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# ALLEN GLEN C. GIL

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## EDUCATION

- 2024– **MASTER OF FOREST SCIENCE**  
Yale University — Yale School of the Environment  
New Haven, United States
- 2020–2023 **MS IN ENVIRONMENTAL SCIENCE**  
University of the Philippines Los Baños — School of Environmental Science and Management  
Los Baños, Philippines
- 2014–2020 **BS IN AGRICULTURAL ENGINEERING, *Cum Laude***  
Visayas State University — Department of Agricultural and Biosystems Engineering  
Baybay City, Philippines
- 2018–2019 **SHORT-TERM EXCHANGE PROGRAM IN SCIENCE AND ENGINEERING**  
Tokyo University of Agriculture and Technology  
Tokyo, Japan

## RESEARCH EXPERIENCE

- 2024– **INDEPENDENT RESEARCH**  
Location: School of Environmental Science and Management, University of the Philippines Los Baños  
Research: *Post-Disaster Mangrove Recovery and Resilience in Protected Areas in Bohol, Philippines*  
Supervisor: Dr. Cristino L. Tiburan  
Core Activities:
- Conducted post-disaster recovery and resiliency assessment on the mangrove forests within and outside (0–1 km, 1–5 km, and 5–10 km) in the Inabanga-Buenavista Mangrove Swamp Forest Reserve (IBMSFR) and Ubay Mangrove Swamp Forest Reserve (UMSFR) after Super Typhoon Odette in December 2021.
  - Utilized time series analysis, change detection, and visual mapping of vegetation indices (NDVI, NDII, and EVI) from Sentinel-2 multispectral images from 2019–2023 via Google Earth Engine and QGIS.
  - Employed One-Way ANOVA and Post-Hoc Tukey HSD Test to determine the statistical difference of the mangrove recovery inside and outside the IBMSFR and UMSFR protected area.
  - Applied the Sen's Slope Estimator and Mann-Kendall Test to assess spatio-temporal trends in post-disaster mangrove recovery.
- Proficiencies:
- Remote Sensing and Geospatial Mapping (Google Earth Engine, QGIS)
  - Programming (JavaScript)
  - Statistical Analysis
- 2022–2023 **MASTER'S THESIS RESEARCH**  
Location: School of Environmental Science and Management, University of the Philippines Los Baños  
Research: *Post-Disaster Recovery Assessment of Mangrove Forests in Leyte Island, Philippines using Sentinel-2 Imagery*  
Supervisor: Dr. Cristino L. Tiburan  
Core Activities:
- Employed numerous vegetation indices, biophysical variables, and landscape metrics derived from Sentinel-2 images in assessing post-disaster mangrove recovery.
  - Developed the novel Recovery and Resiliency Profile in measuring post-disaster variables, such as: Amplitude, Malleability, Resistance, etc.
  - Utilized the Sen's Slope Estimator and Mann-Kendall Test to assess spatio-temporal trends in post-disaster mangrove recovery.
  - Created multi-level policy recommendations, including the adoption of the Remote Sensing-Based Ecological Mangrove Restoration (RS-EMR) Framework, regional tiered monitoring scheme, and national economic valuation of post-disaster mangrove damage.
  - Presented the research at the 4<sup>th</sup> International Conference on Integrated Natural Resource and Environmental Management and won 1<sup>st</sup> Place for Best Poster Presentation.
- Proficiencies:
- Remote Sensing and Geospatial Mapping (Google Earth Engine, QGIS)

- Programming (JavaScript)
- Statistical Analysis
- Literature Review
- Policy Analysis and Writing

## 2020–2022 MS ENVIRONMENTAL SCIENCE RESEARCH CASE STUDIES

Location: School of Environmental Science and Management, University of the Philippines Los Baños

- Research: *Mapping Post-Haiyan Mangrove Damage and Recovery in Leyte and Eastern Samar using Google Earth Engine*

Supervisor: Dr. Cristino L. Tiburan

Activities:

