



# **4TH ANNUAL AGRICULTURE CONFERENCE, APRIL 24, 25, 2013**

**“DOONIDAHA’TINGóó BINIINAA NAHODINéESDZAH BINA’ANISHÍGíí”**

**DROUGHT MANAGEMENT/CLIMATE CHANGE**

Brought to you in partnership with  
Navajo Department of Agriculture and Department of Fish and Wildlife

# 4TH ANNUAL AGRICULTURE CONFERENCE

**NAKAI HALL, WINDOW ROCK, AZ**

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ENERGY CORPORATION



## NAVAJO DEPARTMENT OF AGRICULTURE

### MISSION

*"ATTAIN SUSTAINABILITY OF LAND, PEOPLE, WATER AND AGRICULTURAL RESOURCES THROUGH CONSERVATION, PROTECTION AND PRESERVATION."*

## NAVAJO DEPARTMENT OF FISH AND WILDLIFE

### MISSION

*"CONSERVE, PROTECT, ENHANCE AND RESTORE THE NAVAJO NATION'S FISH, WILDLIFE AND PLANTS THROUGH AGGRESSIVE MANAGEMENT PROGRAMS FOR THE SPIRITUAL, CULTURAL AND MATERIAL BENEFIT OF PRESENT AND FUTURE GENERATIONS OF THE NAVAJO NATION."*

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*“Doonidahaltingóó Biniinaa  
Nahodinéesdzah Bina’anishígíí –  
DROUGHT MANAGEMENT/  
CLIMATE CHANGE”*

*Fourth Annual Agriculture Conference*

Brought to You in Partnership By  
Navajo Department of Agriculture  
And  
Navajo Department of Fish and Wildlife

CONFERENCE  
SCHEDULE



## Conference Agenda

**Wednesday, April 24, 2013**

7:30 AM	Registration All Day – Coffee and Refreshments	General Session
8:20 AM	Prayer	
8:25 AM	Frederick H. White, Executive Director, Division of Natural Resources, Navajo Nation	
8:30 AM	Dr. John Idowu, New Mexico State University “The History of Drought and Practices to Keep Your Soil Healthy” Drought in the Southwest is becoming a way of life. Steps you can take to help your crops – soil practices, moisture monitoring, irrigation timing, long-term soil building. Steps to take to help your crops weather the drought. Practices you can adopt on your farm to keep the harvest coming, event in the worst of times.	General Session
9:30 AM	Dr. Margaret Hiza Redsteer, Research Scientist, U.S. Geological Society “Taking Steps to Reduce Vulnerability to Drought & Increasing Aridity on the Navajo Nation” Discussion on how drought impacts can be magnified by climate change and increasing aridity and planned work to help limit drought impacts to rangeland, increase the capacity of the Navajo Nation to know about drought impacts, and report impacts in a way that will provide for disaster relief when it is needed.	General Session
10:30 AM	BREAK – Drinks and Refreshments	
10:40 AM	Barry Middleton, Geographer, US Geological Society “Drought Impact on the Navajo Nation” Different kinds of remote sensing satellite imagery, including long time work accomplished with the San Carlos Apache. Development of a rangeland assessment tool they use to evaluate grassland productivity and training conducted for the San Carlos resource management offices. Images will be shown which indicate areas of the Navajo Nation with the biggest impact from the current drought (for the years 2000-2012).	General Session
11:20 AM	Ray Castillo, Extension Agent, Navajo Department of Agriculture “Navajo Grazing Act”	General Session
12:00 NOON	Lunch	
1:20 PM	Dr. Scott Bender, NNVLP, “Bovine Disease Investigation” - LIVE Demonstration	4H Show Arena
3:00 PM	BREAK – Drinks and Refreshments	



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**Fourth Annual Agriculture Conference, April 24, 25, 2013, Nakai Hall, Window Rock, AZ**  
**“Doonidahaltingóó Biniinaa Nahodinéesdzah Bina’anishígíí: Drought Management/Climate Change”**

**Wednesday, April 24, 2013**

**BREAK-OUT SESSIONS**

**Class 1: Navajo Law \* Class 2: Herd Improvement \* Class 3: Ranch Management \* Class 4: Climate Change**

3:15 pm	Harrison Tsosie, Attorney General, Navajo Nation Department of Justice Part I : Review of New Grazing Mediation Process	Classroom 1
	Melissa Tisi, Statistician Technician, NNVLP, NNDA “Animal ADT”	Classroom 2
	Tery Tanner, Inside Sales Specialist, Zoetis “Vaccinating Your Livestock”	Classroom 3
	Chad Smith, Zoologist, Navajo Nation Heritage Program, NNDFW “Navajo Department of Fish and Wildlife Project Clearance Process and Procedures”	Classroom 4
3:45 pm	Harrison Tsosie, Attorney General, Navajo Nation Part II: Review of New Grazing Mediation Process	Classroom 1
	Dr. Scott Bender, Veterinarian, Navajo Veterinary and Livestock Program, NNDA “Supplements for your Livestock During Drought Conditions”	Classroom 2
	Benita Litson, Director, Diné College Land Grant Office “Land Grant Office”	Classroom 3
	Joe Begay, Senior Animal Control Officer, NN Animal Control Program, NNDFW “Overview of Animal Control Program Priorities and Regulations”	Classroom 4
4:15 pm	BREAK – Drinks and Refreshments	
4:30 pm	Ray Castillo, Extension Agent, Navajo Department of Agriculture “Livestock Ownership”	Classroom 1
	Dr. Kelly Upshaw-Bia, Veterinarian, Navajo Veterinary and Livestock Program, NNDA “Appropriate Herd Size for Drought Conditions”	Classroom 2
	Ivan Becenti, Acting Manager, TRP, NNDA “Bull Selection and Leasing”	Classroom 3
	Mike Deswood, Predator Control Agent and Charles Blacksheep, Predator Control Agent, Navajo Department of Fish and Wildlife “Wildlife Damage”	Classroom 4
5:00 pm	Raffle Give Away	General Session
5:15 pm	Closing Prayer - Drive Home Safe. See you tomorrow!	General Session



