, AGU Antarctic Research Series Volume, edited by M. Jeffries, pp 293-315.
- Comiso, J.C., 1995. Remote Sensing of the Arctic, in *Arctic Oceanography: Marginal Ice Zones And Continental Shelves*, ed. by W. Smith and J. Grebmeier, AGU Monograph on Coastal and Estuarine Studies, Vol. 48, pp.1-50.
- Comiso, J.C., 1995. Sea ice geophysical parameters from SMMR and SSM/I data, Chapter 20, in *Oceanographic Application of Remote Sensing*, ed. by M. Ikeda and F. Dobson, CRC Press Inc., Boca Raton, FL, pp. 327-344.
- Comiso, J.C, T.C. Grenfell, M. Lange, A. Lohanick, R. Moore, and P. Wadhams, 1992 "Microwave remote sensing of the Southern Ocean ice cover," Chapter 12, *Microwave Remote Sensing of Sea Ice*, (ed. by Frank Carsey), American Geophysical Union, Washington, D.C., 243-259.
- Wadhams, P. and J.C. Comiso, 1992. "The ice thickness distribution inferred using remote sensing techniques," Chapter 21, *Microwave Remote Sensing of Sea Ice*, (ed. by Frank Carsey), American Geophysical Union, Washington, D.C., 375-383.
- Eppler, D., M.R. Anderson, D.J. Cavalieri, J.C. Comiso, L.D. Farmer, C. Garrity, P. Gloersen, T. Grenfell, M. Hallikainen, A.W. Lohanick, C. Maetzler, R.A. Melloh, I. Rubinstein, C.T. Swift, C. Garrity, 1992. "Passive microwave signatures of sea ice," Chapter 4, *Microwave Remote*

Sensing of Sea Ice, (ed. by Frank Carsey), American Geophysical Union, Washington, D.C., 47-71.

- Steffen, K., D. J. Cavalieri, J. C. Comiso, K. St. Germain, P. Gloersen, J. Key, and I. Rubinstein, 1992. "The estimation of geophysical parameters using Passive Microwave Algorithms," Chapter 10, Microwave Remote Sensing of Sea Ice, (ed. by Frank Carsey), American Geophysical Union, Washington, D.C., 201-231.
- Martin, S., K. Steffen, J.C. Comiso, D.J. Cavalieri, M. Drinkwater, B.M. Holt, 1992. "Microwave Remote Sensing of Polynyas," Chapter 15, Microwave Remote Sensing of Sea Ice, (ed. by Frank Carsey), American Geophysical Union, Washington, D.C., 303-311.
- Grenfell, T.C, D.J. Cavalieri, J.C. Comiso, M.R. Drinkwater, R.G. Onstott, I. Rubinstein, K. Steffen, I. Rubinstein, D.P. Winebrenner, 1992. "Microwave signatures of new and young ice," Chapter 14, Microwave Remote Sensing of Sea Ice, (ed. by Frank Carsey), American Geophysical Union, Washington, D.C., 291-301.

REFEREED JOURNAL PUBLICATIONS (154):

- Frey, K. E., J. C. Comiso, L. V. Stock, L. N. C. Young, L. W. Cooper and J. M. Grebmeier et al., (2021, in Review) A comprehensive satellite-based assessment across the Pacific Arctic Distributed Biological Observatory shows widespread late-season sea surface warming and sea ice declines, with heterogeneity in drivers of increased primary productivity, PLOS-One (Special issue on DBO).
- Veloria, A., G. J. Perez, G. Tapang and J. C. Comiso, (2021) Improved Rainfall Data in the Philippines through Concurrent Use of GPM IMERG and Ground Based Measurements, Remote Sensing, 13(15), <https://doi.org/10.3390/rs13152859>.
- Bhatt, Uma, et al., (2021) Climate drivers of Arctic tundra variability and change using an indicators framework, Environ. Res. Lett., 16, 1-17, <https://doi.org/10.1088/1748-9326/abe676>, ERL-110584.R1
- Garcia-Eidell, C., J. C. Comiso, M. Berkelhammer, L. Stock, (2021) Interrelationships of SSS, Chlorophyll a concentration and SST near the Antarctic Ice Edge, J. Climate, 34(15), 6069-6086, doi: 10.1175/JCLI-D-20-0716.1.
- Perez, G. J., J. C. Comiso, L. Aragonés, P. Ong, (2020) Reforestation and Deforestation: Challenges as Observed by Satellite Data, Forests, 11 (1071), doi:10.3390/f11101071.
- Cho, K., K. Naoki, J. C. Comiso, (2020) Detailed validation of AMSR2 sea ice concentration using MODIS data in the Sea of Okhotsk, ISPRS Ann. Photogrammetry Remote Sensing, V-3 2020, doi.org/105194/isprs-annals-V-3-2020-369-2020.
- Duncan, B. N., Ott, L. E., Abshire, J. B., Brucker, L., Carroll, M. L., Carton, J., Comiso, J. et al. (2020). Space-based observations for understanding changes in the arctic-boreal zone. Reviews of Geophysics, 58, e2019RG000652. <https://doi.org/10.1029/2019RG000652>
- Garcia-Eidell, C., J. C. Comiso, E. Dinnat, L. Brucker, (2019) Sea Surface Salinity Distribution in the Southern Ocean as Observed from Space, J. Geophys. Res. Oceans, 124, <https://doi.org/10.1029/2018JC014510>.
- Frey, K. E., J. C. Comiso, L. W. Cooper, J. M. Grebmeier and L. V. Stock, 2019: Arctic Ocean Primary Productivity: The response of marine algae to climate warming and sea ice decline. In: Arctic Report Card 2019, <https://arctic.noaa.gov/Report-Card-2019/ArtMID/7916/ArticleID/839/Arctic-Ocean-Primary-Productivity-The-Response-of-Marine-Algae-to-Climate-Warming-and-Sea-Ice-Decline>, pp. 40–47.
- Hall, D., R. I. Cullather, N. E. DiGirolamo, J. C. Comiso, R. Medley and S.M. Nowicki, (2018), A Multilayer Surface Temperature, Surface Albedo and Water Vapor Product of Greenland using MODIS, Remote Sens., 10, 555; doi:10.3390/rs10040555.
- Gutt, J., E. Isla, N. Bertler, G. E. Bracegirdle, R. Cavanagh, J. C. Comiso, Etal., (2017)

