

Name: Diana Swanson

Affiliation: Space Science Center, University of New Hampshire, NH, USA

Thanks to support from PBASE I analyzed data and drafted a manuscript related to my Ph.D thesis during my visit to Kyushu University in Fukuoka, Japan from January 9th to March 12th, 2024 hosted and advised by Professor Huixin Liu. This work included studying the thermosphere and ionosphere coupled response to the May 2024 geomagnetic superstorm.

Neutral and ion density observed by a CubeSat was evaluated in the context of the storm by identifying and comparing storm time observations to quiet times as well as comparing observations to empirical and physics-based models. Analysis avenues were explored such as considering incoherent scatter radar concurrent measurements, evaluating the value added by the modeled composition and heating, and filtering the data to look for LSTAD/LSTIDs. A manuscript draft was written and progressed with collaborative feedback provided by Prof. Liu.

I arrived shortly after the new year, so the first weekly group seminar I attended included many international and Japanese students giving updates on their progress last year and goals for the coming year. It was nice to learn about the many similarities to my work and student life. I also had the opportunity to share my thesis work with the group by giving a seminar and hearing feedback and answering questions.



Figure 1 Research group run and lunch. Prof. Liu is second from the left and I am third from the left.

I stayed in the Ito Guesthouse, a short walk from the center of campus and the office. The campus is nestled in the mountains near the beach. I went on many runs to the beach, including a run with the research group, Figure 1. Expanding my world view through the many social experiences with people from across the world was a highlight for me.

I enjoyed exploring the nearby areas which are very accessible by subway and train. I tried some of the local Fukuoka food specialties like mentaiko and tonkatsu ramen, as well as the many Japanese favorites like yakitori, sashimi, karage, miso soup, udon, onigiri, and more.

I am very grateful for the opportunity to visit Kyushu University and for the mentorship of Prof. Liu. I was able to make good progress on my thesis work and expand my understanding of the thermosphere/ionosphere storm time response through analyzing CubeSat data and writing a manuscript.