

NEXT GENERATION
SONORAN DESERT RESEARCHERS
2012 SUMMIT

THE BEGINNING OF A MOVEMENT



AUTHORS

BENJAMIN T. WILDER, CAROLYN O'MEARA

ALFONSO MEDEL NARVÁEZ, NEMER NARCHI



Group photo

CONTENTS

I. OUR REGION, THE SONORAN DESERT 5

II. CHALLENGES OF THE REGION 7

III. THE SUMMIT 8

IV. SESSIONS, THEMES, AND CHALLENGES 10

V. VISION STATEMENT 16

VI. NEXT STEPS 16

VII. IMAGES OF THE SUMMIT 25

The images in this document were taken by Benjamin T. Wilder, except images on pages 2-3 and 17, and photos 2, 10, and 12 from the backcover that were taken by Octavio Aburto.

In recent years increasing social problems in the U.S.-Mexico borderlands have disrupted the tradition of collaborative scientific endeavors in the Sonoran Desert. To address this growing divide a summit and resulting network, “The Next Generation of Sonoran Desert Researchers” has united a multinational community of interdisciplinary researchers. This document presents the foundations of the NextGenSDR network and a summary of the inaugural Summit. What follows is (I) a statement that describes the region, (II) the threats to the region, (III) the Summit, (IV) sessions, themes, and challenges, (V) vision statement, (VI) next steps.

I. OUR REGION, THE SONORAN DESERT

The collective energies of this multinational community are centered on a passion and love for the Sonoran Desert. We are just as defined by this region’s sense of place as are its flora and fauna. The effort to perceive and connect to the inherent rhythms of the desert still pervades this land as it has for thousands of years. A culture of seasonal celebration, perseverance, and discovery transcends the Mexican/United States border. The Next Generation of Sonoran Desert Researchers is a community united to the collaborative understanding and conservation of the region that inspires us.

The Sonoran Desert region – the mainland Sonoran Desert, the Baja California Peninsula, the Gulf of California, and the U.S.-Mexico borderlands – is an endless laboratory. A complex geologic underpinning begets remarkable biologic and cultural diversity. The Sierra Madre Occidental stretching from the southern depths of Mexico splinter into isolated towering mountain ranges in the borderlands that emerge as Sky Islands above the desert valleys below. The



Gulf of California, at once a barrier between the Mexican mainland and the Baja California Peninsula and one of the world's most diverse seas, creates a dual desert world. The imprints of heightened evolution due to isolation on the flora and fauna of the Baja California Peninsula create a remarkable unique desert realm. However, a fundamental relationship with its mainland counterpart is evident in evolutionary history and ecological makeup. The Gulf of California creates an intimate relationship between the desert and the sea – a coastal boundary runs for over 3,500 km, making this the longest coastal desert in the world. A chain of islands, the world's best protected archipelago, dots the Gulf of California. Each manifest a unique desert environment shaped by subtly different biological realities. An array of distinct cultures dating back thousands of years continues to inhabit this region. Indigenous communities of the Sierra Madre, the Gulf of California, and the Gran Desierto; the ranchero and campesino community of the mainland and Peninsula; and urbanized society all share and maintain distinct knowledge of how to live in this arid yet diverse setting.

The Sonoran Desert has been the focus of a long line of pioneering explorers and researchers. This community of scientists from both Mexico and the United States has distilled much of the vibrant interconnected ecology and culture in the fascinating natural history of this beautiful region. The results of investigations from exploratory expeditions to focused research questions carried out by an international community of researchers whose composition is nearly as rich as the desert regions they study, have produced a wealth of knowledge that serves as the cornerstone of what is to come next.

Generations of researchers and ideas that bridge numerous disciplines, whose work is focused in the Sonoran Desert region, have taken the first steps to come together and are poised to make a difference by integrating what has come before with a renewed energy and unique vision.

II. CHALLENGES OF THE REGION

From the time of the iconic Jesuit Padre Eusebio Kino to the present, few areas in the world have had so much cross-cultural and transnational collaboration as the Sonoran Desert/Gulf of California in Mexico and the United States. Until recently, young researchers working in this region had ample opportunities to meet, collaborate, and work together. From these collaborative efforts legendary conservation actions were born and implemented, such as the Isla Rasa restoration project, the dedication of the Gulf Islands as a UNESCO Biosphere Reserve and World Heritage Site, the Pinacate Biosphere Reserve, the restoration of Guadalupe Island, the California Condor project, and cross-border actions to bring back water to the Colorado River Delta, among a myriad of others.

All of these actions were triggered by emerging researchers and students doing field work in the region and dreaming of its environmental restoration and conservation.

However, a new reality now grips the borderlands. One dominated by fear and political motives. Of the multiple ramifications of the horrific terrorist attacks of September 11th, 2001, there has been a redefinition of life along the U.S.-Mexico border. What was once a permeable fence that allowed a seamless intermixing of culture now stands as a wall that has drawn a hardened line across a vast swath of terrain. This wall is a physical metaphor for everything that separates human beings. It is an obstacle between communities and cultures, a barrier across species' ranges and migrations (human and otherwise), and a chasm across a singular region.

