Transcript – Native Waters on Arid Lands Podcast

Episode 13: The Fourth National Climate Assessment with Loretta Singletary
https://nativewaters-aridlands.com/2019/04/singletary/

Abbreviations:
Kelsey Fitzgerald (KF)
Loretta Singletary (LS)

Welcome back to the Native Waters on Arid Lands podcast, where we're interviewing members of our project team about their work. This is Kelsey Fitzgerald, and today I'm here with Dr. Loretta Singletary, who is a professor and interdisciplinary outreach liaison with the University of Nevada, Reno's Department of Economics in the College of Business, and the Cooperative Extension in the College of Agriculture, Biotechnology and Natural Resources.

Loretta has a Ph.D. in applied economics, and works as part of the Native Waters project team to assess climate vulnerability and identify adaptation strategies with tribes located in our study area. She was also one of the authors of the *Tribes and Indigenous Peoples* chapter of the 4th National Climate Assessment, which came out back in November, and she's going to talk to us a little bit about that today.

KF: Hi Loretta, thanks for joining us.

LS: Thanks for having me, Kelsey.

KF: Could you start just by telling us a little bit about yourself and your research interests?

LS: Sure. So as you said, I have a terminal degree in applied economics, before that I pursued a fairly eclectic path. I have a bachelor's in interdisciplinary studies, and a master's in geography, and another master's in education. And so, applied economics sort of helped me put all of these interests together. Because I was interested in natural resource problems, particularly conflicts around natural resources and how to examine the reason for those conflicts and the complexity behind the decisions to manage natural resources in a sustainable way. And also, at the same time, how to work with the decision-makers in the field to encourage that sustainability.

KF: Can you tell us a little bit about your work and what you're researching with the Native Waters project?

LS: Sure. As a co-principal investigator on the project, I work with a graduate research assistant, Helen Filmore. And she and I have elected to develop an assessment, a battery of questions that we could use to assess the climate data and information needs of indigenous peoples, tribal nations in our study area, the Great Basin and Southwestern United States. We implemented that questionnaire at the 2016 and 2017 annual tribal summits that the project

has sponsored and conducted every year of its project funding. We've been analyzing those data to prioritize what the tribal members in our study area indicate that they need in order to strengthen their climate adaptation planning efforts. In some cases implement their climate adaptation plans. We are about at the point of releasing the results of that analysis. Helen will be defending her thesis that summarizes this research. We have an extension curriculum that we're assembling from the results of that research that we'll be sharing with the public. Hopefully at the next Tribal Summit and the one after that. That extension curriculum will also be available online, so that anyone can access it easily. We are designing that to be user friendly. We will also be publishing at least one, maybe two, peer reviewed journal articles from her thesis research.

KF: So, I understand that you recently helped to write the *Tribes and Indigenous People*'s chapter of the 4th National Climate Assessment; For people who aren't familiar, can you give us a brief overview of what the National Climate Assessment is?

LS: Sure. The Global Change Research Act of 1990 is the policy that mandates that there be a US Global Change Research Program. And that this program deliver every 4 years a report to congress and the president. And the purpose of the report is to integrate and interpret the findings of the research program, analyze the effects of global change on the natural environment, and that includes all of the components of that environment – agriculture, energy, land and water resources, human health and welfare, social systems, and then also analyzes current trends in global change, both those that are human induced and naturally occurring. And so the National Climate Assessment was borne out of this mandate.

The Assessment features two volumes. The first volume focuses on the biophysical earth system across the united states, and the foundation of physical science for climate science and climate assessment. Volume II, and that's the volume in which the tribes and indigenous peoples chapter is housed, focuses on human welfare, societal and environmental elements of climate change.

KF: So I understand that the *Tribes and Indigenous People's* chapter was actually not included in the first two National Climate Assessments, but was added as a topic chapter in the 3rd edition of the report, and then updated by you and your team for the 4th edition. What were some of your key findings this time around?

LS: We started with looking at the results of that first chapter, which was in NCA3, and went from there looking at the most recent research and literature between that publication and this chapter publication. We continued the theme that research tells us that indigenous peoples can be and are likely to be affected in unique and disproportionate ways. There are a number of reasons behind this.

I encourage everyone to check out the 4NCA, and if you're new to the NCA, check out the third one as well with regard to this particular chapter to get some context. There are more details there of course than I can provide here.

