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Challenge Fund for Innovation in Journalism Education Final Report [Sea Level Rise, South Florida]

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Challenge Fund for Innovation in Journalism Education Final Report

Names: Robert E. Gutsche, Jr. (contact), Susan Jacobson, Kate MacMillin, Juliet Pinto

School/Organization: Florida International University School of Journalism and Mass Communication

Project Title: Sea Level Rise: South Florida; eyesontherise.org

1. Focusing on the original hypothesis for your proposed experiment, please quantify your impact on those outcomes and any other impacts that have occurred because of your work.

Our original hypothesis was that crowdsourcing and community engagement will increase viewership and participation in public discussion related to rising seas. We have not changed our initial hypothesis, but clarified meanings within the hypothesis. We combined “crowdsourcing” with the idea of “crowdhydrology” as a means to further legitimize and solidify the process as a means to reinforce the community engaged components of gathering and interpreting data via citizen science related to flooding, water quality, and infrastructure that is affected by rising seas. We also clarified among ourselves our understanding of audience in terms of “viewership” and “participation.” We continued on in this approach, which was detailed heavily in the interim report.

For WPBT, we saw positive gains as a result of the series. Our social networks saw an over 10% increase in engagement versus normal activity (likes, shares, etc.) and a 100% gain in subscribers (doubling our previous count). In addition the series had a positive impact on the previously produced documentary from Kate MacMillin and Juliet Pinto, which we included in the series playlist. The documentary, which had been online for over a year, gained 5,264 additional views during the first nine weeks, bringing it to a total by 20 July of 36,422, which is up from 32,229 in June. Other data on views from our web series and the second (student-led) documentary can be found here: https://www.youtube.com/playlist?list=PL8NJkhLZOuT-EtP9axK3VYGkSYPe45_HI.

As discussed above and mentioned extensively in the interim report, our work has supported our hypothesis (see media coverage of the work: <http://www.eyesontherise.org/media-coverage>).

From Max Duke, the VP for Content and Community Partnerships: “The [web] series did very well and was our most successful to date. A number of factors played into this success, including the subject matter, the partnership, the press it received and the events in Florida during the series release. Because of the topic and nature of the content, we focused our efforts on SLRI as a social video series, distributed through our social networks.

2. What did you learn in general?

We have been surprisingly inundated with interest from the community about our project, the app, and the student involvement in the work that has been done. The number of collaborations happening with our project and among other groups and citizens in South Florida since this project started has increased in both depth and breadth, from public agencies engaging with citizens to journalists and residents coming together to tell stories about our changing environment and discussing the political and economic solutions for the future.

3. What lessons came from unexpected challenges you've faced?

We had two unexpected challenges: First, sea level rise is a politically charged issue. We had to modify parts of our plan to avoid becoming embroiled in political conflicts. For example, our initial design for the *Sea Level Rise Toolbox* app included an option to let users see how sea level rise might impact their geographic area based on years – to include a visualization of what might happen in 2020, 2030, etc. However, there are several different scientific models that show what might happen at different years, and we were afraid that individuals interested in minimizing the potential impact of sea level rise would be able to criticize our application because of this. So our application shows a visualization of the impact of sea level rise based on feet of sea level rise.

Another example of how we were impacted by politics: We were initially invited to launch the *Sea Level Rise Toolbox* app at the Miami Beach Centennial Celebration. However, when the Mayor of Miami Beach saw the application, he felt that it was too alarming to present at the event. Juliet Pinto gave a presentation of the Eyes on the Rise project at the Centennial Celebration, but just mentioned the existence of the app. Instead, we launched the app at BarCamp Miami, a large technology event, a few days later.

Secondly, we went above and beyond to make sure that everything we produced was scientifically accurate and not misleading. For example, we carefully vetted all of the individual student-produced videos in the *Sea Level Rise: Impact* Web series, checking both the content and the reliability of the sources that some of the students interviewed. When we combined the videos into a half-hour documentary that was aired on WPBT2, we had to make sure the segments worked together as a whole, and we had to check and double-check the voice-over for the 30-minute documentary against the original videos, which was more complicated than we thought.

We also received some criticism from some scientists on how we implemented the *Sea Level Rise Toolbox* application. We used two elevation sources: we used Google Elevation, a layer of data available to anyone who uses Google Maps, as a point of data to let users know an elevation measurement of a specific address they enter on the map. However, we used LiDAR data, which is a much more detailed topographic model developed by the South Florida Water Management District, to show the sea level rise visualization on the map. The scientists consider Google Elevation and LiDAR to be apples and oranges: they show different measurements.