- Cross-disciplinary and priorities for advancing Antarctic ecosystem research, et al., SCAR, J. Marine Genomics, MARGEN_2017_123_R1, doi:10.1016/j.margen.2017.09.006.
- Garcia-Eidell, C. G., J. C. Comiso, E. Dinnat, and L. Brocker, (2017) Satellite observed salinity distributions in the Arctic J. Geophys. Res. Oceans, 122, doi :10.1002/2017JC013184.
- Turner, J., J. C. Comiso, Et al. (2017), Comment: Solve Antarctica's sea-ice puzzle, Nature, 547 (7663), 275-277, doi:10.1038/54727a.
- Comiso, J. C., W. Meier, and R. Gersten, (2017) Variability and trends in the Arctic sea ice cover: Results from different techniques. J. Geophys. Res., 122, doi:10.1002/2017JC012768.
- Bhatt, U., D. A. Walker, M. K. Reynolds, P. A. Bieniek, H. E. Epstein, J. C. Comiso, J. E. Pinzon, C. J. Tucker, M. Steele, W. Ermold, and J. Zhang (2017) Changing seasonality of Panarctic tundra vegetation in relationship to climatic variables, Environmental Res. Lett., 12, 1-17, doi.org/10.1088/1748-9326/aa6b0b.
- Comiso, J. C., R. Gersten and L. Stock, J. Turner, G. Perez, and K Cho (2017) Positive trends in the Antarctic sea ice cover and associated changes in surface temperature, J. Climate, 30, 2251-2267, doi:10.1175/JCLI-D-0408.1.
- Kwok, R., J. C. Comiso, T. Lee, and P. R. Holland, (2016) Linked trends in the South Pacific sea ice edge and Southern Oscillation Index, Geophys. Res. Lett., 43, doi:10.1002/2016GL070655.
- Comiso, J. C. (2016) Global trends in the sea ice cover and associated changes in surface temperature, ISPRS Annals.
- Perez, G. P., M. Macapagal, R. Olivares, E.M. Macapagal, and J. C. Comiso, (2016) Forecasting and monitoring agricultural drought in the Philippines, ISPRS Annals.
- Perez, G. P., and J. Comiso, (2015) Monitoring Philippine Vegetation using satellite NDVI and EVI data, Phil. Remote Sensing Journal, 1(1), 39-52.
- Alibuyog, N. A. and J. C. Comiso, (2015) Assessment of rice and corn crops in Northern Philippines using NDVI data from MODIS, Phil. Remote Sensing Journal, 1(1), 53-64.
- Comiso, J. C., G. J. Perez and L. V. Stock, (2015), Enhanced sea surface temperature in the Pacific Ocean and relationship to Typhoon Haiyan, J. Environmental Science and Management, 18(1), 1-10. (ISSN 0119-1144).
- Bieniek, P. A., U. S. Bhatt, D. A. Walker, M. K. Reynolds, J. C. Comiso, H. E. Epstein, J. E. Pinzon, C. J. Tucker, R. L. Thoman, H Tran, N. Molder, M. Steele, J. Zhang, W. Ermold, (2015), Climate drivers linked to changing seasonality of Alaska coastal tundra vegetation productivity, Earth Interactions Journal, 18(1), 1-10.
- Gutt, J. N. Bertler, T. J. Bracegirdle, A. Buschmann, J. Comiso, G. Hosie, E. Isla, I. R. Schloss, C. R. Smith, J. Tournadre, and J. Xavier. (2015) The Southern Ocean ecosystem under multiple climate change stresses – an integrated circumpolar assessment, Global Change Biology, 21, 1434-1453, doi: 10.1111/gcb.12794. (ID GCB-14-1154).
- Comiso, J. C. and D. K. Hall, (2014) Climate Trends in the Arctic, WIREs (Wiley Interdisciplinary Reviews) Climate Change, Advanced Review: doi:10.1002/wcc.277.
- Perez, G. P., J. C. Comiso, (2014) Changes in Philippine vegetation and associated impacts of temperature and precipitation, Philippine Journal of Science, 143(2), 147-145.
- Bhatt, U. S., D. A. Walker, M. K. Reynolds, P. A. Bienick, H. E. Epstein, J. C. Comiso, J. E. Pinzon, C. J. Tucker, and I. V. Polyakov, (2013) Recent declines in warming and vegetation greening trends over Pan-Arctic Tundra, Remote Sensing, 5, 4229-4254; doi: 10.3390/rs5094229.
- Chan, M. A., and J. C. Comiso (2013) Arctic cloud cover characteristics as inferred from MODIS, CALIPSO and Cloudsat, J. Climate, 26, 3285-3306, doi:10.1175/JCLI-D-12-00204.1.

WEBCAST Presentations:

PAASE Webinar on Climate Change, 21 January 2022

Podcast on Climate and Environmental Changes, Sharon and Jason, 18 January 2022

Interview with PAASE President M. Domingo, 5 December 2021

DBO/IARPC Special Webinar, Changing Arctic Sea Ice Cover and Primary Productivity,
20 November 2014, Sponsored by NASA, NOAA and NSF.

NASA IPY Series: Webtalk on: "Climate Change in the Arctic as observed from Space,"
16 October 2008, Coordinated with Stephanie Shipp, USRA/Lunar and Planetary Institute,
Houston, Texas.