The opportunities to work together, unfortunately, have diminished significantly in recent years. Political tensions between the two countries, increased border controls, the drug con-



flicts, and a growing cultural mistrust, have led many universities and research centers in both Mexico and the U.S. to reduce the profile of their cross-border collaborative projects. As a result, many researchers from both sides of the border are increasingly unaware of the work of their colleagues and counterparts. The ability to work across borders and the cultural connections that result have been severely hampered.

We strongly believe that modern conservation and research challenges require a cohesive bicultural research community that will continue to apply their creativity and passion to the understanding and betterment of the region.

To overcome these challenges we held a three-day summit entitled “The Next Generation of Sonoran Desert Researchers”, and launched a network of the same name.

III. THE SUMMIT

The 2012 inaugural Summit of the Next Generation Sonoran Desert Researchers was held at the Arizona-Sonora Desert Museum in Tucson, Arizona from April 18 to 20. Over 120 people applied to attend, of which we were able to accommodate 90 individuals who were present for the three-day gathering, 49 participants from Mexico and 41 from the United States (see Table 1 for a list of participants and Table 2 for detailed demographic information). Sixteen distinct disciplines were represented (Figure 1) as well as 37 different institutions, 11 from Mexico and 26 from the United States (Table 3).

To achieve the goals of establishing lasting connections between researchers who work in the Sonoran Desert region and to develop a network of collaborators among a group of 90 people who do not know each other or their respective work and speak different languages

provided a unique challenge. Rather than using a traditional conference format, our vision was to create a meeting environment that encouraged spontaneous discourse and all-inclusive interaction driven by the participants themselves. To achieve this, the summit followed an (un) conference approach, which turns a regular program on its head.

Instead of having a series of presentations over the course of multiple days, the (un) conference format takes advantage of the best part of a meeting – the connections that are made between participants – and enables the entirety of the meeting to be focused on the interests of the event’s participants. There is no set agenda at the outset of the meeting, only a unified theme. At the beginning of the workshop the agenda is created by those present. All attendees are required to actively participate throughout the workshop to solve problems, develop collaborative projects, address the pressing challenges in the region, create ideas for collaborative grant proposals, and a myriad of additional potential themes.

After a collaborative brainstorming session proposal period of an hour and half on the opening morning, the program was established and consisted of 22 sessions. The summaries for each session are available in pdf format on our website at: <http://nextgensd.com/summit-2012>

The summit also consisted of innovative and non-traditional forums for interaction. These included a session the first night called Projects of Passion in which those who wished were able to present their passions in a show-and-tell manner. It became a highlight for many and presented a fantastic opportunity to learn more about one another. During the morning of the middle day of the summit was a hike to explore Kings Canyon adjacent to the Arizona-Sonora Desert Museum. This time created an environment for the sharing of knowledge between disciplines and a connection to the beautiful desert surrounding the meeting site. An *inspirational article*



was written by Christine Hoekenga about this part of the Summit. Finally, a closing dinner highlighting local foods of the region was held in downtown Tucson as a culmination of these three days.

The opportunity for driven and dedicated individuals to come together and share their energy, ideas, and passion in the creation of a community of collaborators resulted in a powerful three days, which were clearly only the beginning.

IV. SESSIONS, THEMES, AND CHALLENGES

Sessions

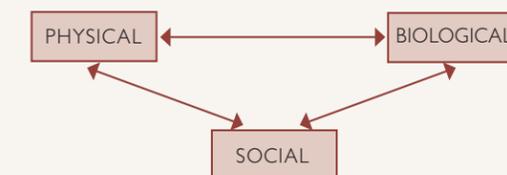
Twenty-two sessions were proposed and led by participants in different disciplines focused on the historical and current situation of the art of science in the Sonoran Desert. The 22 sessions held were (names reflect the language each was conducted in):

SESSION NAME	LEADER
La petrología en apoyo a otras ciencias	Alejandra Gómez V.
4-D Geologic Evolution of the Gulf of California	Scott Bennett
The Urban Desert: Environmental, Water and Urban Processes	Lucero Radonic
Retos entre la conservación natural y la conservación del patrimonio arqueológico	Júpiter Martínez, Elisa Villalpando
Acceso a nuestro Desierto	Alexander Iriondo
Modelos de desarrollo basados en el turismo	Eric García Cárdenas
Seeing the Sonoran Desert through the Eyes of Colleagues	Tom Bowen
Grupos indígenas "binacionales": lengua, cultura, medio ambiente y recursos naturales	Jacob Franco