We believed that, because we were using the two elevations in two separate contexts, and our application was developed for a general news audience (ie – an audience that did not have any special scientific knowledge), that it did not matter. As a compromise, we doubled our efforts to be transparent about our data sources and beefed up our “About this app” section, which is accessible by clicking the white *i* inside the blue circle on the main interface.

4. What is the most important impact of your experiment?

The recognition of our work has resonated across our community, students, team and partners. The documentary our students produced, “South Florida’s Rising Seas: Impact” was the most watched webseries in the history of the station, WPBT2. The app has received widespread media attention. Our students have received on the ground experience and knowledge that they would not have obtained if not for the grant funded activities; one graduate student, Charnele Michel, was awarded the FIU University Graduate School Provost Award for Engagement because of her work with the project. Two professors, Kate MacMillin and Juliet Pinto, received scholar awards from FIU, and the team won the 2015 Innovative Outreach to Scholastic

Journalism award from the Scholastic Journalism Division of the Association for Education in Journalism and Mass Education (AEJMC).

5. Describe any changes that deviated from your original experiment and explain why. Did any external factors affect your experiment? How did your work address (or not address) these issues?

The massive interest from external organizations led to new avenues in engagement, research, service and teaching, including:

- Engaging college students in high school classrooms to discuss communicating science through journalism: <http://www.eyesontherise.org/collaborate/>
- Using the project to help engage high school and college students in media-centered communication via social media, including for a lecture by Washington Post Executive Editor Marty Baron: <http://www.eyesontherise.org/lecture/>
- Publishing student-driven journalism on social issues related to sea level rise: <http://www.eyesontherise.org/migrationvideo/>
- Hosting, upon request, national political leaders related to environmental policy: <http://www.eyesontherise.org/decevent/>
- Producing and delivered research related to our project at national and international conferences: <http://www.eyesontherise.org/coce1/>; see also <http://www.eyesontherise.org/iamcr1/>
- Conducting extensive research on media messaging and the eyesontherise.org project: <http://www.eyesontherise.org/group/>
- Hosting and participating in international media party to discuss our app development: <http://www.eyesontherise.org/sp15/>
- An opportunity for our partners to publish results from the October King Tide Day experience: <http://www.eyesontherise.org/herald/>
- Partnering with national media, including Nat Geo, to get coverage of our environmental issues in South Florida: <http://www.eyesontherise.org/natgeo/>
- Assisting in the work of our partners to win national awards for their efforts: <http://www.eyesontherise.org/fetc/>
- Extending our partnerships into ventured that called for technological innovation in communicating issues of the environment: <http://www.eyesontherise.org/car1/>
- Publishing a multi-part web series with our media partner: <http://www.eyesontherise.org/series1/>
- Adding an additional community media partner: <http://www.eyesontherise.org/fusion/>
- Contributing to open-sourced communication about sensor journalism: <http://www.eyesontherise.org/wikipedia/>

- Participating in an educationally driven social media discussion about innovative curricula: <http://www.eyesontherise.org/edshift-2/>
- Having been honored by one of our graduate students on the project receiving a university level award for her engagement in this project: <http://www.eyesontherise.org/michelaward/>
- Presenting the ONA award and app to thousands at a high-level Miami Beach centennial environmental summit: <http://www.eyesontherise.org/mbparty/>
- Hosting local communicators and environmental experts to speak with our students about how to engage communities in these issues: <http://www.eyesontherise.org/dk/>
- Having our ONA-sponsored work presented to White House advisors in DC: <http://www.eyesontherise.org/wh/>
- Integrating artistic communication into their journalism through collaboration: <http://www.eyesontherise.org/subs/>
- Receiving a national education prize from AEJMC: <http://www.eyesontherise.org/aejaward/>
- Having one of our team members named an FIU Top Scholar: <http://www.eyesontherise.org/topscholar/>
- Receiving amazing media coverage our work that expanded our reach to audiences: <http://www.eyesontherise.org/btimes/>
- Creating of summer journalism and science camp: <http://www.eyesontherise.org/seacorps/>

6. Describe any lessons learned working with your media partners and collaborators.

Working with our local public television station, WPBT2, was a very positive collaboration. Max Duke, their Vice President of Content was not only eager to have our students' work to broadcast as a Web series and a half-hour documentary, but he gave us feedback as we went through the editing process on both.

When we first started designing the app we reached out to a large number of students, scientists, citizens and hacktivists, including more than 100 people from Code for Miami and Hacks/Hackers. App Project Manager Susan Jacobson put together initial design documents that we shared with FIU's GIS Department, which developed the back-end functionality of the application, including the sea level rise visualization. GIS took our design documents a step further, and created a sophisticated "hamburger" menu user interface design, where the functions of the application were stacked vertically, and expanded when you selected them.