PSHS Global Forum, Philippine Science High School, "Climate Change and Mitigation Strategies,"
27 September 2008, Coordinated by Joseph Hong

Television, Radio and Newspaper Interviews:

Univ of MD archive interview, October 2021

Webinar_80th Bday 2020 Symposium: <https://uplb.edu.ph/all-news/scholars-honor-filipino-nasa-scientist-comiso-in-a-webinar/#>

Philippine Press Interview about BSP at Sulo Hotel, March 26, 2019

TV Interview at ABS/CBN, March 15, 2019

TV interview with National Geographics, April 2014, Segment of the interview
Appeared in the program National Geographics Atlas in June 2014.

TV interview with IPCC reporters in Stockholm, Sweden in September 2013.

Segment appeared in the IPCC video about climate change released in December
2013.

Radio interview, Ilocos Radio, December 2012

TV interview through Skype: December 2009

TV interview with Jefferson Beck at the NASA Visualization Center, 2pm, 28 August 2008.

Radio Interviews in 2008: Knight Broadcasting (KNIF/KUHL) with Robin Ruerstenberg

National Public Radio with Steve Inskeep and Tracy Wahl

ABC News interview with Tuan Nguyen in 2008

Interview with Discovery Channel International on Friday, 12 October 2007.

Radio interviews: 18 September 2006, CBS radio Stan and Jerry Show (1pm); 19 September 2006,
WWRL1600, Sam Greenfield and Austen Williams Show (7am); 21 September, KPFA Radio, Kris Welch
Show at 3pm.

Interview with CNN on 15 September 2006

CBS Evening News with Katie Couric on 14 September 2006

Major US and World Newspapers including NY times, Washington Post, LA Times, SF Chronicle

Press Telecom with Many Newspaper Reporters on 13 September 2006

Tokyo Broadcasting Service (TBS/TV), Interview about Arctic Warming and Ice and
Productivity in the Gulf of St Lawrence, 26 February 2006

Also cited in NHK/TV on 18-19 February 2006

GMA-TV/Channel 7, Interview about Antarctica, July 2005

NASA/AGU Press Review, San Francisco Convention Center, December 2004

Newspaper articles worldwide about J Comiso and his research on Arctic Warming

NASA/TV Press Review, NASA Headquarters, October 2003

Newspaper articles worldwide about J Comiso and his research on Arctic perennial ice decline

Interview by CNN/TV 2002

Interview with Jill Colgan of the Australian Broadcasting Corporation (ABC) at the GSFC studio

in 2002 (jillcolgan@yahoo.com)

Frontpage article in Daily Miner, Fairbanks, Alaska, IGS Sea Ice Symposium, 2000

SEMINARS, WORKSHOPS, LECTURES AND INVITED TALKS

- Comiso, J. C., "Applications of Remote Sensing in Hydrology," Lecture for IESM Course #265, 22 April 2022, On Line for IESM students and Faculty.
- Comiso, J. C., "Towards a Brighter Future of Philippine Science and Technology," Inspirational Talk for New Members of the Philippine-American Academy of Science and Engineering," 18 April 2022, Zoom Presentation, International Audience.
- Comiso, J. C., "Remote Sensing of Land, Oceans and Atmosphere," Lecture for IESM Course #265, 19 March 2022, On line for IESM students and Faculty.
- Comiso, J. C., "Remote Sensing using Infrared and Microwave Systems," Lecture for IESM Course #265, 12 March 2022, On line for IESM students and Faculty.
- Comiso, J. C., "Anthropogenic Climate Change and Potential Impacts, 20 January 2022, PAASE Webinar on Climate, On line Presentation.
- Comiso, J. C., "My Involvement on Climate Change Research," PodCast, December 2021.
- Comiso, J. C., "Perspectives on Global and Environmental Change," PAASE Annual Meeting, October 2021, UMBC, Baltimore County, Maryland.
- Comiso, J. C., "Addressing the Global Climate and Environmental Crisis," Keynote Talk, Asian Conference on Remote Sensing (ACRS), Dequing, China (Virtual) 10 November 2020.
- Comiso, J. C., "Scientific Basis of Climate Change: Impacts and Mitigation Strategies," Special Seminar, 7 November 2020, UP Los Baños (Virtual), Philippines.
- Comiso, J. C., "CO2 Sources and Impacts on Climate and Environment," PAASE 40th Anniversary Meeting, 3 August 2020, Diliman, Philippines.
- Comiso, J. C., "NASA Experience and Visions for the Philippine Space Agency," 11 March 2020, Advanced Science and Technology Institute (ASTI), Diliman, Philippines.
- Comiso, J. C., "Deforestation and Reforestation in the Philippines: Challenges as Observed from Space, 9 March 2020, DENR, Baguio, Philippines.
- Comiso, J. C., "Anomalies and Trends in the Polar Oceans," Symposium for Arnold Gordon, 13-14 February 2020, SCRIPSS, San Diego California.
- Comiso, J. C., "Enhanced Sea Ice Algorithm and Applications of a Combined AMSR3 and CIMR data, JAXA GCOM/AMSR3 Workshop, 20-22 January 2020, Tokyo Japan.
- Comiso, J. C., "Climate and Environmental Changes as Observed from Space," Weekly Seminar, Earth and Environmental Sciences Institute, University of Illinois, Chicago, IL., 10 October 2019.
- Comiso, J. C., "Fish Finding Maps using Satellite Data," Institute of Fisheries, Narvacan, Ilocos Sur, PI, 1 October 2019.
- Comiso, J. C., "Sea Surface Salinity, Sea Surface Temperature and Marginal Ice Zone Studies using CIMR," Copernicus Imaging Microwave Radiometer (CIMR) workshop, Jet Propulsion Laboratory of California Institute of Technology, Pasadena, CA, USA, 12-15 August 2019.
- Comiso, J. C., "Satellite Data Application in Smart Agriculture, Reforestation and the Detection of Pollution, BSP Seminar," IESM, 25 March 2019.
- Comiso, J. C., "Anthropogenic Impacts on the Climate and the Environment, Annual Seminar Series for the 10th Anniversary of the Institute," IESM, UP Diliman, 4 March 2019.
- Comiso, J. C. "Climate and Environmental Changes in the Philippines," Joint Monitoring Workshop," JAXA and UP Diliman, Quezon City, 21-22 February 2019.
- Comiso, J. C., Refining the Bootstrap Algorithm and Assessing the Extent of the Multiyear Sea Ice Cover, GCOM-W/AMSR Meeting, Tokyo, Japan, 22 January 2019.
- Comiso, J. C., "Anomalies and Trends in the Sea Ice Cover from 40 Years of Continuous Passive