SESSION NAME	LEADER
Researchers Collaborating with the Seri Community	Carolyn O'Meara, Ben Wilder, Nemer Narchi
Multinational Conservation in the Era of Border Security	Scott Warren
Binational Cooperation, Unilateral Impositions: How to Avoid this Effect? (Cooperación binacional, imposiciones unilaterales: ¿cómo evitar este efecto?)	Nemer Narchi
Expertise and Human-Ecological Interactions	Rodrigo Rentería
Desert Oases: Science and Conservation	Rafael Routson
Improving Ecosystem-Based Management Governance	Alexis Rife
The Colorado River Delta and Upper Gulf of California	Osvel Hinojosa, Salvador Galindo
Long-Term, Cross Site Monitoring of Desert Ecosystems	Seth Munson
Genetics and Genomics in the Sonoran Desert	Adrian Mungia
Plant-Animal-Microbe Interactions	Brigitte Marazzi
Invasive Species and their Effect on the Region	Pacifica Sommers
How Much Do We Know Our Insects? ¿Qué tanto conocemos a nuestros insectos?	Emanuel M. Bernal
Social Networks (Redes sociales)	Jennie Duberstein
Session Products (Resultados de las sesiones)	Ben Wilder, Nemer Narchi, Carolyn O'Meara, Alfonso Medel

Themes

These 22 sessions can be grouped in three broad discipline categories



Within these three broad categories six major themes of collective focus were identified: (see following pages).

<i>Discipline categories</i>	<i>General Theme</i>	<i>Session Name</i>
Física	Geologic Evolution of the Desert	La Petrografía en Apoyo a Otras Ciencias
		4-D Geologic Evolution of the Gulf of California
	Human Dimension of the Sonoran Desert	The Urban Desert: Environmental, Water and Urban Processes
		Retos Entre la Conservación Natural y la Conservación del Patrimonio Arqueológico
Biological	Biodiversity and Natural History	Acceso a Nuestro Desierto
		Modelos de Desarrollo Basados en el Turismo
		Seeing the Sonoran Desert Through the Eyes of Colleagues
		Genetics & Genomics in the Sonoran Desert
		Plant-Animal-Microbe Interactions
Social	Indigenous Knowledge	Invasive Species and Their Effect on the Region
		How Much Do We Know Our Insects?
		Que Tanto Conocemos a Nuestros Insectos?
	Challenges and Multinational Cooperation	Grupos Indígenas "Binacionales": Lengua, Cultura, Medio Ambiente y Recursos Naturales
		Researchers Collaborating with the Seri Community
Multinational Cooperation	Challenges and Multinational Cooperation	Multinational Conservation in the Era of Border Security
		Binational Cooperation Unilateral Impositions: How to Avoid this Effect?

<i>Discipline categories</i>	<i>General Theme</i>	<i>Session Name</i>	
	Ecosystem Based Management	Expertise and Human-Ecological Interactions	
		Desert Oases: Science and Conservation	
		Improving Ecosystem-Based Management Governance	The Colorado River Delta and Upper Gulf of California
			Long-Term, Cross Site Monitoring of Desert Ecosystems

Taken together the 22 sessions covered a broad swath of the important research and conservation issues currently facing the Sonoran Desert region. Collective energies were focused on topics from the geologic history of the desert to how to foster a sense of place within urban communities on both sides of the border. A unifying theme at every discussion was the need for cross-discipline and cross-cultural interaction and collaboration to address and surmount the collective challenges we face. It was clear that alliances between the social and ecological paradigms is no longer an option but a necessity if we aim to provide an account of and have a role in the shape of the new processes currently affecting the Gulf of California and the larger Sonoran Desert. To do so, it is necessary that we go beyond the comfort zones of academia. Therefore, collaboration between the different disciplines is contingent upon the creation of new mechanisms to share the realities and wonders of living and working in the Sonoran Desert.

Challenges

In addition to the general themes that were arrived at, a set of common challenges related to conducting research and making connections with other researchers in the Sonoran Desert region were identified. These challenges are generally within the following categories:

Logistics. One of our principle challenges as a large group of researchers located in different institutions in different countries is keeping in contact and in communication after this event. One of the most effective ways of doing this is via online communication, through the website and a potential web forum. As such, we have prioritized the maintenance of the website and its expansion to include many individuals who were not able to attend the inaugural summit. Any researcher who so desires can create a profile on the website and join the network on the researchers page: <http://nextgensd.com/researchers>. If we do not have the capacity to learn of the work of others or access relevant data, we have no way of facilitating collaboration. We envision the NextGenSD website as serving a central role to address this need.