- Conducted post-disaster mangrove damage and recovery mapping in Eastern Visayas region after Super Typhoon Haiyan in 2013 using Landsat imagery and Google Earth Engine.
- Quantified the total mangrove cover loss and gain in hectares.
- Presented the research at the 29<sup>th</sup> Philippine Biodiversity Conference: Strategies for Inclusivity in PH Biodiversity Conservation

Proficiencies:

- Remote Sensing and Geospatial Mapping (Google Earth Engine, QGIS)
- Programming (JavaScript)

- Research: *Rapid Post-Disaster Land Cover Change Assessment through Remote Sensing Techniques*

Supervisor: Dr. Janice B. Sevilla-Nastor

Activities:

- Conducted land cover change assessment and mapping in Limasawa, Philippines after Super Typhoon Odette using Sentinel-2 images.
- Quantified the pre- and post-disaster change in land cover classes.

Proficiencies:

- Remote Sensing and Geospatial Mapping (Google Earth Engine, QGIS)
- Programming (JavaScript)

- Research: *A Systematic Review of Socio-Economic and Spatial Explanatory Variables among Meta-Analysis Value Transfer of Ecosystem Services*

Supervisor: Dr. Janice B. Sevilla-Nastor and Dr. Maria Victoria O. Espaldon

Activities:

- Conducted systematic review using the PRISMA protocol to identify the different socio-economic and spatial explanatory variables utilized in meta-analysis value transfer studies of ecosystem services.

Proficiencies:

- Systematic Literature Review using PRISMA

- Research: *Discovering Data in the Dump: Filling the Gaps of Solid Waste Management in the Philippines through Regression Modeling and Geospatial Techniques*

Supervisor: Dr. Marisa J. Sobremisana

Activities:

- Conducted literature review and data mining of Philippine solid waste management data.
- Employed linear regression modeling to project outdated solid waste management data, i.e., volume of waste generated
- Utilized geospatial mapping to visualize the volume of waste generated per region in the Philippines

Proficiencies:

- Literature Review and Data Mining
- Linear Regression Modeling
- Geospatial Analysis and Mapping (QGIS)

- Research: *Threats to the Philippines' Last Ecological Frontier: Correlation of Oil Palm and Rubber Cultivation on Tree Cover Loss in Palawan, Philippines*

Supervisor: Prof. Dante Gideon K. Vergara

Activities:

- Conducted data mining on tree cover loss data and volume of production of oil palm and rubber in Palawan, Philippines.
- Employed linear regression modeling to assess the correlation of tree cover loss and growth in oil palm and rubber production.

Proficiencies:

- Literature Review and Data Mining
  - Linear Regression Modeling
- Research: *Socio-Ecological Systems Framework Analysis of the Philippine Ecological Solid Waste Management Act of 2020 (RA 9003)*

Supervisor: Dr. Jessica D. Villanueva-Peyraube

Activities:

- Conducted literature review on the status, challenges, and opportunities of the Philippine Ecological Solid Waste Management Act of 2020 (RA 9003).
- Employed the tiered socio-ecological systems framework analysis by Ostrom to identify the issues with RA 9003.

Proficiencies:

- Socio-Ecological Systems Framework Analysis
  - Literature Review
- Research: *Social Acceptability on Seabed Mining in the Coastal Barangays of Ternate, Cavite*
- Supervisor: Dr. Mark Dondi M. Arboleda

Activities:

- Conducted key informant interviews of the coastal residents of Ternate, Cavite to assess their social acceptability to on-going seabed mining in their community.

Proficiencies:

- Survey Instruments Development
- Social Acceptability Analysis and Assessment

#### 2019–2020 **UNDERGRADUATE THESIS RESEARCH**

Location: Department of Agricultural and Biosystems Engineering, Visayas State University

Research: *NutriTester: Development of a Nutrient Quality Multi-Tester and Smartphone-Based Nutrient Management System for Hydroponic Vegetable Production*

Supervisor: Prof. Nilo L. Leorna

Core Activities:

- Designed an automated and smartphone-based nutrient management system for hydroponic vegetation production.
- Developed the program for the automated system, which includes a temperature and electric conductivity sensor, using C++ via Arduino.