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## Conference Agenda

**Thursday, April 25, 2013**

7:30 AM	Registration All Day Coffee and Refreshments	General Session
8:20 AM	Leandra A. Thomas, Miss Navajo Nation 2012-2013 Song/Prayer	General Session
8:30 AM	Gloria Tom, Department Manager, Navajo Department of Fish and Wildlife Welcoming Remarks – “Conference Purpose”  Climate Change is a relatively new discipline that many people however it is imperative that the Navajo Nation begin to prepare by educating ourselves and focus our resources on assessing impacts to our resources. The Navajo way of life depends on our response to climate change impacts.	General Session
8:40 AM	Dan Ferguson, Program Director, Climate Assessment for the SW, University of Arizona “Climate Change: Global and Local (Four Corners) Perspectives”  Climate change is creating a warmer planet and the Southwest will be affected as well. As the temperature rises, different resources and landscapes will start to change in a variety of ways. This talk will provide background on climate change globally as well as information about how it is likely to affect the Southwest and the Four Corners region.	General Session
9:40 AM	Alison Meadow, Pgm. Manager, Southwest Climate Science Center; University of Arizona “Helping a Community Develop a Drought Impacts Reporting System”  Drought is a natural part of the climate of the Four Corners region. But, it can still have harmful effects on the land, animals, and people who live here. Monitoring the impacts of drought can help communities make better decisions about how and when to respond to drought conditions. We have been working with the Hopi Department of Natural Resources to develop a drought impacts reporting system specifically for that community that will help inform community decisions about drought.	General Session
10:40 AM	BREAK	General Session
10:55 am	Julie Nania, Research Fellow, Wilkinson Center for Natural Resources, Energy and the Environment, University of Colorado Law School AND Karen Cozzetto, Hydrologist, Cooperative Institute of Research in Environmental Sciences, University of Colorado “Frameworks for Climate Change Adaptation Planning”  Background information on potential climate change impacts and will focus, in particular, frameworks for thinking about how to adapt to climate change. We will draw from plans such as the National Fish, Wildlife, and Plants Climate Adaptation Strategy and the USDA’s Climate Change and Agriculture in the U.S. report and will make use of adaptation examples from the Navajo Nation, from other tribes, and examples taking place at the federal level.	
12 noon	Lunch	



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**Fourth Annual Agriculture Conference, April 24, 25, 2013, Nakai Hall, Window Rock, AZ**  
**“Doonidahaltingóó Biniinaa Nahodinéesdzah Bina’anishígíí: Drought Management/Climate Change”**

1:20 PM	Dr. Scott Bender, Veterinarian, Navajo Veterinary and Livestock Program, NNDA “Equine Disease Investigation”	4H Show Arena
3:00 PM	BREAK	General Session
3:15 PM	TBD	General Session
3:35 PM	Dr. Sam Smallidge, Wildlife Management Specialist, NMSU Extension “Rodents” They chew, they gnaw, and they divert irrigation water to the most unlikely places. Rats, mice, gophers, and squirrels appreciate the hard work of organic farmers to provide food and habitat. NMSU Extension Wildlife Management Specialist will take on the challenge of developing an integrated pest management approach to these critters, and provide an overview of organic management tools.	General Session
4:45 pm	Raffle Give Away	General Session
5:00 pm	Closing Prayer	
6:00 pm – 8:00 pm	Gerald Moore, Coordinating Extension Agent, University of Arizona AND Wayne Franklin, Tribal Extension Agent, New Mexico State University “Beef Quality Assurance Program”	New NNDA Meeting Space

## First Annual Navajo Agriculture Golf Tournament

April 26, 2-13

Isleta Eagle Gold Club, Hard Rock, Albuquerque, NM

For more information and event fee please call:

Event Coordinator, Navajo Department of Agriculture

928-871-6605



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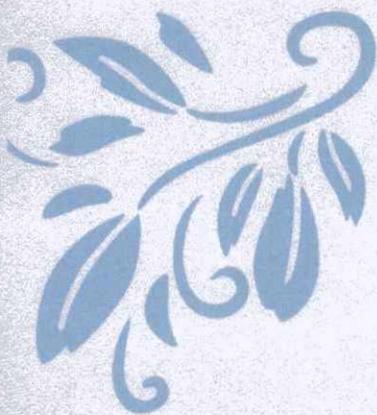