Research and Impact. One of the key issues of the event was multidisciplinary research. A common theme was the importance of directly collaborating with researchers from different disciplines. However, the specific manner of how to best collaborate with those outside ones area of expertise was not fully addressed. We feel that this very pragmatic challenge of how to collaborate in order to start to conduct research across disciplines is a fundamental and basic challenge for this group that requires further attention. Additionally, we see a real challenge in how to convert the diversity of ideas found at the meeting among the participating researchers into cohesive research plans. More basically, many of the younger generation researchers are concerned about the challenge of how to find job opportunities in general, especially job

prospects that allow them to conduct multidisciplinary research. We hope that that through the web forum, young researchers can have access to information regarding job opportunities. Finally, how do we transcend our academic circles in order to have influence in other arenas, such as the political and policy-making arenas that exist outside of academia? A service of the NextGenSDR network will be to serve as the bridge between disciplines and connect the research community to create an

Attitude and Dynamics. This area of challenges addresses the importance of being culturally sensitive as a researcher working in a particular community – something that is not trivial. More specifically, it is of the utmost importance to show this cultural sensitivity toward perspectives from not only the local community living in or near the research area, but also respect and consider different perspectives provided by our colleagues in the academic community and beyond. The creation of the NextGenSDR multicultural community goes a long way in educating each other of the impacts of our actions and the best methods for conducting research in foreign communities.

The three-day Next Generation Sonoran Desert Researchers Summit hit on a nerve of needed communication, collaboration, and a more holistic approach to research and conservation in the Sonoran Desert. It was clear that this Summit was just the beginning of a larger movement. In the final hours of the Summit we collectively crafted the following vision statement that articulates our future directions.



V. VISION STATEMENT

The Next Generation Sonoran Desert Researchers is a network of individuals and institutions committed to the rich social and ecological landscape that spans the mainland Sonoran Desert, the Baja California Peninsula, the Gulf of California, and the US-Mexico borderlands. This interdisciplinary network will address the research and conservation challenges of our time within this binational region. Deeply committed to the spirit of the Sonoran Desert, the NextGenSDR will (1) catalyze research and biocultural collaboration, (2) develop an innovative research and conservation agenda, and (3) influence decision makers in both countries to promote a conservation ethic that matches the grandeur of the landscape.

VI. NEXT STEPS

To act on the momentum generated at the Summit the Next Generation of Sonoran Desert Researchers network has been created. This name signifies the renewed effort to create a binational community of investigators across disciplines. While a core goal has been to link those at the beginning of their careers, the NextGenSDR movement is open to researchers at any stage in their career that want to be a part of this community. The NextGenSDR is about our collective work and implementing the ideas we generate together.

To support this endeavor the NextGenSDR network is composed of independent chapters based in cities where there are a core group of researchers focused on common geographical regions. Chapters will facilitate collaboration and the generation of ideas to keep the movement evolving. An organizing committee composed of individuals from each chapter will oversee the

network at large, report on the activities of each chapter, and decide when and where the next Summit will be held and be in charge of organizing and realizing it. It is the intention to have a network-wide Summit every three years, the next one in 2015 is to be held in Mexico and will follow the successful (un)conference format.

In the meantime, communication within the network will take place on the bilingual website, www.nextgensd.com, which serves as a central hub. The website contains a listing of all members of the network, each individual has their own profile. An interactive map will display the location of each member's research site with specific project information. The map and researchers page will be searchable by discipline. Additionally, each chapter will have a page to alert people as to its most recent activity.

In the short time since the inaugural Summit the potential of this network is already beginning to be realized. The chapter model has taken form and participants from Hermosillo, Ensenada, Tucson, and elsewhere have begun to collaborate. Cross discipline field trips of participants that did not know one another before April have been completed. Sharing of genetic techniques amongst network members will lead to otherwise unrealized collaborative research. Creation of a social network survey has been initiated to document the baseline of this community, improve our understanding of the connections between the different members, and identify individuals who may be missing. Active discussion across the region of how to work together to achieve our research and conservation goals has risen to the next level.

The 2012 inaugural Summit identified a need for increased communication, collaboration, and melding of worldviews. The NextGenSDR network is the platform that enables our vision to be realized. Now it is time to realize the potential that was palpable in Tucson.



TABLE 1. LIST OF PARTICIPANTS AND THEIR INSTITUTIONS

PARTICIPANT	INSTITUTION
Marco Octavio Aburto-Oropeza	Scripps Institution of Oceanography
Juan Carlos Álvarez Yépiz	State University New York-Syr
Dora Baltazar	UC MEXUS
Tom Beal	Arizona Daily Star
Carol Bender	University of Arizona
Scott Bennett	UC Davis
Emmanuel M. Bernal Loiza	Universidad de Sonora
Peter Blystone	Blystone Films
Mario Erandi Bonillas Monge	Universidad de Sonora
Thomas Bowen	University of Arizona
Bill Broyles	University of Arizona
Alberto Burquez Montijo	Universidad Nacional Autónoma de México
Enriquena Bustamante Ortega	Universidad Nacional Autónoma de México
Omar Cadena Aragón	Universidad de Sonora
Danielle Carter	UC San Diego
Debbie Colodner	Arizona-Sonora Desert Museum
Chris Divittorio	UC Berkeley
Greer Dolby	UC Los Angeles
Irene Dotson	UC MEXUS
Jennifer Duberstein	Sonoran Joint Venture
María José Espinosa Romero	Comunidad y Biodiversidad, A. C.
Sophie Everatt	University of Arizona
Exequiel Ezcurra	UC MEXUS
Richard Felger	University of Arizona
Carlos Figueroa	Universidad Autónoma de Baja California
Jacob Franco Hernández	Universidad de Sonora

