Severe Weather In-Field Training (SWIFT) 2019

Information and application

Prepared by: Professor Brad Barrett and LCDR Matt Burich

1. Thank you for interest in SWIFT 2019. This document will provide you with guidance on what SWIFT is and what our expectations are of SWIFT participants. It will hopefully confirm whether or not you want to apply for SWIFT.

   Pictures, personal narratives, and experiences from prior SWIFTs are archived at http://usnaswift.blogspot.com/ and https://www.facebook.com/USNASWIFT/.

2. **Objectives**.
   a. The primary objective of SWIFT 2019 is for midshipmen to learn – both academically and by experiencing – the scientific theory and operational prediction of severe convective storms. Participants will *go*, *see*, *ask*, *observe*, *listen*, *watch*, and *record*. Midshipmen forecasters will be responsible for analyzing numerical weather model output, surface charts, satellite and radar images, and operational National Weather Service products. They will keep detailed journals and write a summary essay at the end of the training. SWIFT 2019 will include visits to Air Force Weather Agency (AFWA) and National Oceanic and Atmospheric Administration (NOAA) offices, research and operational centers.
   b. A second objective, concurrent with learning the science, is for Midshipmen to develop professionally. SWIFT has a significant professional development component: Midshipmen will assume leadership roles, make logistics decisions, and deliver (and update throughout the day) multiple briefs on each day's current and expected weather.
   c. LCDR Burich and Prof. Barrett have very high expectations for professionalism, respect, and active participation for each member of the SWIFT team. The demands on your personal time, and sacrifice of personal space, will be significant; but, we also believe the rewards are worth it.

3. **Details**.
   a. SWIFT 2019 will take place during **zero block**. Departure from Annapolis in the duty van is tentative for 0600 FRI 10 MAY, with return on FRI 24 MAY (graduation is 24 MAY).
   b. Potential applicants *should* currently be enrolled in SO286O: Severe Convective Storms and Tornadoes; however, applications from other exceptionally capable and motivated Midshipmen who may have been unable to take SO286O this semester will still be considered. If accepted, such applicants will need to devote significant time and study to the fundamentals of severe weather science, as directed by Prof. Barrett and LCDR Burich, in order to be prepared for the rigors and knowledge expectations of the field training.
   c. Participants in SWIFT 2019 must stay with the group the entire period.
   d. SWIFT involves significant time in a 10-passenger duty van. Last year we drove nearly 8,000 miles in 14 days.
   e. An average chase day begins at 7:30 a.m. and does not end until after 10:00 p.m. Food is often grab-and-go, and we likely stay in a different city/hotel each night (and the Midshipmen logistics team plans those details). Furthermore, even on our most successful storm chasing days, we will be outside the van observing storms an average of only 45 minutes, often coming in short 5-10 minute bursts as we get ahead of the storm, get out of the van, observe/film/document it, and then get back in to drive another 30 mins to get back ahead of the storm. The rest of the time is spent either driving to the target area or keeping up with the storm. Note that even while driving, however, when we are in "chase mode" all members of the team will be heavily active in radar analysis, model analysis, observation, and real-time decision making.
   f. We anticipate full-funding from the USNA Science, Technology, Engineering, and Mathematics (STEM) office and/or Naval Meteorology and Oceanography Command CNMOC. As such, each SWIFT participant will be expected to help with the STEM program's outreach during the

summer and academic year. There are several ways to do that, including Friday "mini-STEM" visits from high school students as well as summer opportunities. *Prof. Barrett is also looking for 1-2 research students to study tornado-climate relationships*. If you are chosen to participate in SWIFT, you agree to volunteer for several STEM activities during the coming year.

4. **Application**.
   a. To apply for SWIFT 2019, compose a 1-2 page essay where you answer the following questions:
      - Why do you want to participate in SWIFT?
      - What will you contribute to the training activity and to group dynamic?
      - What weather information sites do you regularly use; what sites are you new to; and how do you spend your free time engaged with weather and meteorology?
      - What do you expect to learn from SWIFT, and how will that learning benefit you out in the Fleet?
      - What special skills do you have that might contribute to SWIFT 2019? (i.e., photography/videography, communications, personality, engineering talents, weather map analysis, road trip games, etc.)
      - How do you anticipate "paying forward" your experience to the STEM office and to your fellow Midshipmen in either the Oceanography Department or other academic major?
   b. After your essay, fill out the following table. Attach it to the end of your application.

SWIFT supplementary data

Academic information	
Current cumulative QPR:	
Overall order of merit:	
Academic order of merit:	
Military order of merit:	

Other Information
Athletic/ECA participation (include any leadership roles held):
Bancroft Hall leadership roles held:

   c. By submitting your application, you acknowledge that you have read over these guidelines and are aware of the expectations we have for you, including our standards of professionalism and your participation in several STEM activities in the coming year.
   d. Your application essay is due to Prof. Barrett (bbarrett@usna.edu), with a cc copy to LCDR Burich (burich@usna.edu), by FRI 18 JAN at 2300. In-person interviews will be (tentatively) conducted on WED/THU 23/24 JAN from 1830-2030. We will let you know.

5. **Questions**.
   a. If you have questions, contact either Prof. Barrett or LCDR Burich. Thank you for your interest in SWIFT, and we look forward to reading your essay!