Proficiencies:

- Automation and Electronics Instrumentation
- Programming (C++ via Arduino)

#### 2018–2019 **SHORT-TERM EXCHANGE PROGRAM IN SCIENCE AND ENGINEERING INDEPENDENT RESEARCH**

Location: Process Systems Engineering Laboratory, Tokyo University of Agriculture and Technology

Research: *Internet of Things-Based Automated Hydroponic Vegetable Production System*

Supervisor: Dr. Yoshiyuki Yamashita

Core Activities:

- Conducted literature review on the applications of automation and Internet-of-Things technology on hydroponics and food production systems.
- Explored the programming and utilization of automation sensors and electronics using C++ via Arduino.
- Familiarized with control system programming using Python.

Proficiencies:

- Literature Review
- Automation and Electronics Instrumentation
- Programming (C++ via Arduino, Python)

#### **RESEARCH PUBLISHED, UNDER REVIEW, AND FOR PREPARATION**

**Gil, A.G.C.**, Arboleda, M.D.M., Espaldon, M.V.O., Sanchez, P.A.J., and Tiburan, C.L.J. (Under review). Post-Disaster Recovery Assessment of Mangrove Forests in Leyte Island, Philippines using Sentinel-2 Imagery.

**Gil, A.G.C.** and Tiburan, C.L.J. (Under review). Mapping Post-Haiyan Mangrove Damage and Recovery in Leyte and Eastern Samar using Google Earth Engine.

**Gil, A.G.C.**, Bonoan, R.C., and Sevilla-Nastor, J.B. (In prep for publication). Rapid Post-Disaster Land Cover Change Assessment through Remote Sensing Techniques.

**Gil, A.G.C.** (In prep for publication). A Systematic Review of Socio-Economic and Spatial Explanatory Variables among Meta-Analysis Value Transfer of Ecosystem Services.

**Gil, A.G.C.** and Manipol, M. (In prep for publication). Discovering Data in the Dump: Filling the Gaps of Solid Waste Management in the Philippines through Regression Modelling and Geospatial Techniques

**Gil, A.G.C.**, Carandang, A.J., Razon, B., and Tenio, K.F. (In prep for publication). Threats to the Philippines' Last Ecological Frontier: Correlation of Oil Palm and Rubber Cultivation on Tree Cover Loss in Palawan, Philippines.

**Gil, A.G.C.** and Montecillo, E. (In prep for publication). Socio-Ecological Systems Framework Analysis of the Philippine Ecological Solid Waste Management Act of 2020 (RA 9003).

Cañaverl, E.V., **Gil, A.G.C.**, Bayhon, M.A., Atonen, E., Cap-atan, J.D., Khouangvichit, P., and Ravalo, D.A. (In prep for publication). Social Acceptability on Seabed Mining in the Coastal Barangays of Ternate, Cavite, Philippines.

Gil, N.C., **Gil, A.G.C.**, Paloma, L.J., and Hufalar, A.M. (In prep for publication). Socio-Economic Predictive Model of Agricultural Productivity.

Gil, N.C., Daclag, J.G., and **Gil, A.G.C.** (2015). Growth Pattern of Lactic Acid Bacteria in Probiotic Rice Washed Water. Journal of Science, Engineering and Technology Vol. 3 (2015).

## CONFERENCE AND INVITED PRESENTATIONS

Nov 21– **Gil, A.G.C.**, Arboleda, M.D.M., Espaldon, M.V.O., Sanchez, P.A.J., and Tiburan, C.L.J. Post-Disaster Recovery Assessment of Mangrove Forests in Leyte Island, Philippines using Sentinel-2 Imagery. 4<sup>th</sup> International Integrated Natural Resource and Environmental Management (INREM) Conference. **Best Poster Presentation Award (1<sup>st</sup> Place)**

Sept 27– **Gil, A.G.C.**, Arboleda, M.D.M., Espaldon, M.V.O., Sanchez, P.A.J., and Tiburan, C.L.J. Post-Disaster Recovery Assessment of Mangrove Forests in Leyte Island, Philippines using Sentinel-2 Imagery. 11<sup>th</sup> Accelerated Science and Technology Human Resource Development Program (ASTHRDP) Graduate Scholars' Conference.