PARTICIPANT	INSTITUTION
Kimberly Franklin	Arizona-Sonora Desert Museum
Manuel Salvador Galindo Bect	Universidad Autónoma de Baja California
Jesus Garcia	Arizona-Sonora Desert Museum
Eric García Cardenas	El Colegio de Sonora
Ivone Giffard Mena	Universidad Autónoma de Baja California
Martha Maria Gomez Sapiens	University of Arizona
Alejandra Marisela Gómez Valencia	Universidad de Sonora
Horacio González Moncada	TerraPeninsular
Carmen Gutiérrez Uribe	Universidad Autónoma de Baja California
Alan Hatcher	TerraPeninsular
Osvel Hinojosa	Pronatura -San Luis Rio Colorado
Christine Hoekenga	Tucson Citizen
Helen Ingram	University of Arizona
Alexander Iriondo	Universidad Nacional Autónoma de México
Eugenio Larios	University of Arizona
Bárbara Larrain	Universidad Nacional Autónoma de México
Andres Lira Noriega	University of Kansas
Xavier López Medellín	UC San Diego
Lyn Loveless	University of Arizona
Karina del Carmen Lugo Ibarra	Universidad Autónoma de Baja California
Brigitte Marazzi	University of Arizona
Cathy Moser Marlett	Summer Institute of Linguistics International
Steve Marlett	Summer Institute of Linguistics International
Júpiter Martínez	Instituto Nacional de Antropología e Historia - Sonora
Natalia Martinez Tagüeña	University of Arizona
Angelina Martínez Yrizar	Universidad Nacional Autónoma de México
Kimberly McCue	Desert Botanical Garden

PARTICIPANT	INSTITUTION
Alfonso Medel Narváez	Centro de Investigaciones Biológicas del Noroeste
Rodrigo Medellín	Universidad Nacional Autónoma de México
Norma Alicia Meza Calles	Comunidad Kumiai de Juntas de Nejí
Daniel Morales Romero	Universidad Nacional Autónoma de México
Adrian Mungia Vega	University of Arizona
Seth Munson	United States Geological Survey
Nemer Narchi	Universidad Autónoma Metropolitana – Xochimilco
Tram Nguyen	Ocean Discovery Institute
Carolyn O'Meara	Universidad Nacional Autónoma de México
Hector Perez Puig	Prescott College
Tad Pfister	University of Arizona
Carolina Piña Páez	Universidad Nacional Autónoma de México
Adrian Quijada	University of Arizona
Lucero Radonic	University of Arizona
Arturo Ramírez	Universidad Autónoma de Baja California
Rodrigo Rentería Valenzuela	University of Arizona
Alexis Nicole Rife	Scripps Institution of Oceanography
Evelyn Patricia Ríos Mendoza	Centro de Investigaciones Biológicas del Noroeste
María Luisa Robledo Mejía	Prescott College
Blanca Romero Lopez	Centro de Investigaciones Biológicas del Noroeste
Rafael Joan Routson	University of Arizona
Joaquin Ruiz	University of Arizona
Sue Rutman	Organ Pipe Cactus National Monument
Pacífica Sommers	University of Arizona
Daniel Stolte	University of Arizona
Gisela Angela	Arizona Public Media
Carolina Trujillo	Universidad de Sonora

PARTICIPANT	INSTITUTION
Ray Turner	United States Geological Survey
Gloria Ciria Valdez Gardea	El Colegio de Sonora
Sula Vanderplank	UC Riverside
Prescott Vandervoet	Vandervoet & Associates
Larry Venable	University of Arizona
Elisa Villalpando	Instituto Nacional de Antropología e Historia - Sonora
Scott Warren	Arizona State University
Elisabet Wehncke	San Diego Natural History Museum
Benjamin Wilder	UC Riverside
Michael Alan Wilken-Robertson	Wilken-Robertson Consulting