- Microwave Data,” AGU Fall Meeting Invited Talk, Session C53B, Convention Center, Washington D. C., 14 December 2018.
- Comiso, J. C., “Asymmetry in Surface Temperature in the Polar Regions,” AGU Fall Meeting, Invited Talk, GC24C-07, 11 December 2018.
- Comiso, J. C., Lecture Series at Visayas State University, Tacloban, Leyte, 29-30 October 2018.
 “Lecture 1: The Earth’s Climate System”
 “Lecture 2: The Earth’s Environment”
 “Lecture 3: Satellite Observations and Applications”
 “Lecture 4: Extreme Events”
 “Lecture 5: Mitigation and Adaptation”
 “Lecture 6: Big Data and Visualization”
 “Lecture 7: How to Publish and Why”
- Comiso, J. C., “Satellite Remote Sensing and Applications in Agriculture and Forestry, SESAM, UP Los Banos, 6 July 2018
- Comiso, J. C., “Climate Change Impacts and Mitigation Strategies for the Energy Sector, Keynote Talk, Expert Symposium on Renewable Energy and Climate Change,” Dusit Hotel, Makati, 22 June 2018.
- Comiso, J. C., “Variability of atmospheric surface temperature and impacts on land cover as observed by satellites over the Philippines,” LCLUC/SARI Workshop, Atmospheric Monitoring Session, Richmond Hotel, Eastwood, Quezon City, 28-30 May, 2018.
- Comiso, J. C., “Recent Advances in Satellite Remote Sensing of the Environment,” IESM 15th Anniversary Talk, UP Diliman, Quezon City, Philippines, 7 March 2018.
- Comiso, J. C. “Satellite Remote Sensing and Applications,” Special Seminar, Batangas State University, Batangas City, Philippines, 2 February 2018.
- Comiso, J. C. “Climate and Environmental Changes as Observed from Space,” Seminar, Batangas State University, Batangas City, Philippines, 1 February 2018.
- Comiso, J. C. “Global and Regional Changes in Climate and the Environment,” Plenary Talk, Global Summit on Health and Environment, Novu Hotel, City of Dreams, Manila, Philippines 25 January 2018.
- Comiso, J. C. “Enhancements on the AMSR2 Bootstrap Algorithm and Error Analysis, Plenary Talk, GCOM Workshop, Tokyo, Japan, 23 January 2018.
- Comiso, J. C. “Climate Change Signals as Observed by AMSR2, AMSR-E, SSMI and SMMR,” Keynote Talk, GCOM Workshop, Tokyo, Japan, 22 January 2018.
- Comiso, J. C., “The Earth and the Universe as Observed by NASA,” Talk to Students, Mar Vista Elementary School, Los Angeles, CA, 27 Nov 2017.
- Comiso, J. C. “Changing Global Climate: Impacts and Mitigation Strategies,” Fiesta Filipinana Talk, Pismo, CA, 19 Aug 2017.
- Comiso, J. C. “Use of Very High Resolution Data in Environmental Change Studies,” Environmental Science Conference, University of the Philippines, Los Banos, 7 August 2017.
- Comiso, J. C. “Philippine Space Agency: Current and Future Mission,” PAASE, Manila Hotel, 14-15 July 2017.
- Comiso, J. C. Global and Regional Climate Change, SCA (Science Council of Asia) Conference, Sofitel Hotel, 15-16 June 2017
- Comiso, J. C., “Drought Detection and Forecasting,” Seminar, UP Los Banos, 20 March 2017.

SUMMARY OF ACCOMPLISHMENTS (1979-present):

- o Development of the Bootstrap Algorithm for sea ice for passive microwave sensors, JGR1986.
- o Publication of a book on “Changing Philippine Climate” in UP Press 2014
- o Coordinating lead author of Chapter 4 (cryosphere observations) of IPCC WG1 AR5

- (2010 to 2014) and publication of the Book in Cambridge Press 2014.
- o Publication of a book on "Polar Oceans from Space" in Springer 2010
 - o Report on an accelerated decline of the Arctic ice cover in JGR 2008
 - o Guest Editor of a special volume on sea ice in JGR-Oceans and publication of the volume in 2008
 - o Contributing author of Chapter 4 and Chapter 11 of the IPCC Working Group Report 1 on Climate Change: The physical science basis, Cambridge University Press, 2007. The report won half the Nobel Peace Prize (the other half to former Vice President Al Gore) in 2007.
 - o PI of Antarctic Overflights in 2003 and 2004 and Sea of Okhotsk Overflight in 2003
 - o Observation of an accelerated warming trend in the Arctic in J Climate 2003
 - o Detection of a rapidly declining Arctic perennial sea ice cover in GRL 2002
 - o First spatially detailed assessment of surface temperature changes in the polar regions in 1994
 - o Detailed study of the Odden in Greenland Sea in 2001
 - o Assessment of the variability of summer ice and coastal polynyas in the Weddell Sea and possible impact on bottom water formation in 2001.
 - o Demonstration that the thickness distribution of sea ice can be derived from LIDARs in 2001
 - o Characterization of the Ross Sea Polynya, and other Coastal Polynyas in 1986 and 2001
 - o Assessment and study of Arctic Phytoplankton Distributions in 2000
 - o Documentation and Analysis of Ice Retreat and Climate Change in the Bellingshausen Sea in 1998
 - o Discovery and Assessment of the Cosmonaut and the Maud Rise Polynyas in 1998
 - o First Assessment of Large-Scale Phytoplankton Distributions in the Southern Ocean in 1998
 - o Detailed study of the large Weddell Deep Ocean Polynya (1974-76) in 1988
 - o Modeling Studies of Southern Ocean Productivity in 1988
 - o First Assessment of Summer Arctic Sea Ice Cover using SAR and SSM/I
 - o PI of an Arctic Overflight in May 1987 over a Nuclear Submarine
 - o Antarctic Cruises during Winter: 1986, 1988, 1989
 - o Radiative Transfer Modeling of the Antarctic and Greenland ice sheets in 1981
 - o Author or Co-author of 8 books, 24 book chapters and more than 150 refereed journal publications.
 - o Hirsh Citation Index: 80; i10 Index: 171; Number of citations: 28,400