When we user-tested this interface design, we found that it was nearly incomprehensible to a general news audience (ie: individuals without a scientific background) in three ways: first, they did not quite understand how to use the interface; second, they did not understand what the information that they did see was supposed to mean, and third, they were overwhelmed by some of the features we included in the initial design. To address these issues, we partnered with Fusion, a national cableTV/Web news service targeted to millennials, to help us create a more user-friendly interface.

First, we limited the functionality to the sea level rise visualization for the application launch. We had also included our flood report database, a high tide monitor and a FEMA flood

evacuation map in our first feature set. We found that we needed to refine the flood report database (which is part of our request for a second round funding), and that the high tide monitor and FEMA flood map were not meaningful to our general news audience in the context of the application. Second, Fusion developed the tab-based interface that we have now. The tab-based interface has a clear call to action that makes it very easy to use for a lay audience, including a general news audience. Fusion used the Sea Level Rise toolbox as part of their reporting on the Miami Beach Centennial: <http://fusion.net/story/109661/miami-beach-at-100-the-sea-is-rising-and-so-are-the-condos-somethings-gotta-give-right>.

7. Please list for us any additional collaborations/ partnerships that have resulted from your project and others that may be pending, including new funding you may have secured.

| Our additional partnerships include:

Fusion, a national cable channel and website news organization, helped us revise the interface to our *Sea Level Rise Toolbox* application. Our application was also integrated into Fusion's coverage of the Miami Beach Centennial: <http://fusion.net/story/109661/miami-beach-at-100-the-sea-is-rising-and-so-are-the-condos-somethings-gotta-give-right>.

MAST@FIU magnet high school.

8. What kinds of evaluation tools/processes were used to measure the progress of your program's outcomes? Please also attach and send any evaluation tools you used to measure the progress of your program (e.g., surveys, reports, analysis, rubrics)

We maintained an analysis and evaluation of our projects through constant conversation among the team, which included weekly meetings and phone calls throughout most of the academic year. We also exchanged emails and phone calls with our media partners, students, and community partners. Because of the level of engagement with our partners, we were in sometimes daily communication to measure progress, address problems, and maintain our aims. We held four focus groups in the winter break with students to discuss the progress in the project and to evaluate both the media coverage that comes from our efforts, as well as to discuss their thoughts on their involvement in the curriculum. Findings from these focus groups will be submitted to an academic journal in July and will also be used to improve future projects.

9. Please provide information on your final research of the experiment (If available). If not, please provide date the research will be complete.

We have presented the following research:

Jacobson, S., Fu, J., MacMillin, K., Pinto, J., Gutsche, Jr., R. E., Monson, R. (2015). It takes a village to build a sea level rise app: Civic hacking as an approach to inform citizens about climate change in Miami, International Association for Media and Communication Research, Mediated Communication Environment, Science and Risk Communication Working Group, July 12-26, 2015, Montreal, Canada.

MacMillin, K. & Jacobson, S. (2015). Eyes on the rise: Informing citizens about sea level rise in Miami. Panel, Communicating to Diverse Audiences Vulnerable to Impacts of Climate Change:

Scholarly and Professional Journalism Bridging the 'Climate Gap,' at the International Environmental Communication Association's 2015 Conference on Communication and Environment in Boulder.

Gutsche, Jr., R. E. & Pinto, J. (2015). Blending technologies, classrooms & communities to communicate local concerns of sea level rise. Panel, Communicating to Diverse Audiences Vulnerable to Impacts of Climate Change: Scholarly and Professional Journalism Bridging the 'Climate Gap,' at the International Environmental Communication Association's 2015 Conference on Communication and Environment in Boulder.

The following scholarship is underway:

"It Takes a Village to Build a Sea Level Rise App" (working title; to be submitted to Newspaper Research Journal special issue on Entrepreneurial Journalism, 2016)

"What's the story? Coverage of sea level rise in Miami, FL, 2010-2014" (working title; due to be complete Spring 2016)

"Participatory (and problematic?) newswork: An examination of teen involvement in creating local, mainstream science news" (working title; due to be complete August 1)

10. Please list any publications or media that resulted from your experiment (include story mentions, storied produced, etc.)

Please see the list of all coverage at: <http://www.eyesontherise.org/media-coverage>.

11. Please submit the final budget spreadsheet indicating how the funds were spent. Be sure to include any additional notes explaining any deviations from your original budget proposal.

FIU accountants have the full record of each expense and report that total expenses for the project was \$29,999.70. By category, expenses are as follows:

App Development (teaching and technology): \$15,000

Co-teaching Web GIS course with FIU GIS: \$6,000

Travel (spring research conference, Chicago ONA): \$2,500

Event Journalism (October King Tide Day prep, equipment, event executions): \$6,500

Science Communication training (public workshops): \$5,000