TABLE 2. DEMOGRAPHICS OF PARTICIPANTS

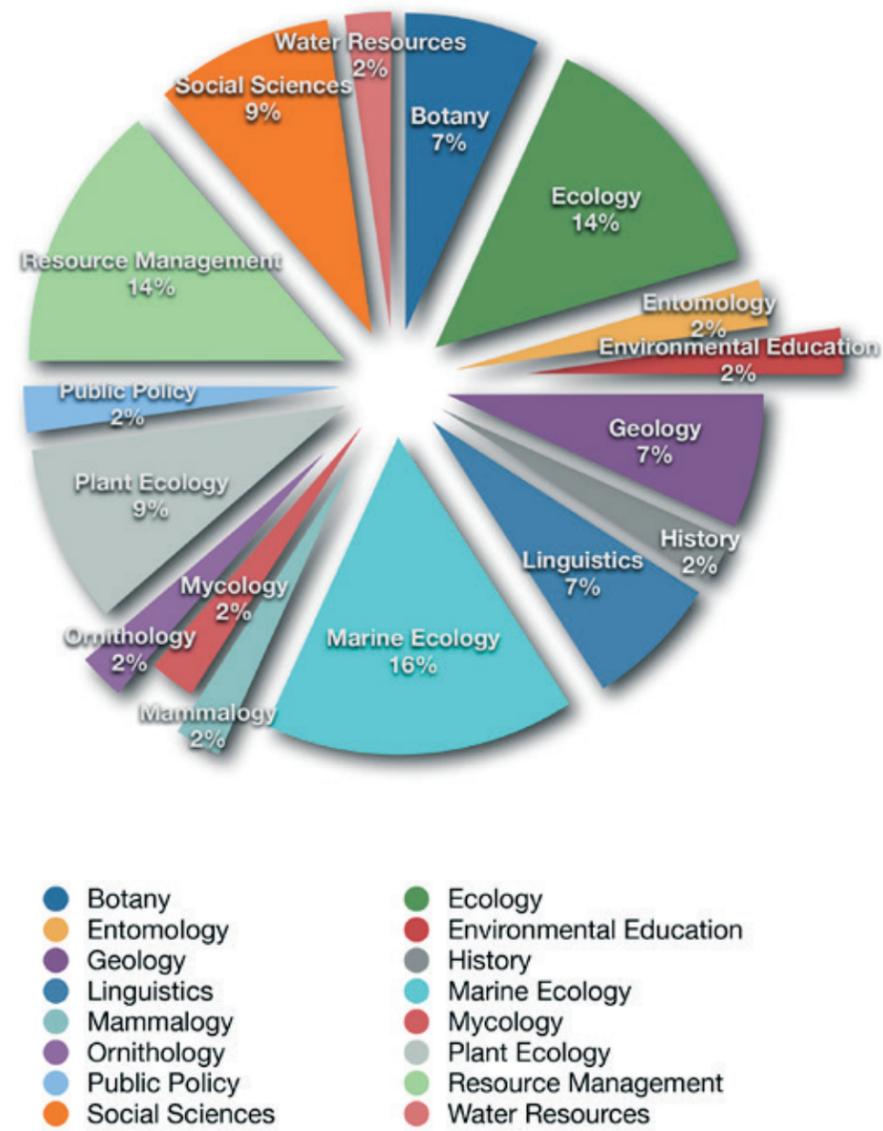
TRAVEL COUNTRY	NUMBER OF PARTICIPANTS	HOME COUNTRY	NUMBER OF PARTICIPANTS	HOME STATE	NUMBER OF PARTICIPANTS
Mexico	37	México	49		
				Baja California	12
				Baja California Sur	4
				Mexico City	5
				Queretaro	1
				Sonora	27
United States	52	United States	41		
				Arizona	27
				California	11
				New Mexico	1
				Utah	1
				Wyoming	1
Switzerland	1				
TOTAL NUMBER OF PARTICIPANTS					90

TABLE 3. LIST OF INSTITUTIONS REPRESENTED AT THE SUMMIT

COUNTRY	INSTITUTION	NUMBER OF REPRESENTATIVES
Mexico	Centro de Investigaciones Biológicas del Noroeste	3
	Comunidad Kumiai de Juntas de Nejí	1
	Comunidad y Biodiversidad, A. C.	1
	El Colegio de Sonora	2
	Instituto Nacional de Antropología e Historia – Sonora	2
	Pronatura - San Luis Río Colorado	1
	TerraPeninsular	2
	Universidad Autónoma de Baja California	6
	Universidad Autónoma Metropolitana - Xochimilco	1
	Universidad de Sonora	6
	Universidad Nacional Autónoma de México	9
TOTAL	11	34
United States	Arizona Daily Star	1
	Arizona Public Media	1
	Arizona State University	1
	Arizona-Sonora Desert Museum	3
	Blystone Films	1
	Desert Botanical Garden	1
	Ocean Discovery Institute	1
	Organ Pipe Cactus National Monument	1
	State University New York-Syr.	1
	Prescott College	2
	San Diego Natural History Museum	1
	Scripps Institution of Oceanography	2
	Sonoran Joint Venture	1
	Summer Institute of Linguistics International	2
	Tucson Citizen	1
UC Berkeley	1	
UC Davis	1	

COUNTRY	INSTITUTION	NUMBER OF REPRESENTATIVES
Mexico	UC Los Angeles	1
	UC MEXUS	3
	UC Riverside	2
	UC San Diego	2
	United States Geological Survey	2
	University of Arizona	21
	University of Kansas	1
	Vandervoet & Associates	1
	Wilken-Robertson Consulting	1
	TOTAL	26
GRAND TOTAL	37	90

FIGURE 1. DISCIPLINES REPRESENTED AT THE 2012 SUMMIT.