**“DOONIDAHAITINGÓÓ BINIINAA  
NAHODINÉESDZAH  
BINA’ANISHÍGÍÍ -  
DROUGHT  
MANAGEMENT/  
CLIMATE CHANGE”**

FOURTH ANNUAL  
AGRICULTURE CONFERENCE

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Conference  
PRESENTERS



# Presenter Information – April 24, 2013

## ***“Agriculture and Conservation Priority within the Division of Natural Resources”***

Topic Description:

Name: Frederick H. White  
Title: Executive Director  
Organization: Division of Natural Resources, Navajo Nation

Originally from Cornfields, Arizona, Navajo Nation, which is located Southwest of Canyon De Chelly Monument; Graduate of Northern Arizona University in Biological Sciences; 3 years Training in Parks Service Management with the National Parks; 15 yrs. With the Navajo Nation Parks & Recreation; 13 years With the Navajo Economic Development; 6 years in the position of Deputy Division Director for DNR; Appointed Division Director, Division of Natural Resources, July 16, 2012

## **“The History of Drought and Practices to Keep Your Soil Healthy”**

Topic Description: Drought in the Southwest is becoming a way of life. Steps you can take to help your crops – soil practices, moisture monitoring, irrigation timing, long-term soil building. Steps to take to help your crops weather the drought. Practices you can adopt on your farm to keep the harvest coming, event in the worst of times.

Name: Dr. John Idowu  
Title: Extension Agronomist  
Organization: New Mexico State University

Has statewide responsibility. He received his master's degree in agronomy and his doctorate degree in land management. John has worked extensively in the past on issues related to soil health for optimal crop production and conservation agriculture. His current research and extension interests include improving field crop production in New Mexico through sustainable cultural practices.

# Presenter Information – April 24, 2013

## ***“Taking Steps to Reduce Vulnerability to Drought & Increasing Aridity on the Navajo Nation”***

**Topic Description:** Discussion on how drought impacts can be magnified by climate change and increasing aridity and planned work to help limit drought impacts to rangeland, increase the capacity of the Navajo Nation to know about drought impacts, and report impacts in a way that will provide for disaster relief when it is needed.

**Name:** Dr. Margaret Hiza Redsteer  
**Title:** Researcher  
**Organization:** United States Geological Survey

Dr. Margaret Hiza Redsteer is of Crow descent and currently a research scientist at the USGS Flagstaff Science Center where she is project chief of the "Navajo Land Use Planning Project", leading a team of researchers that conduct studies on tribal lands and adjacent communities. Ongoing studies by the USGS on the Navajo Nation include: (1) documentation of landscape change to provide a foundation for evaluating geologic hazards such as flash floods and dust storms; (2) determination of drought impacts on sand dune activity through monitoring rainfall, temperature, wind and soil moisture, and field evaluation of dunes and vegetation; (3) evaluation of drought impacts through study of satellite imagery of dune and dust mobility and seasonal vegetation change.

She is a lead author on the IPCC (Intergovernmental Panel on Climate Change) working Group II Fifth Assessment Report chapter on Adaptation, Planning and Implementation, and coordinating lead author for a chapter in the southwest technical report for the National Climate Assessment on the impacts of climate change to tribes in the southwestern U.S. (AZ, NM, CA, CO, NV, UT) that will be released in April 2013. Recently she has presented research involving the accounts of Navajo Elders and climate change, conducted by project members MH Redsteer, Klara Kelley and Harris Francis, at several international meetings including the United Nations Global Platform (Geneva Switzerland) in 2011, and Planet Under Pressure (London, UK) in March 2012. Her education includes a B.S. in Geology with extended hydrogeology emphasis; an M.S. in sedimentology; and a Ph.D. in isotope and trace element geochemistry. She is the mother of 3 children enrolled on the Navajo Nation, and lived in the Joint Use Area of the Navajo Nation for ten years, in what is now Hopi Partitioned Lands.

# Presenter Information – April 24, 2013

## ***“Drought Impact on the Navajo Nation”***

**Topic Description:** Different kinds of remote sensing satellite imagery, including long time work accomplished with the San Carlos Apache. Development of a rangeland assessment tool they use to evaluate grassland productivity, and training conducted for the San Carlos resource management offices. Images will be shown which indicate areas of the Navajo Nation with the biggest impact from the current drought (for the years 2000-2012).

**Name:** Barry Middleton  
**Title:** Geographer  
**Organization:** United States Geological Survey

During August and September, 2012, scientists from the USGS Western Geographic Science Center in Flagstaff, Arizona conducted training in remote sensing and image processing for the San Carlos Apache Tribe. The training was designed to develop local expertise on the application of satellite remote sensing to monitoring and management of the San Carlos Apache tribal lands, for which forestry and livestock grazing are important economic activities. The land area of the San Carlos Apache Reservation covers more than 1.8 million acres in eastern Arizona. The course is organized and taught by Barry Middleton, with support from Dennis Dye. It is sponsored by the USGS program for Technical Training in Support of Native American Relations (TESNAR).