Mar 30, 2022 **Gil, AGC.** Remote Sensing for Post-Disaster Monitoring and Management. College of Engineering and Technology Web-Colloquium: "Engineering and Technology for Disaster Risk Reduction".

Dec 3, 2021 **Gil, AGC.** Mapping Post-Haiyan Mangrove Damage and Recovery in Leyte and Eastern Samar using Google Earth Engine. 29<sup>th</sup> Philippine Biodiversity Conference: "Strategies for Inclusivity in PH Biodiversity Conservation".

Sept 11, 2021 **Gil, AGC.** Generating Innovative Ideas: Networking and Collaborations. Visayas State University (VSU) University Student Service Office Leadership Summit.

Nov 27, 2020 **Gil, AGC.** Threats to the Last Ecological Frontiers of the Philippine Eagle (*Pithechophaga jefferyi*): Utilizing Online Database and Graphic Designing Tools for Advocacy Communication. Pista ng Mapa 2020 Conference. **Best Map under the Student Category (1<sup>st</sup> Place)**

Sept 26, 2019 Gil, N.C., **Gil, A.G.C.**, Paloma, L.J., and Hufalar, A.M. Socio-Economic Predictive Model of Agricultural Productivity. 3<sup>rd</sup> National Conference on Poverty Alleviation and Sustainable Development. **Best Research Poster Award (1<sup>st</sup> Place)**

## PROFESSIONAL EXPERIENCE

Nov 2023– **PROJECT TECHNICAL ASSISTANT VI (Full-Time)**

Present **SARAI Integrated Crop Monitoring and Forecasting Policy Project**  
**University of the Philippines Los Baños – School of Environmental Science and Management**

### Responsibilities and Achievements:

- I am one of the project officers in the implementation of the "Institutionalizing Integrated Crop Monitoring and Forecasting (ICMF) towards a Smarter Philippine Agriculture" research project.
- I am tasked to conduct stakeholder mapping and analysis, partnership building and network strengthening, advocacy plan development, policy instrument drafting, executive and legislative lobbying, and other supporting and administrative functions.

Nov 2023– Present **ADVISORY GROUP MEMBER (*Part-Time*)**  
**Asia-Pacific Network of Early Career Professionals for Global Change Research (APN-ECAP)**  
Asia Pacific

**Responsibilities and Achievements:**

- As an Advisory Group member of APN-ECAP, I help in contributing strategic guidance, subject matter expertise, network facilitation, advocacy representation, project evaluation, information dissemination, and collaborative decision-making in all the organization's engagements across Asia Pacific.

Mar 2021– Jul 2021 **INSTRUCTOR (*Full-Time*)**  
**Visayas State University – Department of Agricultural and Biosystems Engineering**  
Baybay City, Philippines

**Responsibilities and Achievements:**

- I was tasked to handle lecture and laboratory classes on Differential Equations and Fluid Dynamics to over ten sections of around thirty students.
- I also performed supportive administrative functions and research works for the Department of Agricultural and Biosystems Engineering.

Jun 2020– Feb 2021 **WRITER (*Full-Time*)**  
**Visayas State University – University Integrated Media Center**  
Baybay City, Philippines

**Responsibilities and Achievements:**

- I oversaw writing and publishing news articles featuring major events, research work, and academic accomplishments of the Visayas State University.
- I also provided supportive technical roles in the production, operation, and management of the university's virtual and on-site programs.