VII. IMAGES OF THE SUMMIT



Arrival of participants at the Desert Museum for registration the first morning



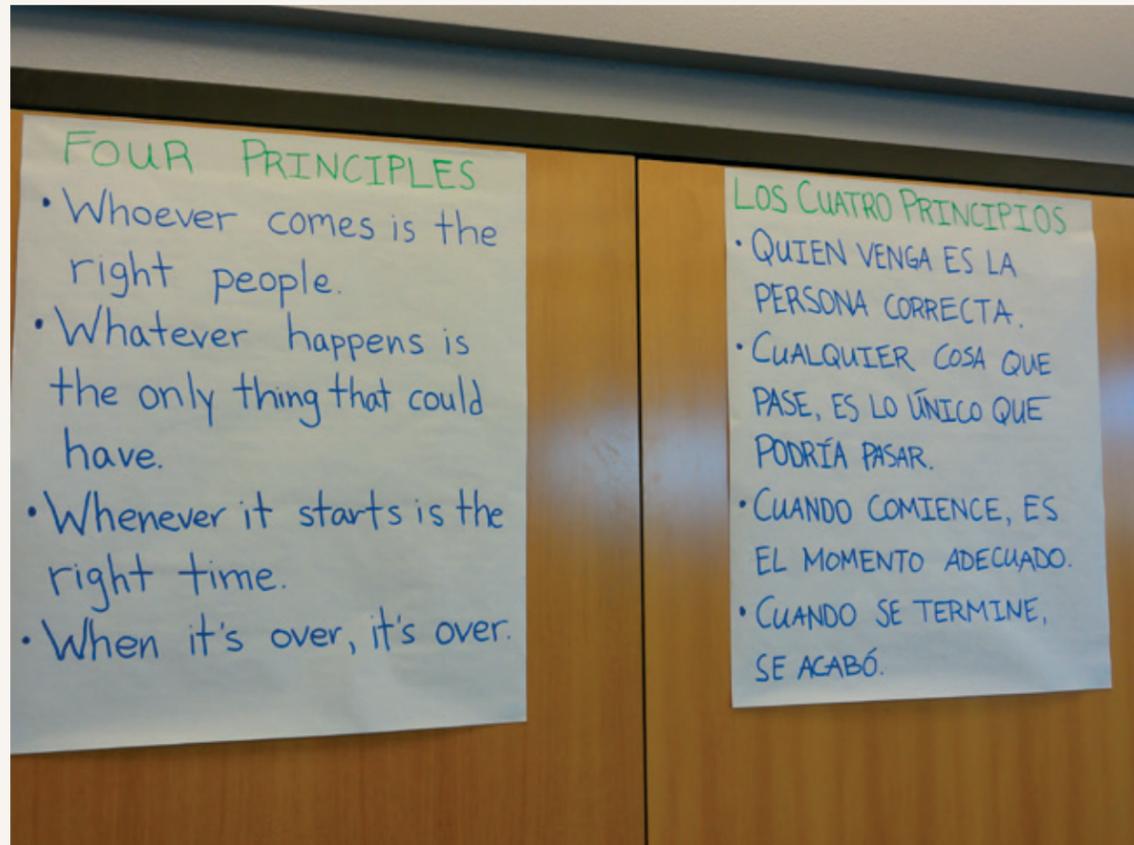
Long time friends Exequiel Ezcurra and Ray Turner (right to left)



Nemer Narchi proposing a session



All participants the first morning at the creation of the meeting agenda when session ideas are proposed



The guiding principles of the (un)conference meeting format



Participants looking at the newly created schedule and deciding which sessions to attend



Participants deciding which sessions to attend



Andres Lira and Seth Munson (left to right)



Bill Broyles and Thomas Bowen (left to right)

Wednesday	Baldwin	Annex 3	Ramada
11:30-1:00	ALICE A. AVONIA JESSE B. ADAMER, RIMDO	Social Networks Jesse Adamer	DEERT OASIS SCIENCE + CONSERVATION DANIEL RAYSON
1:00-2:30	Lunch	Lunch catch up invasive species & their effect on the region Roberta Green	The Urban Desert Invasive species & urban parks DANIEL RAYSON
2:30-4:00	THE EVOLVING EVOLUTION OF THE GULF OF CALIFORNIA JULIE BRADY	Life on Earth JESSE B. ADAMER	Governance + Ecosystem-based Management JAMES RICE
4:00-5:30	Plant-animal-microbe interactions in the desert Jesse Adamer	Geology / Geomorphology Rivers / Rivers / Rivers / Rivers JULIE BRADY	Using the Desert for the Benefit of All THE BROWN
5:30-6:00	Day 1 closing	X	X