But, the point being that Indigenous Peoples have lived in particular areas of what is now the US for hundreds if not thousands of years, and there are cultures and spiritual practices and economies, trade systems, that have been there since the beginning and have evolved over time, and in fact are quite adaptive. Many indigenous communities will say that climate change has been happening since the beginning, since we've been here, and consider themselves quite resilient, in fact.
The reason for why researchers and scientists and philosophers with regards to this topic see indigenous peoples as being disproportionately impacted by climate change is largely in part due to 200+ years of federal policies that have dramatically affected the lives, well-being and economies of federally recognized tribes as we know them to be now, as well as non-federally recognized indigenous communities.

Three of those include the forced relocation legislation that led to the creation of reservation lands, and we don't have enough time for this particular podcast, so I would encourage you again to read up on this in our chapter, and there are other documents that we cite that provide more information. But, forcing these communities to leave their territorial and original homelands to a fixed land base definitely has impacts for them in terms of their adaptation envelope, if you will.

Then on top of that, there were additional federal legislative pieces that influence how property rights, both land and water, are governed. Those rules for governing these resources on these reservation lands today that impact these communities in terms of their qualitative life, and particularly their ability to sustain the types of economies they would like to build and sustain, or grow. If that is what their desire is.

Then another piece of legislation had to do with the subdivision and the breakup of these reservation lands into individual alottees and head of households, and there was tremendous loss of reservation lands as a result of that, and tremendous fractionation of these lands, so that combined with a lack of self-determination of property rights and institutions to govern how these resources are managed by the tribes versus the federal government, who now or still has trust responsibility, and trust oversight of these resources, it presents a number of challenges.

So, before all of this, I would argue that they were probably perhaps way more resilient than they are under this fixed land base with a number of layers of institutional rules that were created without their input, that they now must deal with. And all of that, in addition to adapting to climate change uncertainty and projections that we know are going to affect them, especially in areas of the country where sea levels are rising, but especially in the arid west where water is already scarce and we have a very fixed system for the rules that govern how that water is allocated and used.

KF: Between the third and 4th national climate assessments, what were some of the changes that you and the team identified as far as the challenges that indigenous people are facing? What were the major differences in this year's assessment?

LS: So, in the 3rd NCA, and because it was the first time a chapter was dedicated to this topic, the authors necessarily had to establish a framework and introduce basically everything I've just described to you. What we wanted to do as an authorship team with this chapter in the 4th assessment, was we decided to investigate what's happened in between that report and this report.

What we feature are the number of proactive steps that indigenous peoples, communities, nations, have taken. We were able to map over 800 climate adaptation planning initiatives or plans that are underway, being implemented, and some even in the more refined stages of evaluating and implementing their adaptation plan.

This didn't surprise us, because indigenous peoples have been very vocal about their concern about the impacts of climate change, and publicly so, and sometimes unpopularly so. But they've taken that risk, and were some of the first communities to come forward and say 'we've got a problem here, what are we going to do'. So we weren't surprised to find so many proactive initiatives, but we were delighted that we were able to showcase that in our chapter. And I think that's a distinct difference between the two chapters.

Once we decided as an authorship group that we were going to go in this direction, we wanted to show proaction rather than vulnerability and try to reduce the role of the potential victim of climate change versus leaders. Leaders in climate change recognition, adaptation, research, vocalization, drawing attention to the issue.

KF: How do you think that the experience of working on this climate assessment will help you as you move forward with your NWAL project research?

LS: I think there has been some synergy in terms of collaborating with the author group who represented various disciplines. We had individuals that were specialists in public health assessment, and outreach, certainly we had hydrologists, and atmospheric scientists involved, and we also had anthropologists as well as those interested in the institutional aspects of how tribal lands and waters are governed and how that resource usage is regulated. So we had a very interdisciplinary team, and that sheer synergy of working with them closely for a year and writing with them I think helped to sharpen my tools for working with my graduate research assistant Helen on the NWAL project.

I will also mention, I forgot to mention earlier, that another piece of the NWAL project she and I took on was that we developed a very brief assessment of climate science research, education, and outreach particular to tribal colleges and universities. We did that in partnership with John Phillips, the TCUs land grant consortium system director. He allowed us to implement that survey in 2016 at the National Conference of TCUs, and then Helen went back the following

year and reported the results of that, and we published a paper on that that we can talk about another time because that's a very interesting project as well.

KF: If anyone is interested in taking a look at that, we have a copy of their research posted on NWAL.com and it will also be linked to this podcast. Is there anything else you want people to know about the climate assessment?

LS: I would encourage everyone to explore NCA4 – it's fascinating, it's well written, and it's just rich with science-based information so I hope everyone checks it out.

KF: Great, well thank you so much for talking with us today. It was really interesting to hear about your work on the climate assessment and we look forward to catching up with you again sometime soon.

LS: Thank you Kelsey.