Other interest/skills include Landscape and Astrophotography; has worked in the Southwestern US and Pacific coastal forests; his current/recent project is the Tribal Land Project Chief (monitoring grassland condition); he has worked in collaboration with the BIA and the San Carlos Apache Tribe, the Museum of Northern Arizona, PBS Frontline World; and his Academic Background includes the University of Arizona and New Mexico State University.

## ***“Navajo Grazing Act”***

**Topic Description:**  
**Name:** Ray Castillo  
**Title:** Extension Agent  
**Organization:** Navajo Department of Agriculture

Is the Project Leader for Integrated Resource Management Project with funding from the BIA. Mr. Castillo has over 17 years experience with natural resource, livestock and grazing issues on Navajo Partitioned Lands. One of his primary responsibilities involves the development and implementation of 25 CFR 161.

# Presenter Information – April 24, 2013

## ***“Bovine Disease Investigation”***

### Topic Description:

Name: Dr. Scott Bender  
Title: Veterinarian  
Organization: Navajo Veterinary and Livestock Program, Chinle Veterinary Clinic, Navajo Department of Agriculture

Dr. Bender is a Tribal Veterinarian, working primarily as a clinician, regulatory programs and wildlife Veterinarian, now over 16 years, for the Navajo Nation Veterinary program, Department of Agriculture. Education background includes degrees in Animal science, range science, biochemistry and Veterinary Science. Attended both Oregon State University and Washington State University- College 's of Veterinary Medicine. Previous work included; Seaworld with aquatic animal medicine, the US Fish and Wildlife Service's National Wildlife Forensic Lab, the Atlantic Veterinary College , Canada, as a large animal medicine - surgery clinician, and assistant instructor of wildlife medicine. Presently, besides working as a Tribal Veterinarian, continues to consult with the USDA-APHIS Wildlife Services in Arizona , doing cooperative Rabies projects, primarily on evaluation and use of Oral Rabies baits, Oral Rabies vaccines and birth control vaccines, for use in feral and free-roaming canines and USDA Veterinary Services as the Navajo area Foreign animal disease investigation Veterinarian.

## ***“Part I: Review of New Grazing Mediation Process”***

### Topic Description:

Name: Harrison Tsosie  
Title: Attorney General  
Organization: Office of the Attorney General, Navajo Nation Department of Justice

Harrison Tsosie is the Attorney General of the Navajo Nation. Mr. Tsosie served as the Deputy Attorney from 2004 to 2011. Mr. Tsosie graduated from the University of Utah in Salt Lake City and received a Baccalaureate of Science Degree in Psychology and an Associate of Science Degree in Native American Studies. He attended the University of Utah, College of Law to study law. In May of 1995, he received his Juris Doctorate Degree from the University of Utah. He served as legal counsel for Navajo Agricultural Products Industry from 1997 to 2011 which provided him extensive insight into Agribusiness. Currently, he is involved in energy development and retention of energy projects on behalf of the Navajo Nation.

# Presenter Information – April 24, 2013

## ***“Animal ADT”***

Topic Description:

Name: Melissa Tisi  
Title: Statistician  
Organization: Navajo Veterinary and Livestock Program, Navajo Department of Agriculture

## ***“Vaccinating Your Livestock”***

Topic Description: What are Bovishield and Dectoma? And Fluvac, Westnile, Quest and Strongid? What about cattlemaster? Find out what is new in the field of livestock medical products.

Name: Tery Tanner  
Title: Inside Sales Specialist  
Organization: Zoetis

Tery Tanner is a Senior Territory Manager for Zoetis Animal Health (formerly Pfizer) for over 11 years. Most of that time Tery worked with beef producers and Veterinarians in northern Oklahoma. Her primary focus has been improving profitability in cow calf and stocker operations. Tery has presented at numerous meetings including the Oklahoma Angus Association State meetings, the Oklahoma Cattlemaster's Association District and State meetings, Nevada Cattlemaster's College as well as local and regional producer meetings. Tery ran her own cow calf operation in NE Oklahoma. She was awarded Allied Industry Rep of the year by the Oklahoma Cattlemaster's Association. This year Tery moved to her native state of NM and represents Zoetis Animal Health while working with mixed practiced Veterinarians across CA, NV, AZ, WY and UT. Tery graduated from New Mexico State University with a degree in Agriculture Economics. She lives in Gallup, NM with her husband Tony.

## ***“Navajo Department of Fish and Wildlife Project Clearance Process and Procedures”***

Topic Description:

Name: Chad Smith  
Title: Zoologist  
Organization: Navajo Nation Heritage Program, Department of Fish and Wildlife

Received a Bachelor of Science in biology from California State University and a M.S. in biology/wildlife conservation from Purdue University. For the Navajo Nation much of my work focuses on Birds of Prey but I handle issues relevant to any rare or threatened species on the reservation. My specific Training is as a herpetologist and prior to working for the Navajo Nation most of my professional work has been with Reptiles and Amphibians.

## ***“Part II: Review of New Grazing Mediation Process”***

Topic Description:

Name: Harrison Tsosie  
Title: Attorney General  
Organization: Office of the Attorney General, Navajo Nation Department of Justice

See Biography on Page 5.

# Presenter Information – April 24, 2013

## ***“Supplements for Your Livestock during Drought Conditions”***

### Topic Description:

Name: Dr. Scott Bender  
Title: Veterinarian  
Organization: Navajo Veterinary and Livestock Program, Chinle Veterinary Clinic, Navajo Department of Agriculture

See Biography on Page 5.

