You-Hyun Baek

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Education

2016.03. ~	**Ph.D. Candidate**	Graduate School of Interdisciplinary Program in Marine Meteorology, Jeju National University, Republic of Korea
2013.08. ~ 2016.02.	**M.Sc.**	Graduate School of Interdisciplinary Program in Marine Meteorology, Jeju National University, Republic of Korea
2007.03. ~ 2013.08.	**B.Sc.**	Department of Atmospheric & Environmental Sciences, Gangneung-Wonju National University, Republic of Korea

Work Experience

2022.03. ~	**Research Scientist**	AI Meteorological Research Division, National Institute of Meteorological Sciences, Republic of Korea
2019.01. ~ 2022.02.	**Researcher**	Typhoon Research Center, Jeju National University, Republic of Korea

Publications

1. **Baek, Y.-H.**, Moon, I.-J., Im, J., and Lee, J. (2022). A Novel Tropical Cyclone Size Estimation Model Based on a Convolutional Neural Network Using Geostationary Satellite Imagery. *Remote Sensing*, *14*(2), 426.
2. **Baek, Y.-H.**, and Moon, I.-J. (2019). The accuracy of satellite-composite GHRSST and model-reanalysis sea surface temperature data at the seas adjacent to the Korean Peninsula. *Ocean and Polar Research*, *41*(4), 213-232.
3. **Baek, Y.-H.**, and Moon, I.-J. (2019). Estimation of satellite-based upper-ocean temperature profile in the western North Pacific and its application to tropical cyclone intensity predictions. *Journal of Coastal Research*, *90*(SI), 261-266.

Presentations

1. **Baek, Y.-H.**, Moon, I.-J., Im, J., and Lee, J. (2021). Development of an integrated model for estimating Tropical Cyclone Intensity and Size based on Deep Learning using Geostationary Satellite Imagery, *The Koran Society of Oceanography Conference (4-5 Nov. 2021).*
2. **Baek, Y.-H.**, Moon, I.-J., Im, J., and Lee, J. (2021). Tropical Cyclone size estimation model based on Artificial Intelligence using Geostationary Satellite Imagery, *The Koran Association of Ocean Science and Technology Societies (KAOSTS) Joint Conference (13-14 May 2021).*
3. **Baek, Y.-H.**, Moon, I.-J., Kim, D.-H., Ham, Y.-G., and Kim, J.-H. (2020). Application of various Artificial Intelligence techniques for El Nino Prediction, *The Koran Association of Ocean Science and Technology Societies (KAOSTS) Joint Conference (22-23 Jul. 2020).*

