### GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Program sponsor:</th>
<th>Princeton Environmental Institute</th>
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<tbody>
<tr>
<td>Position number:</td>
<td>E1LAR</td>
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<tr>
<td>Project title:</td>
<td>Wind and Solar Electricity Forecasting Tool</td>
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<tr>
<td>Organization/research group:</td>
<td>Climate Central, Inc.</td>
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<td>Primary location(s) of internship:</td>
<td>Princeton, NJ</td>
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<tr>
<td>Additional cities and/or countries to be visited (if applicable):</td>
<td>n/a</td>
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*Note:* If this internship is located in a country with an International SOS risk rating of High or Extreme, final candidates must participate in a travel review process overseen by the Travel Oversight Group (TOG), and obtain safety guidance prior to departure. The University reserves the right to revoke support and funding for travel at any time there has been a significant deterioration in the safety and security conditions surrounding travel arrangements, or in the sector of the country, or countries, where travel is to occur.

### FACULTY SPONSOR(s)/HOST INFORMATION

<table>
<thead>
<tr>
<th>Name(s):</th>
<th>Eric Larson</th>
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<tbody>
<tr>
<td>University Department(s):</td>
<td>Andlinger Center for Energy and the Environment</td>
</tr>
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<td>E-mail:</td>
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<td>Phone:</td>
<td>609-258-4966</td>
</tr>
<tr>
<td>Website:</td>
<td><a href="http://www.princeton.edu/~energy">www.princeton.edu/~energy</a></td>
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### INTERNERNSHIP/RESEARCH PROJECT INFORMATION

**Internship/project description:**

The "Climate Matters" program at Climate Central for several years has been providing targeted information to TV meteorologists across the U.S. for on-air use to inform their viewers about climate-change related topics. The information reaches more than 600 "TV Mets" in over 200 media markets. The program has now expanded into "Climate Matters in the Newsroom" to generate information to help journalists tell scientifically accurate, relevant, engaging, local stories regarding climate change. During 2018, the Climate Matters team developed an online interactive tool that provides daily forecasts of wind and solar electricity generation for individual media markets. The intern will extend the tool's capabilities and enhance the tool's user experience. The interactive user interface for the current version of the tool may be accessed here: http://medialibrary.climatecentral.org/wind-solar-tool/.

**Student's role and responsibilities:**

The bulk of the development of the current version of the tool was the work of a PEI intern during summer 2018. Similarly, for summer 2019, work on version 2.0 of the tool will be done largely by the student selected for this internship. Activities for the intern will include:

- Updating underlying databases used by the wind/solar forecasting tool.
- Designing extended functionalities for the tool and writing code to implement these.
- Conducting analysis to assess accuracy of forecasts.
- Assisting the production team with enhancing the user interface and user experience with the tool.
Internship/project learning objectives:
The student will gain experience with managing large databases and with coding to process data into user-friendly outputs. The student will learn methods for estimating from weather data how much solar PV and wind electricity can be generated at a specified location. The student will gain experience with brainstorming ideas with production staff at Climate Central who specialize in effective communication of technical information to non-technical audiences.

PROGRAM REQUIREMENTS
Academic background and any course pre-requisites:
Engineering or science major with good computer programming skills.

Technical skills:
Facility with python, Django, Amazon Web Server, and managing relational databases (especially using PostgreSQL). Familiarity with geographic information system file formats would also be helpful.

Additional training(s):
Knowledge of solar PV and wind electricity generation technology and fundamentals would be helpful.

Equipment:
n/a

Physical demands:
n/a

Language abilities/competencies (if applicable): n/a

Additional information about the internship/project:
Climate Central is a non-profit organization with an entrepreneurial atmosphere. Founded in 2008, it brings together award-winning journalists and internationally recognized scientists to report the science and impacts of climate change. Climate Central provides a critical bridge from complex climate-change science, impacts and solutions to the public by presenting cutting-edge analysis in clear, compelling language and images, to make the impacts clear for the public and policy makers, and to build broad support for meaningful action.

Climate Central has established itself as a trusted source of information in the U.S., achieving broad exposure in the media, government organizations and agencies, and the public. Climate Central team members frequently appear on NBC, ABC, CBS, CNN, PBS, NPR, and The Weather Channel. Content sharing agreements with Bloomberg, The Huffington Post, The Guardian, MSN and others extend Climate Central's reach to millions more.

The intern will work at Climate Central headquarters, which provides a lively, multi-disciplinary working environment that includes scientists, programmers, journalists, and media/communication specialists at all stages of their careers. The internship will offer ample opportunities to interact with Climate Central staff across all disciplines.

INTERNSHIP/PROJECT SUPERVISOR(S)
Name and title of primary supervisor: Eric Larson
Email: elarson@princeton.edu
Phone:

Name and title of additional supervisor if applicable: Jennifer Brady, Analysis and Production Manager
Email: jbrady@climatecentral.org
Phone:

PROGRAM DATES AND FUNDING INFORMATION
Weekly Stipend: $500  Number of Positions Available: 1
Proposed Start Date (mm/dd/yyyy): 06/03/2019  Number of Weeks: 10
Proposed End Date (mm/dd/yyyy): 08/09/2019  Note: PEI funding is for full-time work, 35 hours per week minimum, and for a period of at least 8 continuous weeks.

Application Deadline: January 11, 2019