Overview:
The Cooperative Institute for Research in the Atmosphere (CIRA) at Colorado State University seeks to fill a professional scientific position designed to conduct collaborative research with the National Oceanic and Atmospheric Administration (NOAA) located at the Earth System Research Lab (ESRL), Global Systems Division (GSD) in Boulder, CO. The position will be for an experienced scientific research analyst with meteorological and quantitative skills to support the evaluation of weather forecasts on the Forecast Impact and Quality Assessment Section (FIQAS). Office will be in Boulder, CO. This position is located in a federal facility and requires the ability to pass a Tier One Background Check (federal background check) for building access.

Background: The Cooperative Institute for Research in the Atmosphere (CIRA) at Colorado State University (CSU) is a multi-million dollar research organization located on CSU’s Foothills Campus in Fort Collins, Colorado. CIRA is a cooperative institute that is also a research department within CSU's College of Engineering, in partnership with the Department of Atmospheric Science. Its vision is to conduct interdisciplinary research in the atmospheric sciences by entraining skills beyond the meteorological disciplines, exploiting advances in engineering and computer science, facilitating transitional activity between pure and applied research, leveraging both national and international resources and partnerships, and assisting NOAA, Colorado State University, the State of Colorado, and the Nation through the application of our research to areas of societal benefit.

NOAA's Global Systems Division (GSD) of the Earth System Research Laboratory (ESRL) is a federal science and research laboratory under NOAA’s Office of Oceanic and Atmospheric Research. GSD provides the National Weather Service (NWS) and the nation with environmental observing, prediction, computer, visualization, and information systems. These systems deliver data, forecasts, and predictions of weather, including severe weather events, within the next few minutes to weeks away. The Global Systems Division (GSD) of the Earth System Research Laboratory (ESRL) is a leader in the applied research, directed development, and technology transfer of environmental data, models, products, and services that enhance environmental understanding with the outcome of supporting commerce, protecting life and property, and promoting a scientifically literate public.

The Forecast Impact and Quality Assessment Section (FIQAS) within the Evaluation and Decision Support Branch of ESRL’s Global Systems Division is seeking an experienced scientific research analyst with meteorological and quantitative skills to support the evaluation of weather forecasts, develop impact-based verification metrics and assessment approaches, interface with current and potential sponsors, and work with aviation operational specialists to develop foundational concepts for building new aviation decision support tools.

The individual in this position will collaborate with stakeholders and other team members to assess the quality of weather products used in operational decision-making. The individual will be responsible for assessment development and implementation, data analysis, and communicating findings in technical talks and reports. They individual will also work with software engineers to incorporate techniques in verification and decision support tools. The individual will report to the FIQAS Section Deputy Chief.
Decision Statement:
Decision making depends on the scale of each assignment and issues involved; the chosen course of action may need to be selected from many solutions, dependent upon the end user and technological requirements, and may require coordination with other members of the project team to reach a final decision. The individual in this position makes many decisions concerning such things as interpretation of data, planning work, and/or refining methods and techniques.

Evaluation of Weather Products 65%
- Research, develop, and implement scientific concepts to support comprehensive forecast assessments using operationally-relevant verification techniques. Techniques involve using both weather and operations information, and combining and comparing data products of differing characteristics and formats.
- Work collaboratively within an evaluation team throughout a product assessment.
- Perform comprehensive analysis of assessment results to determine main conclusions about a product.
- Summarize findings and conclusions in formal written reports and oral presentations to product developers and stakeholders.
- Communicate with users, including weather forecasters and aviation decision makers, to learn how weather information is used to make aviation decisions.
- Present research status and findings to sponsors and peer organizations, and participate in workshops and conferences.
- Serve as an active participant during team meetings to evolve verification techniques and critique team members’ internal findings.
- Prepare software documentation in collaboration with team members.

Research and Development 30%
- Research new observation sets for use in the evaluation of weather products and decision support tools.
- Explore and develop verification techniques to use in product evaluations and decision support tools.
- Present scientific accomplishments to sponsors and peer organizations, and participate in workshops and conferences.

Documentation and Reporting 5%
- Prepare software documentation in collaboration with team members.
- Prepare status reports as required by the project sponsor and CIRA.
- Prepare and deliver technical talks and presentations as requested.

Required Qualifications:
- This position is located in a federal facility and requires the ability to pass a Tier One Background check (federal background check) for building access.
- Candidates must be legally authorized to work in the United States by the proposed start date. CIRA will not sponsor a visa for this position.
- Advanced degree (minimum M.S.) in Meteorology, Mathematics, Physical Science, or related field; plus two (2) years relevant work experience.
- Demonstrated skill in data analysis and interpretation of statistical information.
- Demonstrated skill in producing reports of scientific findings, both in written and presentation form.
Demonstrated experience performing analysis with languages or packages such as Python, R, or Matlab.

Proficiency in the Unix/Linux environment.

**Preferred Qualifications:**

- Demonstrated skill in development and implementation of operationally-relevant verification techniques for weather products.
- Demonstrated understanding of meteorological phenomena relevant to aviation operations.
- Proficiency with meteorological data such as satellite, radar, and model data, and formats such as grib and netCDF.
- Knowledge of aviation operations and decision-making processes.
- Experience with open source RDBMS, such as MySQL and PostgreSQL, or NoSQL.
- Experience working with air traffic management data.
- Five (5) years relevant work experience.
- Adept at time management and working on multiple projects concurrently.

**Background Check:**
Colorado State University is committed to providing a safe and productive learning and living community. To achieve that goal, we conduct background investigations for all final candidates being considered for employment. Background checks may include, but are not limited to, criminal history, national sex offender search, and motor vehicle history. In addition, this position is located in a federal facility and requires the ability to pass a Tier One Background Check (federal background check) for building access.

**Commitment to Diversity and Inclusion:**
Reflecting departmental and institutional values, candidates are expected to have the ability to advance the Department's commitment to diversity and inclusion.

**Application Deadline:** Applications will be accepted until all positions are filled; however, to ensure full consideration applications should be submitted by 11:59pm MDT Sunday, October 27, 2019. Please address “Required and Preferred” qualifications as relate to your professional experience in the cover letter. References will not be contacted without prior notification of candidates.