4. **Baek, Y.-H.,** and Moon, I.-J. (2020). Accuracy of satellite composite and model reanalysis daily SST at the seas adjacent to the Korean peninsular, *The 16th Japan-Korea Joint Seminar on Ocean Sciences (20-21 Jan. 2020)*.
5. **Baek, Y.-H.**, and Moon, I.-J. (2019). Accuracy of Satellite Composite and Model Reanalysis Daily SST at the Seas Adjacent to the Korean Peninsular, *The Koran Society of Oceanography Conference (31 Oct. – 1 Nov. 2019)*.
6. **Baek, Y.-H.**, Moon, I.-J., and Kim, D.-H. (2019). Accuracy of Satellite Composite and Model Reanalysis Daily SST at the Seas Adjacent to the Korean Peninsular, *The 2nd Korea Geoscience Union (KGU) Annual Meeting (3-5 Jul. 2019)*.
7. **Baek, Y.-H.,** and Moon, I.-J. (2019). Estimation of the satellite-based upper-ocean temperature profile in the western North Pacific for the application to tropical cyclone intensity predictions, *International Workshop on Tropical Cyclone-Ocean Interaction in the Northwest Pacific (TCOI) (19-21 Jun. 2019)*.
8. **Baek, Y.-H.,** and Moon, I.-J. (2019). An increase of super-typhoon and northward extension of their passages in western-North Pacific, *The 20th Pacific-Asian Marginal Seas (PAMS) Meeting (18-22 Mar. 2019)*.
9. **Baek, Y.-H.**, Moon, I.-J., Chung, C.-Y., and Mo H.-S. (2018). Method for estimating ocean temperature profile based on satellite products, *14th Pan Ocean Remote Sensing Conference (PORSEC) (4-7 Nov. 2018)*.
10. Ko, E.-B., Moon, I.-J., and **Baek, Y.-H.** (2018). Factors determining the intensity of Tropical Cyclone landfall on the Korean Peninsula: via typhoon-ocean couple numerical model, *The Koran Society of Oceanography Conference (25-26 Oct. 2018)*.
11. **Baek, Y.-H.**, and Moon, I.-J. (2018). An Increase of Super-Typhoon and Northward Extension of Their Passages in the Western-North Pacific, *15th Annual Meeting Asia Oceania Geosciences Society (AOGS) (3-8 Jun. 2018)*.
12. **Baek, Y.-H.**, Moon, I.-J., Chung, C.-Y., and Mo H.-S. (2018). Development of upper-ocean temperature profile calculation algorithm using sea surface height anomaly (SSHA) data, *The Koran Association of Ocean Science and Technology Societies (KAOSTS) Joint Conference (24-25 May 2018)*.
13. **Baek, Y.-H.**, Moon, I.-J., Chung, C.-Y., Baek, S.-K., and Mo H.-S. (2017). Development of a satellite-based upper ocean temperature profile calculation algorithm in the northwestern Pacific, *Autumn Meeting of Koran Meteorological Society (KMS) (25-27 Oct. 2017)*.
14. **Baek, Y.-H.**, and Moon, I.-J. (2017). Accuracy of Satellite Composite and Model Reanalysis Daily SST at the Seas Adjacent to the Korean Peninsular, *14th Annual Meeting Asia Oceania Geosciences Society (AOGS) (6-11 Aug. 2017)*.
15. **Baek, Y.-H.**, and Moon, I.-J. (2017). Accuracy of Satellite Composite and Model Reanalysis Daily SST at the Seas Adjacent to the Korean Peninsular, *The 19th Pacific-Asian Marginal Seas (PAMS) Meeting (12-13 Apr. 2017)*.
16. **Baek, Y.-H.**, Moon, I.-J., Chung, C.-Y., Baek, S.-K., and Mo H.-S. (2016). Evaluation of COMS-derived SST via GTS drifting Buoy SSTs, *Autumn Meeting of Koran Meteorological Society (KMS) (31 Oct. - 2 Nov. 2016)*.
17. **Baek, Y.-H.**, Moon, I.-J., and Kim, D.-H. (2015). Diurnal variations of sea surface temperature around the Korean peninsular, *Asian conference on Meteorology (ACM) (26-27 Oct. 2015)*.
18. **Baek, Y.-H.**, and Moon, I.-J. (2015). Characteristics of Diurnal variation in Sea Surface Temperature around the Korean Peninsular, *Autumn Meeting of Koran Meteorological Society (KMS) (12-14 Oct. 2015)*.
19. **Baek, Y.-H.**, and Moon, I.-J. (2015). Characteristics of Diurnal variation in Sea Surface Temperature (SST) around the Korean Peninsular, *The Koran Association of Ocean Science and Technology Societies (KAOSTS) Joint Conference (21-23 May 2015)*.
20. Lee, S.-Y., Moon, I.-J., and **Baek, Y.-H.** (2015). Verification of Satellite-derived SST (Level-2) data in the northwestern Pacific, *The Koran Association of Ocean Science and Technology Societies (KAOSTS) Joint Conference (21-23 May 2015)*.
21. **Baek, Y.-H.**, and Moon, I.-J. (2014). Validations of daily SST grid data around the Korean peninsula, *2014 The Koran Association of Ocean Science and Technology Societies (KAOSTS) Joint Conference (22-23 May 2014)*.
22. **Baek, Y.-H.**, and Moon, I.-J. (2014). Verification of satellite- and numerical model- derived SST around the Korean Peninsula, *Spring Meeting of Koran Meteorological Society (KMS) (8-9 May 2014)*.

