Executive Summary
Below is a summary of the main goals of the project and the results of Dr. Rudnicki’s three month visit to USC.

1. **Data management of current project:** This goal consumed the bulk of the time during the visit. Several hours were spent daily to first identify a common data structure, identify periods of good and missing data and create summary tables of dates to analyze and dates to ignore. Additionally, each individual data file was examined and renamed to ensure the data it contained was consistent and in the appropriate folder structure. A data processing structure was discussed and defined (level 0 – raw binary data, or otherwise collected directly from the site, level 1 – ASCII in 24 hour files, level 2 – displacement corrected, level 3 – any additional data products). Approximately 500 days of data were converted to level 1 and quality controlled. This tedious effort resulted in mirrored datasets available for further analysis.

2. **Publish additional manuscripts:** Outlines for five manuscripts were generated during Dr. Rudnicki’s visit. One has been published, two have been submitted. Of these one was rejected and is being revised. The other is under review. The third and fourth manuscripts are in preparation and submission is expected in the next few months. Additionally several professional conference talks have been given.

3. **Submit new proposals:** During Dr. Rudnicki’s visit a greater clarity of the future of the project and our collaboration was gained. Two proposals were submitted to NSF, unfortunately both were declined.

4. **Interactions with USC community:** In addition to the daily interactions with graduate students and colleagues that stemmed from 3 months in residence, Dr. Rudnicki presented a formal seminar to the Department of Geography.

**Funds Expended**
The award funds were expended on travel to and from Columbia SC by car for Dr. Rudnicki and housing during his stay.
Products

Manuscripts published


Manuscripts submitted


Proposals submitted

- Hiscox, April L. “Collaborative Research: ABI Innovation: How a large spatiotemporal tree sway dataset
  o Submitted to NSF on August 13, 2013 – declined, overall rating very good/excellent
  o Collaborating PIs: Mark Rudnicki (The University of Connecticut), Christophe Giraud-Carrier and Michael Jones and (Brigham Young University)
- March 2013-March 2016: $223,288, Collaborative Research: ABI Innovation: How a large spatiotemporal tree sway dataset can reveal feedbacks between forest canopy architecture and wind gust structures”
  o Submitted to NSF on September 10, 2012 – declined, overall rating good/very good.
  o Collaborating PIs: Mark Rudnicki (The University of Connecticut), Christophe Giraud-Carrier and Michael Jones and (Brigham Young University)

Other products

- Katherine Ertell defended her M.S. thesis entitled “Tree-sway frequency and the Turbulent Co-Spectral Gap in a Dense Canopy Environment” on October 30, 2014. Her ability to complete this work was a consequence of the database development.
- 8 conference presentations and posters, and two invited talks have been given based on the products of this project.