I.M. Systems Group, Inc. (IMSG), www.imsg.com, a Government Contractor, is seeking to fill a position for a Support Scientist to work at NOAA's National Centers for Environmental Prediction's (NCEP) Environmental Modeling Center (EMC), located in College Park, MD. The successful candidate will support NCEP's EMC with the wave modeling development work involved in establishing the next generation of the Great Lakes Operational Forecast System (GLOFS). This work will be carried out in collaboration with NOAA's Great Lakes Environmental Research Laboratory (GLERL), National Ocean Service (NOS) and Detroit Weather Forecast Office (WFO-DTX). Activities will include the implementation of the unstructured version of WAVEWATCH III (WW3) over the Great Lakes, coupling WW3 to the 3-D circulation model FVCOM and performing extensive hindcast validation.

Duties:

The candidate will perform the functions of the job in a high-quality, independent and collaborative way, assisting in managing projects, and developing and applying innovative methods for the primary work areas below.

The candidate will work with scientists at EMC, GLERL, NOS and WFO-DTX to develop the wave modeling component of the next generation GLOFS coupled wave-surge-water quality forecast guidance system for the Great Lakes. The candidate will work on several tasks including the development of suitable unstructured meshes for the Great Lakes basins, the implementation and validation of the wave model WW3 for these meshes, coupling WW3 to FVCOM using the NOAA Environmental Modeling System (NEMS) framework, and transitioning the resulting system to NCEP operations. The specific activities will include:

- The development and optimization of unstructured meshes for each of the Great Lakes, with the focus on storm surge-prone coastal regions (e.g. Saginaw Bay, Green Bay and Grand Traverse Bay).
- Implementation of the unstructured version of WW3 on each of the developed Great Lakes meshes, with extensive hindcast validation using WRF atmospheric input, FVCOM water level input, and various settings for numerics and model physics.
- Develop a two-way coupling between WW3 and FVCOM using the NEMS infrastructure and WRF model atmospheric input.
- Further validation of the performance of the coupled system, focusing on impacts on water quality and coastal flooding.
- Implementation of the developed modeling system to NCEP's production machine WCOSS.

Required Skills:

Education and Experience:
- A Ph.D. in Physical Oceanography, Coastal and/or Ocean Engineering, or a related physical or applied

mathematical science, with at least 5 years of experience in the area of wave, surge ad water quality modeling.

Knowledge, Skills and Abilities:

- Experience with the wave model WAVEWATCH III and with 3-D circulation models such as FVCOM,

- Experience with code development in FORTRAN, scripting in Linux/Unix shell environments and Matlab or Python,

- Experience with running complex jobs, and processing large amounts of observed and modelled output data,

Desired

- Experience in using mainframe supercomputers and/or workstations in a FORTRAN/UNIX environment, using statistical and display tools,

- Proven ability to work well in a team environment,

- Relevant peer-reviewed publications.

- Good written and oral communication skills.

To Apply:

Please submit your resume, the contact information for three (3) references, your salary requirements and a cover letter explaining how your qualifications meet the requirements of the position to jobs@imsg.com with the following subject line: **NOA1424 Support Scientist – Great Lakes Wave Modeler.**

IMSG offers an outstanding overall compensation package including health/dental insurance, short term/long term disability insurance, paid-time-off, and a 401(k) plan.

IMSG is an Equal Opportunity Employer and Veteran friendly.