Filipino-American Activities and Citations/Awards (J. C. Comiso):

- 1995 Balik Scientist at DOST/University of the Philippines, Diliman
- 1999 Work on "Antarctic Polynyas" was chosen as part of the Philippine Heritage Museum, in Taguig, Rizal
- 2000 One of those featured in a book by Prof. Qeena Lee-Chua of Ateneo University entitled "Ten Outstanding Filipino Scientists"
- 2000 Plenary speaker of the Philippine National Academy of Science and Technology (NAST)
- 2002 Selected as one of "Twenty Outstanding Filipino-American (TOFA)" by Filipino Image Magazine (27 April 2002)
- 2002 Selected as the "2002 Founder's Lectureship Awardee" by the Philippine-American Academy for Science and Technology
- 2003 Featured in Philippine News
- 2004 Featured by Filipinas Magazine (October)
- 2004 Article published in Philippine Star (Science Section)
- 2005 Plenary Speaker at the PAASE Symposium in Cebu, Philippines
Interviewed by Jessica Soho's Group/GMA News on "Antarctica"

2006 Featured in a Pinoy Blog by San Francisco Chronicle
2006 Article published in Philippines Star (Science Section)
2007 Plenary speaker at the PAASE Symposium in Manila, Philippines,
De la Salle University, 16 February, 2007, Manila, Philippines.
2007 Article Published in Forestry Journal (Filipino-American)
2007 Featured in the front page of the Asian Journal in August 2007.
2007 Awarded the "Most Distinguished UP Alumnus for 2007" - by the
University of the Philippines Alumni Association of America on 2 September 2007.
2007 Article published in Philippine Star (Science Section)
2008 Participated as expert in the GM7 Climate Change TV Program at Luneta, Philippines
2008 "Adopted Son" of Quezon Province by the Governor
2008 Balik Scientist at UP Los Banos
2008 Citation in Philippine Senate for work on climate change by Senator Legarda
2008 Awarded "Outstanding Achievement in Science and Medicine" (Filipinas Magazine)
2009 Balik Scientist at Mariano Marcos State University and UP Los Banos
2010 Award of Excellence in Science and Engineering, PhilDevUSA, Banatao, Fairmont, CA
2011 Awarded "Narvacaneo Outstanding Achievement in Science" (Narvacan, Ilocos Sur)
2011 Participated in Balik Scientist Program
2012 Awarded Padre Burgos 2012 Outstanding Scientist Award (Vigan, Ilocos Sur)
2012 Participated in Balik Scientist Program
2013 Awarded UP Alumni "2013 Outstanding Achievement in Science and Engineering"
2014 Lead author of "Changing Philippine Climate: Impacts on Agriculture and Natural
Resources."
2015 The "Changing Philippine Climate: Impacts on Agriculture and Natural Resources"
was selected "Outstanding Book in 2015 by NAST and DOST
2016 Selected "Corresponding Member of the National Academy of Science and Technology,"
2018 Selected to the Hall of Fame, Philippine-American Academy of Science and Engineering.
2018 Participated in the Balik Scientist Program, Host: Drs Gay Perez and V. Espaldon
2019 Participated in the Balik Scientist Program, Host: Dr. Gay Perez, IESM, UP Diliman.
2020 Participant in the Balik Scientist Program, Host: Dr. Gay Perez, IESM, UP Diliman.
2022 Presidential Award for Filipinos Overseas (Category, Pamana Award).

