



**HAMPTON UNIVERSITY  
HAMPTON, VA 23668**

**TITLE OF POSITION: Postdoctoral Research Associate**

**Job description:** The Center for Atmospheric Sciences at Hampton University (HU) seeks candidates for a postdoctoral research associate position studying the fluid dynamics of extreme weather with Professor Stephen Guimond and members of the Geophysical Fluid Dynamics Group (GFDG). The GFDG studies the dynamics of extreme weather using all available tools: theory, numerical simulations, and observations. Special attention is paid to using numerical models to study the underlying mechanics using state-of-the-art computational fluid dynamics techniques. In addition, remote sensing measurements from ground-based, airborne and satellite platforms are used to characterize the relevant physical processes and perform dynamical budget studies.

The candidate will work as part of the HU Severe Weather Research Center, which houses several remote sensing instruments including a new, dual-polarized, Doppler phased array radar at X-band, a scanning Doppler lidar and a direct broadcast antenna for receiving real-time satellite data. In addition to the basic research described above, the candidate will also contribute to applied research by using the data from these measurements to improve forecasts of extreme weather for various applications.

The position is listed for two years at a competitive salary with a full benefits package subject to a formal review each year. Extensions for additional years are possible for motivated candidates.

**Job Duties:** Conduct idealized and realistic numerical simulations of extreme weather using community and research numerical models at a range of scales, including resolved turbulence. Analyze remote sensing data from radars and satellites to characterize turbulence/convection and include this data in initial conditions for forecasts. Publish new research findings in high-quality journals and present at national conferences.

**Qualifications:** Ph.D. in Atmospheric Science, Meteorology, Applied Mathematics, Mechanical Engineering, Physics, or a related field. A record of high-quality, peer-reviewed publications is essential.

**Requirements:** The candidate must be fully proficient in at least one low-level programming language (preferably Fortran), one high-level programming language (e.g., Python or Matlab) and Unix. The candidate must have excellent oral and written communication skills and be able to interface between applied mathematics, computer science and atmospheric physics.

**To Apply:**

Please submit a cover letter, curriculum vitae, and a completed Application for Faculty Employment (<https://www.hamptonu.edu/docs/faculty/employment.pdf>) to: Dr. Stephen Guimond at [stephen.guimond@hamptonu.edu](mailto:stephen.guimond@hamptonu.edu). Interested candidates are highly encouraged to reach out to Dr. Guimond before submitting a full application. Positions can start as soon as possible. A formal review of applications will begin on January 31, 2024.