## ***“Land Grant Office”***

### Topic Description:

Name: Benita Litson  
Title: Director  
Organization: Land Grant Office, Diné College , Tsaile, Arizona

Over the past five years Ms. Litson has been working diligently to expand and improve the community outreach services in youth development and rangeland, farming, and livestock management. Gradually we are connecting all the curriculums to include ways to live a healthier lifestyle. Several programs that we are proud of are, beef cattle reproduction seminars, range monitoring, environmental youth camps, illegal dumping workshops, and school presentations. Our office is located at the Diné College, Tsaile Campus on the west end of campus near the Land Grant Demonstration Farm or Rodeo Ground. We welcome you to visit us at our office to discuss concerns about your farm, ranch, and/or livestock. We also encourage you to present new ideas to improve our programs and establish new programs that are not readily available.

## ***“Overview of Animal Control Program Priorities and Regulations”***

Topic Description: Understanding what constitutes as a priority call when calling the Animal Control Program and becoming familiar with the regulations of being a responsible pet owner.

Name: Joe Begay  
Title: Senior Animal Control Officer  
Organization: Navajo Nation Animal Control Program, Department of Fish and Wildlife

Joe Begay has been working for the Animal Control Program for the past 7 years.

## ***“Livestock Ownership”***

### Topic Description:

Name: Ray Castillo  
Title: Extension Agent  
Organization: Navajo Department of Agriculture

See biography on Page 4.

# Presenter Information - April 24, 2013

## ***"Appropriate Herd Size for Drought Conditions"***

### Topic Description:

Name: Dr. Kelly Upshaw-Bia  
Title: Veterinarian  
Organization: Navajo Veterinary and Livestock Program, Navajo Department of Agriculture

## ***"Bull Selection and Leasing"***

### Topic Description:

Name: Ivan Becenti  
Title: Acting Program Manager  
Organization: Tribal Ranch Manager, Navajo Department of Agriculture

## ***"Overview of the methods to reduce prairie dogs in agricultural fields with a discussion of predator related issues involving livestock."***

Topic Description: Provide information about how to identify predator tracks; how to remove prairie dogs in agriculture fields; and how to keep prairie dogs from returning.

Name: Mike Deswood  
Title: Predator Control Agent  
Organization: Navajo Department of Fish and Wildlife  
Name: Charles Blacksheep  
Title: Predator Control Agent  
Organization: Navajo Department of Fish and Wildlife

Mike Deswood, Wildlife Predator Control Agent, has been working with NDFW for 18 years as a Wildlife Predator Control Agent. As a Predator Control Agent he responds to requests on the Eastern side of the Navajo Nation.

Charles Blacksheep, Wildlife Predator Control Agent, has been working with NDFW for 19 years as a Wildlife Predator Control Agent. As a Predator Control Agent he responds to requests on the Western side of the Navajo Nation.

# Presenter Information – April 25, 2013

## ***“Song/Prayer”***

Topic Description:

Name: Leandra A. Thomas  
Title: Miss Navajo Nation 2012 - 2013  
Organization: Office of Miss Navajo Nation

My name is Leandra Thomas. I am Naakaii Dine (Mexican/Spanish people) born for Tsi'naajinii (Black streak people). My maternal grandparents are Kiiya'aanii (Towering house people), and my paternal grandparents are Honagha'nii (Ones who walk around). I come from a small community called Steamboat Canyon, Arizona. I received my bachelor's degree from Northern Arizona University in elementary education. I am pursuing my master's degree in bilingual multicultural education also from NAU.

I have two loving parents Anderson and Bernice Thomas. I'm the youngest of four with three older brothers Andy, Arlo, and Leander. The teachings that are instilled within me come from: my family, grandparents, relatives, and our livestock.

As an educator and a student, I feel the students are the ones who will be carrying on our Dine teachings. Our elders are the ones who share the stories from them we learn about our Navajo culture & language. Therefore throughout the year my focus is our youth and our elders. Together our nation is able to reach great heights and together we are able to walk in beauty.

## ***“Opening Remarks – Conference Purpose”***

Topic Description: Climate Change is a relatively new discipline that many people on the Navajo Nation are not familiar with. The scientific concepts and principles may be unfamiliar to the Navajo agricultural community, Navajo Natural Resource professionals and the Navajo people. However, the Nation is being severely impacted by climate change and it is imperative that the Navajo Nation begin to prepare by educating ourselves and focus our resources on assessing impacts to our resources. The Navajo way of life depends on our response to climate change impacts. This session presents the latest in climate change research for our region. The ultimate goal of this session is to bring affected parties together so we can begin the dialogue necessary to face this global crisis and begin to develop climate change adaptation strategies for the Navajo Nation.

Name: Gloria Tom  
Title: Department Manager  
Organization: Department of Navajo Fish and Wildlife

Gloria has a Bachelor of Science degree in Wildlife Management from the University of Arizona and has a wildlife management career that spans over 25 years. She has worked for the Navajo Nation for over 20 years and has also worked for USDA and the San Carlos Apache Tribe. She is originally from Fort Defiance and now makes her home in St. Michaels, Arizona. Her clans are Todicheeni and is born for Tacheenii.