AYIN M. TAMONDONG

2703 Tower C MPlace Condominium,
South Triangle, Quezon City, Philippines
+639989662210
amtamondong@up.edu.ph



EDUCATION	PhD Global Engineering for Development, Environment and Society Thesis: <i>"Integrated Remote Sensing and Coupled Watershed-Ocean-Vegetation Modeling for Seagrass Studies in Busuanga, Palawan, Philippines"</i> Tokyo Institute of Technology, Tokyo, Japan,	03/2022
	MS Remote Sensing Thesis: <i>"Mapping of Seagrass and Other Benthic Habitats Using Worldview-2 Multispectral Satellite Image"</i> University of the Philippines, Quezon City, Philippines,	10/2012
	BS Geodetic Engineering University of the Philippines, Quezon City, Philippines,	04/2008
HONORS AND ACHIEVEMENTS	JICA Scholar, AY 2019-2022 Sy Ling Chat Professorial Chair Award 2015-2018 ERDT Scholar, AY 2008-2010 DOST Scholar, AY 2002-2004	
PROFESSIONAL QUALIFICATION	Geodetic Engineering Licensure Examination September 2008 , Manila	
TEACHING EXPERIENCE	January 2018 – Present (on study leave): Assistant Professor , University of the Philippines Department of Geodetic Engineering August 2017 – December 2017: Senior Lecturer , University of the Philippines Department of Geodetic Engineering June 2013 – July 2017: Assistant Professor , University of the Philippines Department of Geodetic Engineering	
WORK EXPERIENCE	January 2018 – March 2019: Project Support Staff , MECO TECO Project October 2017 – December 2018: Project Leader , IAMBlueCECAM Project 2: LiDAR, Hyperspectral, and Sonar Remote Sensing of Seagrass Meadows (SeaRS) July 2014 – December 2017: Project Leader , Phil-LiDAR 2, Aquatic Resources Extraction from LiDAR Surveys May 2015 – December 2017: Project Support Staff , PHL Microsat, Development of a Data Processing, Archiving, and Distribution Sub-systems for the Ground Receiving Station of the Philippine Scientific Earth Observation Micro-Satellite October – December 2015: Remote Sensing Specialist (Consultant) , National Resource Assessment, Climate Change Commission June 2010 – May 2013: Research Assistant for Dr. Ariel C. Blanco (UP Department of Geodetic Engineering Professor), Coastal Ecosystem Conservation and Adaptive Management (CECAM) Project August 2012 – February 2013: Remote Sensing Specialist (Consultant) , Fauna and Flora International Philippines August 2007 – June 2008: Research Assistant and Secretariat Member for Dr. Miguel D. Fortes, PhD (UP Marine Science Institute Professor)	
PUBLISHED PAPERS	Blue Carbon Ecosystem Services Through a Vulnerability Lens: Opportunities to Reduce Social Vulnerability in Fishing Communities Quiros, T.E.A.L., Sudo, K., Ramilo, R. V., Garay, H.G., Soniega, M.P.G., Baloloy, A., Blanco, A., Tamondong , A., Nadaoka, K., Nakaoka, M., <i>Frontiers in Marine Science</i> 8. https://doi.org/10.3389/fmars.2021.671753 , 2021	

Modeling Seagrass Bed Dynamics under Environmental Impacts of Intensive Mariculture Activities in Bolinao and Anda, the Philippines

Yoshikai M, Nakamura T, Tanaka Y, Nakaoka M, Watanabe A, Herrera EC, Tsuchiya T, Miyajima T, San Diego-McGlone ML, Fortes MD, Blanco AC, **Tamondong AM**, Nadaoka K., *Estuarine, Coastal and Shelf Science* 250:107152. doi: 10.1016/j.ecss.2020.107152, 2021

Evaluation of Object-Based Classification Methods for Mapping Benthic Habitats Using Bathymetric Lidar Derivatives

Tamondong, A., Cadaizo, I. E., Estabillo, M. S., Go, G. A., Cruz, C., Blanco, A. *Philippine Engineering Journal* Vol. 41, No. 2: 1-18, 2020

Investigating the Effects of River Discharges on Submerged Aquatic Vegetation Using UAV Images and GIS Techniques

Tamondong, A., Nakamura, T., Kobayashi, Y., Garcia, M., and Nadaoka, K. *ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci.*, V-5-2020, 93–99, <https://doi.org/10.5194/isprs-annals-V-5-2020-93-2020>, 2020

Comparative Assessment of Water Column Correction Techniques for Seagrass Mapping Using Worldview-2 Image

Tamondong, A., Blanco, A., Fortes, M. *Philippine Engineering Journal* Vol. 38, No. 2: 43-62, 2017

CONFERENCE PRESENTATIONS

Time Series Analysis for Monitoring Seagrass Habitat and Environment in Busuanga, Philippines Using Google Earth Engine

Ayin M. Tamondong, Takashi Nakamura, Angela Quiros, Kazuo Nadaoka

- Paper presented at the XXIV ISPRS Congress 2021 Digital Edition, Nice, France, July 2021

Extraction of Seagrass Biophysical Parameters Using Unmanned Aerial Systems

Anne Glydel Dalagan, Lei Anne Manasan, Ayin Tamondong, Roseanne Ramos

- Poster presented in the 38th Asian Conference on Remote Sensing, New Delhi, India, October 2017

A Framework for Capacity Building in Mapping Coastal Resources Using Remote Sensing in the Philippines

Ayin M. Tamondong, Charmaine Cruz, Kristina Di Ticman, Rudolph Peralta, Gay Amabelle Go, Mark Vergara, Mia Shaira Estabillo, Ivy E.laine Cadalzo, Rey Jalbuena, Ariel Blanco

- Paper presented in the 2016 International Symposium for Photogrammetry and Remote Sensing Congress, Prague, Czech Republic, July 2016

Combining Bathymetric LiDAR And WorldView-2 Satellite Imagery For Classifying Benthic Habitats Using OBIA

Ayin M. Tamondong, Ivy Elaine Cadalzo, Mia Shaira Estabillo, Charmaine Cruz, Julius Michael Hipolito, Gay Amabelle Go

- Paper presented in the 36th International Symposium on Remote Sensing of the Environment, Berlin, Germany May 2015

Coastal Resources Extraction from LiDAR Point Cloud Data and WorldView-2 Satellite Imagery

Ayin M. Tamondong, Charmaine A. Cruz, Julius Michael Hipolito, Rudolph Peralta, Gay Amabelle Go, Mia Shaira Estabillo, Ivy Elaine Cadalzo, Rey Jalbuena, Ariel C. Blanco

- Paper presented in the 12th CoastGIS Symposium, Cape Town, South Africa, April 2015

Changes in Seagrass Fractional Cover in Bolinao and Anda, Philippines Derived from Landsat Images

Ariel C. Blanco, Ayin M. Tamondong, Elaine Tagle, Miguel D. Fortes, Kazuo Nadaoka

- Paper presented in the 35th Asian Conference on Remote Sensing, Nay Pyi Taw, Myanmar, October 2014

Comparison of Water Column Correction Techniques in Mapping Seagrasses using Worldview-2

Ayin M. Tamondong, Ariel C. Blanco, Miguel D. Fortes

- Paper presented in the 34th Asian Conference on Remote Sensing, Bali, Indonesia, October 2013

