

Golden Gate Climate Update Transcript

Interview with Marcus Koenen

Program Manager, National Park Service, San Francisco Bay Area Network
Inventory and Monitoring Program

Interviewed on July 16, 2009

James Osborne interviewer

Part 1

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James - Hi, I'm Ranger James Osborne, welcome to Golden Gate Climate Update..., your source for information on climate change and sustainability. Join us as we hear from people helping your National Parks understand and adapt to climate change.

Today, we are talking with Marcus Koenen, Program Manager for the National Park Service, San Francisco Bay Area Network Inventory and Monitoring Program. Marcus, can you tell us a little about the Inventory and Monitoring Network and what it does?

Marcus - Sure, the San Francisco Bay Area Inventory and Monitoring program is one of 32 networks around the country that was established by the Park Service to track long term changes in natural resources in our parks. The parks included in our network are Golden Gate National Rec. Area, also John Muir National Historic site over in the East Bay, Pinnacles Natural Monument to the south, and to the north we have Point Reyes National Seashore. So the program was established in 2000, although many of these parks had already been monitoring a variety of features for a much longer time. So, now we have about a dozen ecologists, other staff and interns and many more volunteers to collect data on a suit of different indicators. The way to think about indicators is much like a vital sign that your doctor may check when you go in to get a physical. So, our monitoring data really informs management decisions and tries to bring science in to make our decisions science based.

James - Great, how are you tracking climate change?

Marcus - Well, we track a variety of indicators that cover marine, terrestrial and aquatic ecosystems, and within those systems we track physical indicators, and those are typically very sensitive to climate change and by physical indicators I'm talking about air temperature, the amount of precipitation, the amount of water in our streams, also water temperature.

In addition to those physical characteristics we are also tracking biological indicators and those include the number of or distribution or even reproductive success of a variety of species. We also have a program focusing in on the detection of new invasive plant species. And, in the future though we are not doing it yet, but in the future we hope to offer a large scale changes such as to the extent of wetlands that we have in our parks or the extent of particular vegetation communities within the parks.

James - OK, and have you observed any changes to date that you think may actually be the result of climate change?

Marcus - Well, that's a really good question. You know much of the work on climate change has really been done at large scale, but I have to admit there has been very little work done at the local scale, such as San Francisco Bay. We do have regional weather data and precipitation, some of which goes back about a hundred years. Through a program with the Western Regional Climate Center, they analyze some of these data sets and they have found what appear to be an increasing trend in precipitation since the 1930's. They've also seen a dip in ambient air temperature and then an increase over the last 50 years. But, what they haven't done is be able to tease out the effect of artificial changes, such as station movement or measurement inconsistencies. So that's really the next step is to take a really close look at this local data set to see if we can figure out if there have been changes due to climate change. And, that's what we're doing right now through an agreement with USGS where they're helping to analyze much of the local data. Once their done looking at the change in the physical parameters of the local, area we can then compare it to some of the biological data to see if any of the changes we have in harbor seals or spotted owls or prairie falcons can be correlated with climate change, but at this point we're not ready to see that yet.

James - OK, Before we move on to our next question, its time for the climate update challenge. The answer after the next interview segment.

James - Before we move on to our next question, its time for the climate update challenge. Today's question is: Red Squirrels in northern California are adapting to climate change in a most fundamental way. What is it? Hear the answer, and the second half of this interview in part two. This is James Osborne, thanks for listening.

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Male voice - Golden Gate Climate Update is produced by Will Elder and is a product of the Earth to Sky Program, an innovative partnership between the National Park Service and NASA.

Music from *A Walk in the Desert* by Electronic Symphonic