Machine Learning Competition

1. Kim, K.-I., **Baek, Y.-H.**, Kim, D.-H., Moon, I.-J., and Kang, Y.-H. (2021), Numerical Analysis – Development of Power Quality classification model to respond to Power facility failures, Ranked 10 out of 63 teams (**top 15.8%**), *AI Online Contest-National IT Industry Promotion Agency (NIPA) (21 Jun. – 2 Jul. 2021).*

Awards

1. **Best Student Poster Award**, Best Student Poster Award in Physical Oceanography, *The Koran Society of Oceanography*, 25 Oct. 2018.
2. **Encouragement Award**, The 3rd Meteorological Satellite Application Research Contest, *National Meteorological Satellite Center (NMSC)*, 15 Nov. 2017.

Projects

1. 관할해역 첨단 해양과학기지 구축 및 융합연구, 2021, 해양수산부
2. 해양기상 특성 분석 및 예측 기술 개선 연구, 2021, 기상청 국립기상과학원
3. 전 세계 해양별 태풍 연비 차이 발생원인 규명, 2021, 과학기술정보통신부
4. 해양수치모델링과 지능정보기술을 활용한 해양예측 정확도 향상 연구, 2021, 해양수산부
5. 관측자료를 활용한 해양예측기술 개선연구(III), 2020, 기상청 국립기상과학원
6. 대기-해양 결합예측을 통한 특이 해양기상 예보 정확도 향상 연구, 2020, 기상청
7. 태풍 활동(발생, 강도, 파괴력)을 결정하는 환경요인에 대한 새로운 패러다임 정립, 2019, 과학기술정보통신부
8. 태풍/해양분야 활용기술 개발(IV), 2019, 한국전자통신연구원
9. 대기-해양 결합예측을 통한 특이 해양기상 예보 정확도 향상 연구, 2019, 기상청
10. 태풍 활동(발생, 강도, 파괴력)을 결정하는 환경요인에 대한 새로운 패러다임 정립, 2018, 과학기술정보통신부
11. 해양 위험기상 관측자료 실시간 검증 시스템구축과 수치예측기술의 고도화, 2018, 해양수산부
12. 태풍/해양분야 활용기술 개발(III), 2018, 한국전자통신연구원
13. 태풍/해양분야 활용기술 개발(II), 2017, 과학기술정보통신부
14. 해양과학기지를 활용한 해양 위험기상 극값 모니터링 및 예측 기술 개발: III. 한반도 연안 상세 위험기상 극값 자료생성 및 활용 기술개발, 2017, 해양수산부
15. 태풍-해양 접합모델을 이용한 이기종 고성능컴퓨팅시스템 기반 태풍 예측 플랫폼 고도화 및 안정화, 2017, 과학기술정보통신부
16. 해역별 태풍 발생 잠재지수 정확도 차이 분석, 2017, 제주대학교발전기금
17. 태풍 해양분야 활용기술 개발(I), 2016, 과학기술정보통신부
18. 이기종 고성능컴퓨팅시스템 기반 태풍-해양 상호작용을 고려한 태풍 예측 플랫폼 개발, 2016, 과학기술정보통신부
19. 해양과학기지를 활용한 해양 위험기상 극값 모니터링 및 예측 기술 개발: II. 과거 해양 위험기상 시기의 극값 특성 분석 및 수치 모의, 2016, 해양수산부
20. 태풍/해양 분야 활용기술 상세설계, 2015, 과학기술정보통신부
21. 해양 위험기상 극값 모니터링 시스템 및 예측모델 구성, 2014, 해양수산부
22. 종합해양과학기지를 활용한 양자강 저염수 모니터링 및 예측, 2014, 해양수산부
23. 2014 년도 제주 씨그랜트사업, 2014, 해양수산부
24. 해양과학기지를 이용한 해양 위험기상(태풍, 강풍, 풍파) 극값 변화 모니터링 및 예측시스템 개발I, 2014, 해양수산부
25. 이어도 기지를 활용한 태풍/해상풍 모델 개선 및 태풍-해양 상호작용 연구, 2013, 국토해양부