# Presenter Information – April 25, 2013

## ***“Climate Change: Global and Local (Four Corners) Perspectives”***

**Topic Description:** Climate change is creating a warmer planet and the Southwest will be affected as well. As the temperature rises, different resources and landscapes will start to change in a variety of ways. This talk will provide background on climate change globally as well as information about how it is likely to affect the Southwest and the Four Corners region.

**Name:** Dan Ferguson  
**Title:** Program Director  
**Organization:** Climate Assessment for the Southwest, University of Arizona

Dan received his Master's Degree from The University of Arizona in American Indian Studies. He has been directing the Climate Assessment for the Southwest (CLIMAS) program since 2007. The mission of CLIMAS is to connect climate science to decision making in the Southwest. Dan's research focuses on three related areas: climate impacts and adaptation strategies in Native American communities in the Southwestern US; methods and processes for building scientist/practitioner partnerships to address climate-related issues in society; and communication of science.

## ***“Helping a Community Develop a Drought Impacts Reporting System”***

**Topic Description:** Drought is a natural part of the climate of the Four Corners region. But, it can still have harmful effects on the land, animals, and people who live here. Monitoring the impacts of drought can help communities make better decisions about how and when to respond to drought conditions. We have been working with the Hopi Department of Natural Resources to develop a drought impacts reporting system specifically for that community that will help inform community decisions about drought.

**Name:** Alison Meadow  
**Title:** Program Manager  
**Organization:** Southwest Climate Science Center, University of Arizona

Alison has a Ph.D. in Environmental Anthropology and an M.A. in American Indian Studies. Her research focuses on how scientists and resource managers can collaborate to make better decisions about adapting to climate change. Alison works for the Southwest Climate Science Center, which is based at University of Arizona. The SWCSC is a partnership between the Department of the Interior and six universities in the southwest to link climate scientists directly with resource managers to solve scientific and management problems.

# Presenter Information – April 25, 2013

## ***“Frameworks for Climate Change Adaptation Planning”***

**Description:** Background information on potential climate change impacts with a focus on presenting some frameworks for thinking about how to adapt to climate change. We will draw from plans such as the National Fish, Wildlife, and Plants Climate Adaptation Strategy and the USDA’s Climate Change and Agriculture in the U.S. report. We will also make use of adaptation examples from the Navajo Nation, from other tribes, and examples taking place at the federal level.

**Name:** Julie Nania, Research Fellow  
**Organization:** Wilkinson Center for Natural Resources, Energy and the Environment,  
University of Colorado Law School

**Name:** Karen Cozzetto, Hydrologist  
**Organization:** Cooperative Institute of Research in Environmental Sciences, University of  
Colorado-Boulder

Julie Nania is a research fellow specializing in American Indian law and water and energy policy. Karen Cozzetto is a hydrologist specializing in surface water-groundwater interactions and climate influences on stream flows.

Both Ms. Nania and Dr. Cozzetto have been working together on a Native Communities and Climate Change Preparedness project that has included examining drought monitoring and response on the Navajo Nation and on a climate change adaptation report for the Navajo Nation.

## ***“Equine Disease Investigation”***

**Topic Description:**

**Name:** Dr. Scott Bender  
**Title:** Veterinarian  
**Organization:** Navajo Veterinary and Livestock Program, Chinle Veterinary Clinic, Navajo  
Department of Agriculture

See Biography on Page 5.

# Presenter Information – April 25, 2013

## ***“Rodents”***

Topic Description: They chew, they gnaw, and they divert irrigation water to the most unlikely places. Rats, mice, gophers, and squirrels appreciate the hard work of organic farmers to provide food and habitat. NMSU Extension Wildlife Management Specialist will take on the challenge of developing an integrated pest management approach to these critters, and provide an overview of organic management tools.

Name: Dr. Sam Smallidge  
Title: Wildlife Management Specialist  
Organization: NMSU Extension

Dr. Sam Smallidge is an Assistant Professor and Extension Wildlife Specialist, in the Extension Animal Sciences and Natural Resources Department at New Mexico State University. He is also the Range Improvement Task Force Coordinator. Dr. Smallidge's research and extension efforts focus on the management of wildlife and livestock interactions. His Department Affiliation is the Animal Sciences & Natural Resources, Animal & Range Sciences. He has a PhD from New Mexico State University in 2005. He works in Range ecology and management and monitoring; and Wildlife and livestock interaction.

## ***“Beef Quality Assurance”***

Topic Description: Beef Quality Assurance is a national program that provides guidelines for beef cattle production. The program raises consumer confidence through offering proper management techniques and a commitment to quality within every segment of the beef industry.