Mapping of Seagrass and Other Benthic Habitats Using Worldview-2 Multispectral Satellite Image

Ayin M. Tamondong, Ariel C. Blanco, Miguel D. Fortes

- Poster presented in the 2013 IEEE Geoscience and Remote Sensing Symposium, Melbourne, Australia, July 2013

Assessment of national FRA data and Leyte FRA data in view of forest carbon and remote sensing MRV requirements

Ayin M. Tamondong, Jose Don de Alban, Angelica Kristina Monzon, Mari TrixEstomata

- Paper presented in the UN-REDD Remote Sensing Symposium-Workshop, Tagaytay, Philippines, January 2013

**OTHER
CONFERENCE
PAPERS**

Optimization of Bio-Optical Model Parameters for Turbid Lake Water Quality Estimation Using Landsat 8 And Wasi-2d

A. Manuel, A. C. Blanco, **A. M. Tamondong**, R. Jalbuena, O. Cabrera, and P. Gege
Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-3/W11, 67–72,
<https://doi.org/10.5194/isprs-archives-XLII-3-W11-67-2020>, 2020
23 Dec 2019

Correlation of UAV-Based Multispectral Vegetation Indices and Leaf Color Chart Observations for Nitrogen Concentration Assessment on Rice Crops

C. M. Bacsa, R. M. Martorillas, L. P. Balicanta, and **A. M. Tamondong**
Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-4/W19, 31–38,
<https://doi.org/10.5194/isprs-archives-XLII-4-W19-31-2019>, 2019
23 Dec 2019

Estimation of Chlorophyll-A Concentration in Laguna De Bay Using Sentinel-3 Satellite Data

M. Conopio, R. K. Japor, A. C. Blanco, and **A. M. Tamondong**
Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-4/W19, 125–132,
<https://doi.org/10.5194/isprs-archives-XLII-4-W19-125-2019>, 2019
23 Dec 2019

Assessment of Seagrass Percent Cover and Water Quality Using UAV Images and Field Measurements in Bolinao, Pangasinan

M. K. M. R. Guerrero, J. A. M. Vivar, R. V. Ramos, and **A. M. Tamondong**
Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-4/W19, 233–240,
<https://doi.org/10.5194/isprs-archives-XLII-4-W19-233-2019>, 2019
23 Dec 2019

Mapping of Sargassum Distribution in the Eastern Coast of Southern Leyte Using Sentinel 2 Satellite Imagery

J. J. Lasquites, A. C. Blanco, and **A. Tamondong**
Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-4/W19, 289–295,
<https://doi.org/10.5194/isprs-archives-XLII-4-W19-289-2019>, 2019
23 Dec 2019

Canopy Cover Estimation from Satellite Data for Acacia Mangium Plantation Basay, Negros Oriental

F. A. M. Tandoc, C. J. S. Sarmiento, E. C. Paringit, **A. M. Tamondong**, F. J. O. Pamittan, R. A. G. Faelga, A. A. C. Maralit, R. A. Lopez, C. M. M. Arellano, and C. Z. Vidad
Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-4/W19, 421–423,
<https://doi.org/10.5194/isprs-archives-XLII-4-W19-421-2019>, 2019
26 Oct 2018

Estimation of PM2.5 Vertical Distribution Using Customized UAV And Mobile Sensors In Brgy. Up Campus, Diliman, Quezon City
J. B. Babaan, J. P. Ballori, **A. M. Tamondong**, R. V. Ramos, and P. M. Ostrea
Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-4/W9, 89–103,
<https://doi.org/10.5194/isprs-archives-XLII-4-W9-89-2018>, 2018
05 Oct 2017

3D Visualization of Mangrove and Aquaculture Conversion In Banate Bay, Iloilo
G. A. Domingo, M. M. Mallillin, A. M. C. Perez, A. R. C. Claridades, and **A. M. Tamondong**
Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-4/W5, 53–60,
<https://doi.org/10.5194/isprs-archives-XLII-4-W5-53-2017>, 2017
22 Jun 2016

Design of a Free and Open Source Data Processing, Archiving, And Distribution Subsystem for the Ground Receiving Station of the Philippine Scientific Earth Observation Micro-Satellite
R. K. D. Aranas, B. J. D. Jiao, B. J. P. Magallon, M. K. F. Ramos, J. A. Amado, **A. M. Tamondong**, and M. E. A. Tupas
Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLI-B7, 909–911,
<https://doi.org/10.5194/isprs-archives-XLI-B7-909-2016>, 2016

Integrating Remotely Sensed Data in the Vulnerability Assessment of Coastal Resources in the Philippines
Kristina Di Ticman, Al Jayson Songcuan, Gay Amabelle Go, Rudolph Peralta, Rey Jalbuena, Rey Rusty Quides, Charmaine Cruz, Alexis Richard Claridades, **Ayin Tamondong**

- 37th Asian Conference on Remote Sensing, Colombo, Sri Lanka, October 17-21, 2016

Mangrove classification through the use of Object Oriented Classification and Support Vector Machine of LiDAR datasets: a case study in Naawan and Manticao, Misamis Oriental, Philippines
Rey Jalbuena, Rudolph Peralta, **Ayin Tamondong**

- SPIE Remote Sensing, Edinburgh, United Kingdom, September 26-29, 2016

Mapping of Coral Reefs using the Combined Hyperspectral CASI and Bathymetric LiDAR
Charmaine Cruz, **Ayin Tamondong**, Gay Amabelle Go

- SPIE Remote Sensing, Edinburgh, United Kingdom, September 26-29, 2016

Mapping and Assessment of Mangroves in the Philippines using Landsat Imagery
Gay Amabelle Go, Charmaine Cruz, Kristina Di Ticman, Mark vener Vergara, Rudolph Peralta, Ivy Elaine Cadalzo, Mia Shaira Estabillo, Rey Jalbuena, **Ayin Tamondong**

- GeoHAB (Marine Geological and Biological Habitat Mapping), Winchester, United Kingdom, May 2-6, 2016