**LEADERSHIP AND COMMUNITY DEVELOPMENT WORK**

Jun 2020– Present **CO-FOUNDER AND EXECUTIVE DIRECTOR (*Voluntary*)**  
**+Fun**  
Leyte, Philippines

**Responsibilities and Achievements:**

- I am in-charge of all organizational operations, project leader supervision, communication and external partnerships, financial management and resource allocation, and creative direction and social media management.
- I have won grant competitions from UNICEF, UNFPA, UNDP, and YSEALI to fund for the development of three educational board games on COVID-19, marine conservation, and climate change and disaster awareness.

Jun 2018– Present **CO-FOUNDER AND VP FOR RESEARCH AND CAMPAIGNS (*Voluntary*)**  
**Youth Leaders for Environmental Action Federation**  
Eastern Visayas, Philippines

**Responsibilities and Achievements:**

- I oversaw all online advocacy campaigns, communications and partnerships, resource allocation and grant writing, and creative production and social media management.
- We forged partnerships with Greenpeace, Oxfam, the Philippine Department of Environment and Natural Resources, and other grassroots organizations to conduct diverse environmental projects that engaged tens of thousands of youths and communities.

Jun 2014– Jun 2020 **PRESIDENT (2016-17) & VP FOR EXTERNAL AFFAIRS (2019-20) (*Voluntary*)**  
**Terrestrial and Aquatic Restorations by Students Immersed in Environmental Reforms**  
Baybay City, Philippines

**Responsibilities and Achievements:**

- I oversaw all executive decision-making, organizational management, project strategizing, resource allocation, communications and external partnerships, project proposal writing, creatives production and social media management.

- We spearheaded collaborative environmental education and action campaigns, restorative initiatives, and youth empowerment activities that engaged thousands of students in my university and local community.
- Through our work, we were garnered the Best Interest Organization Award for multiple years, and I was honored the VSU Leadership Award and the Most Outstanding ABE Student Leadership Award.

## HONORS AND AWARDS

- Mar 2023 **PHI KAPPA PHI HONOR SOCIETY INDUCTEE**  
Awarded for being one of the top 10% graduates.
- Mar 2023 **PI GAMMA MU INTERNATIONAL SOCIETY IN SOCIAL SCIENCES INDUCTEE**  
Awarded for being one of the top 10% graduates.
- Nov 23, 2022 **1<sup>ST</sup> PLACE, BEST POSTER PRESENTATION**  
4<sup>th</sup> International Conference on Integrated Natural Resource and Environment Management
- Sep 30, 2020 **CUM LAUDE HONOR**  
67<sup>th</sup> Visayas State University Commencement Exercises
- Sep 30, 2020 **DEPT. OF AGRICULTURAL AND BIOSYSTEMS ENGINEERING ACADEMIC EXCELLENCE AWARD**  
67<sup>th</sup> Visayas State University Commencement Exercises
- Apr 28, 2021 **2020 MOST OUTSTANDING AGRICULTURAL AND BIOSYSTEMS ENGINEERING STUDENT OR YOUNG MARAMBA AWARD**  
Philippine Society of Agricultural & Biosystems Engineers National Convention
- Dec 18, 2020 **NATIONAL FINALIST, 18TH SEARCH FOR TEN ACCOMPLISHED YOUTH ORGANIZATIONS AWARDS**  
18<sup>th</sup> Search for the Ten Accomplished Youth Organizations (TAYO)
- Sep 30, 2020 **VISAYAS STATE UNIVERSITY LEADERSHIP AWARD**  
67<sup>th</sup> Visayas State University Commencement Exercises
- Apr 30, 2020 **2019 MOST OUTSTANDING AGRICULTURAL AND BIOSYSTEMS ENGINEERING STUDENT LEADER AWARD**  
Philippine Society of Agricultural & Biosystems Engineers National Convention
- Jul 27, 2019 **MOST DYNAMIC START-UP, YOUNG SUSTAINABLE IMPACT SEA INNOVATION PROGRAMME**  
2019 Young Sustainable Impact Southeast Asia Innovation Programme
- May 9, 2018 **CONSISTENT UNIVERSITY HONOR**  
Visayas State University Honors and Awards Convocation 2018