Name: Gerald Moore  
Title: Coordinating Extension Agent  
Organization: University of Arizona  
Name: Wayne Franklin  
Title: Tribal Extension Agent  
Organization: New Mexico State University

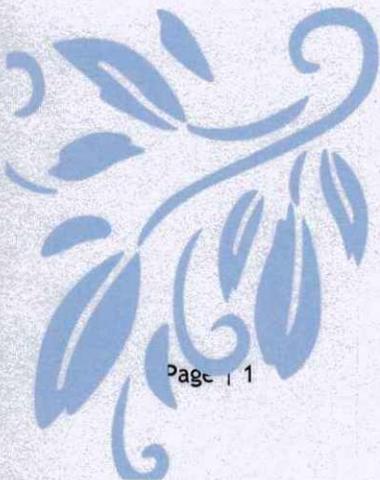


*“Doonidahaltingóó Biniinaa*  
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*DROUGHT MANAGEMENT /*  
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**Youth Conference**  
**SCHEDULE**





# YOUTH Conference Agenda

WEDNESDAY, April 24, 2013  
(X Students)

Station 1	Water Activity - Watershed
Station 2	Water Activity - Ground Water
Station 3	Water Activity - Water Cycle
Station 4	Sheep Shearing / Wool Processing Methods / By Products
Station 5	Seed Ball Express
Station 6	Navajo Nation Zoo
Station 7	Navajo Police Department
Station 8	Canine Care & Responsibility, Puppy Program, NNVLP, NNDA

7:30 am - 4:00 pm	Registration All Day - Morning Refreshment - Coffee, Fruit, Pastries Mr. Kyle Tom - Dine' Entertainer - Facilitator, MC and Entertainer
8:20 am - 8:25 am	Prayer
8:25 am - 8:30 am	Mr. Frederick H. White. Executive Director, Division of Natural Resources Opening Remarks
8:30 am - 9:30 am	Dr. John Idowu, New Mexico State University "The History of Drought and Practices to Keep Your Soil Healthy"

## STATIONS

	Water shed	Ground Water	Water Cycle	Sheep Shearing/ Wool Processing	Seed Ball Express	Navajo Zoo	Navajo Police Dpt.	Puppy Program
8 : 3 0 a m	Arrival - Drinks and Refreshments in Nakai Hall							
9:00 am - 9:30 am	Carrot	Kale	Turnip	Pear	Celery	Tomato	Lettuce	Apple
9:35 am - 10:05 am	Apple	Carrot	Kale	Turnip	Pear	Celery	Tomato	Lettuce
10:10 am - 10:40 am	Lettuce	Apple	Carrot	Kale	Turnip	Pear	Celery	Tomato
10:45 am - 11:15 am	Tomato	Lettuce	Apple	Carrot	Kale	Turnip	Pear	Celery
11:15 am - 12:00 pm	LUNCH							
12:00 pm - 12:30 pm	Celery	Tomato	Lettuce	Apple	Carrot	Kale	Turnip	
12:35 pm - 1:05 pm	Pear	Celery	Tomato	Lettuce	Apple	Carrot	Kale	Turnip
1:10 pm - 1:40 pm	Turnip	Pear	Celery	Tomato	Lettuce	Apple	Carrot	Kale
1:45 pm - 2:15 pm	Kale	Turnip	Pear	Celery	Tomato	Lettuce	Apple	Carrot
2 : 1 5 P M	Return to the School Bus - Travel Safe!							

Exhibits Open

**Schools Confirmed:**

1. School 1
2. School 2
3. School 3
4. School 4
5. School 5
6. School 6
7. School 7
8. School 8
9. School 9

TOTAL:



# YOUTH Conference Agenda

Station 1	Water Activity - Watershed
Station 2	Water Activity - Ground Water
Station 3	Water Activity - Water Cycle
Station 4	Sheep Shearing / Wool Processing Methods /By Product
Station 5	Annual Youth Hunt, Department of Fish & Wildlife
Station 6	Navajo Nation Zoo
Station 7	Navajo Police Department
Station 8	Animals, Department of Fish & Wildlife

**THURSDAY, April 25, 2012  
(X Students)**

7:30 am – 4:00 pm

Registration All Day - Morning Refreshment - Coffee, Fruit, Pastries  
Mr. Kyle Tom - Dine' Entertainer - Facilitator, MC and Entertainer

8:20 am – 8:30 am

Miss Leandra A. Thomas, Miss Navajo Nation - Song/Prayer

8:30am – 8:40 am

Ms. Gloria Tome, Department Manager, Navajo Department of Fish and Wildlife  
Welcoming Remarks

8:40 am – 9:40 am

Dan Ferguson, Program Director, Climate Assessment for the Southwest, University of Arizona  
"Climate Change: Global and Local (Four Corners) Perspectives"

## STATIONS

Water shed      Ground Water      Water Cycle      Sheep Shearing/ Wool Processing      DFW Annual Youth Hunt      Navajo Zoo      Navajo Police Dpt.      Fish & Wildlife Animals

8 : 3 0 a m

Arrival - Drinks and Refreshments in Nakai Hall

9:00 am – 9:30 am

Carrot      Kale      Turnip      Pear      Celery      Tomato      Lettuce      Apple

9:35 am – 10:05 am

Apple      Carrot      Kale      Turnip      Pear      Celery      Tomato      Lettuce

10:10 am – 10:40 am

Lettuce      Apple      Carrot      Kale      Turnip      Pear      Celery      Tomato

10:45 am – 11:15 am

Tomato      Lettuce      Apple      Carrot      Kale      Turnip      Pear      Celery

11:15 am – 12:00 pm

LUNCH

12:00 pm – 12:30 pm

Celery      Tomato      Lettuce      Apple      Carrot      Kale      Turnip

12:35 pm – 1:05 pm

Pear      Celery      Tomato      Lettuce      Apple      Carrot      Kale      Turnip

1:10 pm – 1:40 pm

Turnip      Pear      Celery      Tomato      Lettuce      Apple      Carrot      Kale

1:45 pm – 2:15 pm

Kale      Turnip      Pear      Celery      Tomato      Lettuce      Apple      Carrot

2 : 1 5 P M

Return to the School Bus - Travel Safe!