A multi-scale approach for benthic habitat mapping of shallow water region using a 4 band high resolution World View-2 satellite image using object based image analysis
Mia Shaira Estabillo, **Ayin Tamondong**

- 13th South East Asian Survey Congress, Singapore, July 28-31, 2015

Performance assessment of regression and bio-optical modelling for bathymetric extraction using WorldView-2 image
Beatriz Maria Milagros Gana, Ronalyn Jose, **Ayin Tamondong**

- 13th South East Asian Survey Congress, Singapore, July 28-31, 2015

Estimation of Chlorophyll-a and Turbidity in Bolinao, Pangasinan using Landsat 8 OLI Image
John Bart Dumalag, Diane Arianne Villafior, **Ayin Tamondong**

- 13th South East Asian Survey Congress, Singapore, July 28-31, 2015

Development Of An Object-Based Classification Technique For Extraction Of Aquaculture Features Using Lidar And Worldview-2 Satellite Image Data
Rudolph Peralta, Rey Jalbuena, Charmaine Cruz, **Ayin Tamondong**

- 13th South East Asian Survey Congress, Singapore, July 28-31, 2015

Object-Based Image Analysis for Benthic Habitat Mapping using LiDAR Derivatives
Ivy Elaine Cadalzo, Charmaine Cruz, Gay Amabelle Go, **Ayin Tamondong**

- 13th South East Asian Survey Congress, Singapore, July 28-31, 2015

The Phil-LiDAR 2 Program: National resource inventory of the Philippines using LiDAR and other remotely sensed data

Ariel Blanco, **Ayin M. Tamondong**, Anjillyn Mae Perez, Ma Rosario Concepcion Ang, Enrico Paringit

- 36th International Symposium on Remote Sensing of the Environment, Germany, May 11-15, 2015

SPECIAL SKILLS

Proficient in GIS and Remote Sensing related software

specifically ArcGIS 10, ENVI 5, QGIS, Google Earth Engine, SNAP

Proficient in Modelling related software

specifically COAWST (Coupled-Ocean-Atmosphere-Wave-Sediment Transport), SWAT (Soil and Water Assessment Tool)

Knowledgeable in Surfer, AutoCAD, Ecognition

Proficient in using Total Station and GPS

Proficient in using AAQ Multi-parameter Water Quality

Meter, HOBO Data Loggers, Spectrometer

Knowledgeable in R, MATLAB, Python and Java programming language

Skilled in MS Word, MS Excel and MS Power Point

Proficient in English and Filipino

With a driver's license

With a SCUBA diver's license

SEMINARS

2016 International Symposium for Photogrammetry and Remote Sensing Summer School, Natural Resource Management: From Data Processing to Web Publishing, Telc, Czech Republic (July 5 – 11, 2016)

Training on Payload Calibration, Satellite Tasking, Geometric Calibration, Data Processing and LCTF Imager, Space Mission Center, Hokkaido University, Japan (December 7 – 13, 2015)

KARI International Space Training, Daejeon City, South Korea (June 27 - July 12, 2015)

Lecturer – LiDAR Training for Forestry and Hydrologic Applications, UP College of Engineering, Quezon City, Philippines (January 7-9, 2015)

LiDAR Training for Forest and Watershed Management, USFS, UP College of Engineering, Quezon City, Philippines (July 21-25, 2014)

CECAM Project 2nd National Conference, UP Marine Science Institute, Philippines (June 17-18, 2014)

Trainer's Training on Imaging SAR Data, Processing and Applications – A Short Course, UP Diliman, Quezon City, Philippines (November 2013)

9th ISPRS Student Consortium and WG VI/5 Summer School, Remote Sensing and GIS Technologies for Monitoring Climate and Environment, Bali, Indonesia (October 2013)

Training Course for CASI Operations, Clark, Pampanga, Philippines (September 2013)

UN-REDD Remote Sensing Symposium-Workshop, Tagaytay City, Philippines (January 2013)

Forest Stratification and Forest Monitoring for REDDplus Symposium Workshop, Pampanga, Philippines (July 2012)

1st Regional Symposium on Coastal Ecosystem Conservation and Adaptive Management, Quezon City, Philippines (November 2012)

A Short Course on Basic and Advance GPS Data Analysis and Modeling (GDAM),
Quezon City, Philippines
(November 2011)

Coastal Ecosystem Conservation and Adaptive Management National Conference, Quezon City, Philippines (June 2011)

Counterpart Training Course on Assessment and Modeling of Environment Loads to Coastal Ecosystem, Tokyo Institute of Technology, Tokyo, Japan
(November-December, 2010)

**PERSONAL
INFORMATION**

Mobile Number : +818039170817
Date of Birth : August 17, 1985
Civil Status : Single
Citizenship : Filipino
TIN No : 214 856 651 000

**PROFESSIONAL
REFERENCES**

Dr. Ariel C. Blanco, Professor
Department of Geodetic Engineering
University of the Philippines, Diliman, Quezon City
(632) 9208924

Date: April 30, 2022
To: Dr. Gay Jane P. Perez
Professor Christian Heipke
RE: ISPRS Commission V Vice President Nomination

Dear Dr. Perez and Dr. Heipke,

The American Society for Photogrammetry and Remote Sensing (ASPRS) writes in support of the nomination of Dr. Josefino C. Comiso as Vice President for ISPRS Commission V for the period 2022-2026. Given Dr. Comiso's expertise and scientific accomplishments, we believe he is well qualified to serve in this position.

We wish you and Dr. Comiso success as you advance education and capacity building in the next Congress Term. Additionally, we look forward to working with you in the upcoming XXIVth ISPRS Congress.

Sincerely,



Christopher E. Parrish, PhD, CP, CMS
President, American Society for Photogrammetry and Remote Sensing

cc: Karen Schuckman, ASPRS Executive Director
Prof. Charles Toth