## GRANT AND FUNDING FOR RESEARCH AND COMMUNITY DEVELOPMENT INITIATIVES

2023	Young Southeast Asian Leaders Initiative (YSEALI) Marine Warriors Workshop Grant	\$1,500.00
2022	Department of Science and Technology Accelerated Science and Technology Human Resource Development Program (DOST ASTHRDP) Research Grant	\$1,036.00
2022	Young Southeast Asian Leaders Initiative (YSEALI) Academic Fellowship on Environmental Issues Small Grants Award	\$2,000.00
2021	Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) Agri-Boost Camp Grant	\$580.00
2021	2021 Sea and Earth Advocates Camp Summit Grant	\$480.00
2021	UNDP Youth Social Innovation Laboratory	\$955.00
2020	UN Population Fund Philippines Kabayani Challenge Fund	\$955.00
2020	Ideas Positive Run 10	\$1,910.00
2018	Young Southeast Asian Leaders Initiative Mekong Delta Small Grant	\$1,500.00

## CONFERENCES AND TRAINING

- Nov 21–23, 2023 **4<sup>TH</sup> INTERNATIONAL CONFERENCE ON INTERGATED NATURAL RESOURCE AND ENVIRONMENT MANAGEMENT**  
Manila, Philippines
- May 24– June 14, 2023 **2022 SPRING YSEALI ACADEMIC FELLOWSHIP ON ENVIRONMENTAL ISSUES**  
Maureen and Mike Mansfield Center, University of Montana, United States
- May 11–14, 2023 **YSEALI GAME CHANGERS AND GAME JAM REGIONAL WORKSHOP**  
Kuala Lumpur, Malaysia
- Dec 1–7, 2022 **2022 YSEALI REGIONAL WORKSHOP: MARINE WARRIORS**  
Nha Trang, Vietnam
- Nov 20–22, 2019 **NATIONAL YOUTH CONFERENCE ON CLIMATE CHANGE ADAPTION AND MITIGATION, DISASTER RISK REDUCTION AND RESILIENCE**  
VSU Convention Center, VSU, Baybay City, Philippines
- Sep 25–27, 2019 **3RD NATIONAL CONFERENCE ON POVERTY ALLEVIATION AND SUSTAINABLE DEVELOPMENT**  
Saint Paul’s School of Professional Studies, Palo, Philippines
- Sep 9–12, 2019 **ASEAN PLUS THREE YOUTH ENVIRONMENTAL FORUM**  
Phuket, Thailand
- Mar– July, 2019 **YOUNG SUSTAINABLE IMPACT SOUTHEAST ASIA INNOVATION PROGRAMME**  
National University of Singapore, Singapore
- Jun 22–23, 2019 **GLOBAL LANDSCAPES FORUM 2019 & YOUTH IN LANDSCAPES WORKSHOP**  
Bonn, Germany
- Jan 31– Feb 2, 2019 **ADVANCED LECTURE ON INTERNATIONAL ENVIRONMENTAL AND AGRICULTURAL SCIENCE**  
Tokyo, Japan
- Dec 13–14, 2018 **INTENSIVE COURSE ON COMMUNITY-BASED FOREST MANAGEMENT**  
Tokyo, Japan
- Jun 4–9, 2018 **2018 YSEALI REGIONALWORKSHOP: PROTECTING THE MEKONG DELTA ENVIRONMENT**  
Can Tho, Vietnam

## SCHOLARSHIPS

- |         |                   |   |
|---------|-------------------|---|
| 2024–26 | Master’s Degree   | Three Cairns Climate Program for the Global South   |
| 2020–23 | Master’s Degree   | Department of Science and Technology Accelerated Science and Technology Human Resource Development Program (DOST ASTHRDP) |
| 2018–19 | Exchange Program  | Sato-Yo International Scholarship Foundation Award  |
| 2015–20 | Bachelor’s Degree | COCOFED Alumni Scholarship  |
| 2014–15 | Bachelor’s Degree | Visayas State University Honors Scholarship   |