Schedule for Day

Thursday	Baldwin	Annex 3	Ramada
9:00-1:00	Hike	Hike	Hike
1:00-2:30	Lunch	X	HUMAN - ENVIRONMENT INTERACTIONS A 3D SYSTEM
2:30-4:00	Long-term, Cross- scale Monitoring of Desert Ecosystems SETH MARIN	Desert Ecosystems JULIE BRADY	PLANT-ANIMAL INTERACTIONS BRIGITTE MARAZZI
4:00-5:30	Relevance to ecosystems, and the importance of feedback loops JULIE BRADY	How much can we take? Do both matter in ecosystem function? FERNANDO H. BERNI	Plant-animal interactions How to read the evidence BRIGITTE MARAZZI
6:00	Bus leave	Bus leave	Bus leave

Schedule for Day 2

Friday	Baldwin	Annex 3	Ramada
9:00-10:30	Multi-Dimensional Conservation in the KRN: an integrated approach SUSAN WILSON	La Biogeografía de un desierto Alfredo García-Luna	Session Previews Helen Law, Daniel Rayson
10:30-12:00	Session Recaps	X	X
12:00-1:30	Lunch	X	RESEARCHERS COLLABORATING WITH THE LOCAL COMMUNITY CARMEN PLATA JULIE BRADY
1:30-3:00	General Themes	X	X
3:00-3:30	Break	X	X
3:30-5:00	Future	X	X

Schedule for Day 3



"Plant-Animal-Microbes Interactions" session led by Brigitte Marazzi (standing at right)



Ray Turner (standing at right) presenting a summary of his long-term plots at the Desert Laboratory on Tumamoc Hill during the "Long-Term, Cross site Monitoring of Desert Ecosystems" session led by Seth Munson (seated at the computer table to the left)



Participants of the "Desert Oases, Science and Conservation" session led by Rafael Routson (seated by the flip-chart at right)



Scott Bennett, Thomas Bowen, and Natalia Martinez Tagüeña (from left to right)



One of the mugs given to participants with a session in background



Participants of the "Researchers collaborating with the Seri Community" session led by Carolyn O'Meara (second from left), Nemer Narchi (far right), and Benjamin Wilder (photographer)



Enriquena Bustamante Ortega presenting at the Projects of Passion event the first night



Chris Divittorio, Richard Felger, Sula Vanderplank (back row from left to right), Larry Venable, Exequiel Ezcurra, and Elisabet Wehncke (front left to right) looking at images from a recent mule trip conducted in Baja California by Sula and Elisabet



Participants of the "Acceso a Nuestro Desierto" session led by Alexander Iriondo (individual writing at the right)



Archaeologist Jupiter Martinez (right) explaining petroglyphs to participants of the hike



Geologist Alexander Iriondo (center) and botanist Richard Felger (right) sharing knowledge with the group during the hike on the second morning of the Summit



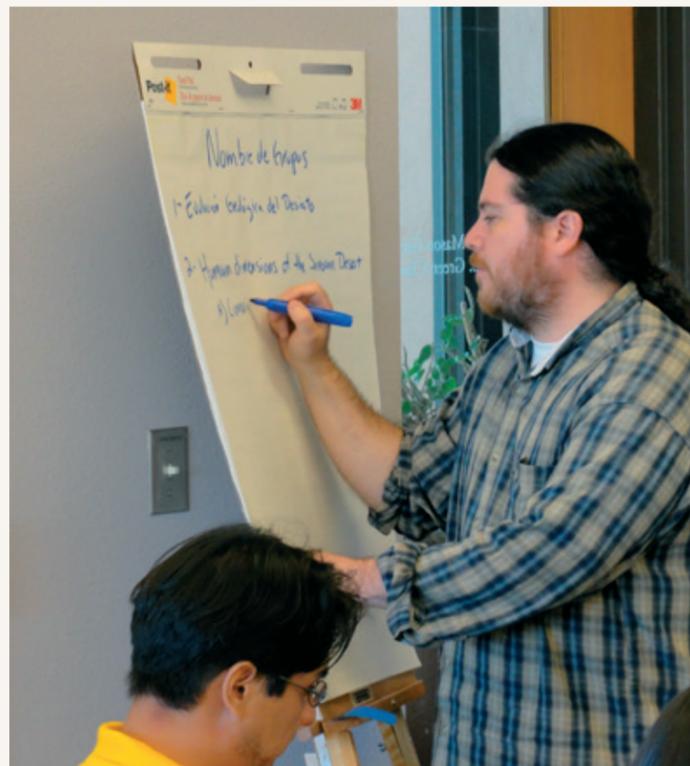
Participants of the hike



Octavio Aburto (standing at center) leading the "General Themes" summary session



Participants creating a statement that captures our shared passion for the Sonoran Desert



Osvel Hinojosa assisting in the "General Themes" summary session



Benjamin Wilder (seated at center) crafting the vision statement with other participants



Organizers Carolyn O'Meara and Benjamin Wilder (at center) at the closing of the Summit