Exhibits Open

### Schools Confirmed:

- School 1
- School 2
- School 3
- School 4
- School 5
- School 6
- School 7
- School 8
- School 9

TOTAL:



*“Doonidahaltingóó Biniinaa  
Nahodinéesdzah Bina’anishigíí –  
DROUGHT MANAGEMENT/  
CLIMATE CHANGE”*

*Fourth Annual Agriculture Conference*

Brought to You in Partnership By  
Navajo Department of Agriculture  
And  
Navajo Department of Fish and Wildlife

Youth Conference  
PRESENTERS





# YOUTH Conference Presenters

April 24, 25, 2013  
(xxx Students)

Station 1	Water Activity - Watershed
Station 2	Water Activity - Groundwater
Station 3	Water Activity - Water Cycle
Station 4	Sheep Shearing / Wool Processing Methods / By Products
Station 5	Seed Ball Express
Station 6	Navajo Nation Zoo
Station 7	Navajo Police Department
Station 8	Annual Youth Hunt
Station 9	Canine Care and Responsibility

## **"Agriculture & Natural Resource in the Classroom"**

### ***"Water Activities – Watershed, Ground Water, Water Cycle"***

Tina Sleeper, Program Coordinator  
Arizona Water Education for Teachers (WET)

**Watershed:** Students become watershed managers while they explore a model of a watershed, demonstrate how water travels over the land, and use engineering to store and transport water.

**Groundwater:** Students investigate how groundwater fits into the water cycle and how water moves through the ground by exploring three different interactive models.

**Water Cycle:** Students become water molecules as they embark on their own unique journey through the earth system.

### ***"Sheep Shearing / Wool Processing Methods / By Products"***

Herb Holgate, Range Conservationist  
Bureau of Indian Affairs / Branch of Natural Resources, Eastern Navajo Agency

Sarah Lane, Agriculture in the Classroom Program Volunteer  
Arizona Farm Bureau, Apache County, Springville, AZ

Sarah resides in St. Johns Arizona. She is a full time Rancher and operates a large Rancher with her husband Don in St. Johns area. Sarah has been a volunteer for AZ Farm Bureau to conduct educational information to students in reference to Agriculture products and where our food comes from.

### ***"Seed Ball Express"***

Carole M. Palmer  
Education Coordinator, National Wildlife Federation, Tribal Lands Conservation Program

Ms. Palmer works with tribal schools and communities to develop and maintain vegetable and flower gardens, native plant walking trails and other projects related to community health and environmental education. She collaborates with the Cooperative Extension and other organizations such as the Gallup Farmers Market to provide workshops and hands-on training opportunities for community members of all ages on these topics. Ms. Palmer has lived in Arizona for 25 years, residing on the Navajo Reservation since March, 2004. Her clans are Irish, Swedish, Scottish and German.



# YOUTH Conference Presenters

April 24, 25, 2013  
(xxx Students)

*"Doonidahatlingóó Biniinaa Nahodinéesdzah Bina'anishígíí –  
DROUGHT MANAGEMENT/CLIMATE CHANGE"*

Station 1	Water Activity - Watershed
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## **"Agriculture & Natural Resource in the Classroom"**

### ***"Navajo Nation Zoo"***

#### ***"Navajo Nation Police Department"***

Chris Holgate, Navajo Police Officer

Officer Holgate, star of the t.v. series "Navajo Cops", a show picked up by National Geographic Television featuring the lives and work of Navajo officers on the reservation, will be presenting on what patrolling the Navajo reservation is like and why you should stay crime free

#### ***"Annual Youth Hunt"***

Gloria Tom, Department Manager  
Navajo Nation Department of Fish and Wildlife

Gloria has a Bachelor of Science degree in Wildlife Management from the University of Arizona and has a wildlife management career that spans over 25 years. She has worked for the Navajo Nation for over 20 years and has also worked for USDA and the San Carlos Apache Tribe. She is originally from Fort Defiance and now makes her home in St. Michaels, Arizona. Her clans are Todicheeni and is born for Tacheenii.

#### ***"Canine Care and Responsibility"***

Kendra Wapaha, Community Outreach Coordinator, Navajo Nation Puppy Adoption Program  
Navajo Veterinary and Livestock Program, Navajo Department of Agriculture

Kendra is Dine', born into the Red-Running-Into-Water People, born for the Chippewa tribe. The Anglo-Saxon Clan is her maternal grandfather's clan and the Chippewa tribe are her paternal grandfather's clan. Her office is located within the Navajo Veterinary & Livestock Program building in Window Rock Arizona. Since the 1860's and through six generations, Kendra's family has owned and operated a sheep/ewe production.



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CONFERENCE  
FLOOR PLAN



# Conference Floor Plan

