

## Climate and Rangelands Workshop:

#### Beyond Boxes and Arrows – Assessing Climate Change/Variability and Ecosystem Impacts/Responses in Southwestern Rangelands

Apache Gold Casino, San Carlos, Arizona Jan. 25-26, 2006

What does everyone need to know about climate change & variability and the impact on Southwestern rangelands?

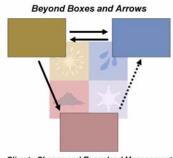
### Wednesday Jan. 25<sup>th</sup>:

9:00am-1:00pm	Registration/Check-in	
10:00am - 12:00pm	General Membership Meeting – Society of Range Management – Arizona Section	
	Lunch on your own	
1:00 - 1:05	Welcome – Mike Crimmins/Chris Jones/Dean Fish (Moderators)	
1:10 – 1:30	A Range Manager's Perspective on Recent Climate Trends – Dennis Moroney, SRM-AZ	
	- Comments and observations from a range manager's perspective concerning recent climate trends, what are the management concerns, what they wish the climatologists and ecologists could provide, and set tone for discussion.	
1:40 – 2:00	Climate Change and Southwest Rangelands: Past, Present and Future – Dr Gregg Garfin, UA	
	– An overview of our understanding of climate processes affecting Southwestern rangeland ecosystems, inferred by paleorecords, historic events, instrumental records, oceanic oscillations, climate and vegetation change modeling, crucial factors and variables.	
2:00 – 2:30	Climate-induced Threshold Responses in Rangelands – Dr. David D. Breshears, UA	
	– Dr. David D. Breshears, OA – Overview of key ecological and hydrological response factors in relation to present and projected climate change; factors and variables for discussion on climate, erosion and vegetation dynamics modeling, and extrapolation of ecological responses probable and/or projected for rangelands in the arid Southwest.	
2:30 – 2:45pm	Break	

2:45 - 3:10	Recent Fire Events in Arizona Rangelands – Jeff Whitney, USFWS		
	- Discussion of firefighting tactics and obse Cave Creek Complex and Willow Fires in c types, and how weather and climate conditi are affecting fires on rangelands.	ervations concerning the lesert and chaparral vegetation	
3:10 - 3:30	Management and Education Vision		
	<ul> <li>Dr. I</li> <li>Making the bridge between known and er and modeling to make state-of-the-art resea the-ground application for decision makers educators.</li> </ul>	rch information relevant for on-	
3:30 - 3:50	State & Transition Models: Moving Beyond Boxes and Arrows		
	- Dr. Steven Archer, UA - Thought stimulating talk to consider climate and vegetation change/variability using state and transition concepts, discussion of factors and variables needed as identified by workshop participants, and practical applications of place-based user-friendly dynamic simulation models for decision-making and management of Southwestern rangelands.		
3:50 – 4:45	Natural Res. Management: Applications, Adaptations and Implications – Speakers' Panel: Previous afternoon presenters – Panel discussion and audience participation on how natural resources management efforts can respond to and incorporate climate change and ecological response knowledge to best manage rangelands and their resources.		
6:00 pm	Reception and Auction (Hors d'oeuvres and cash bar)		
7:00 pm	Banquet and SRM Awards Ceremony		
Thursday Jan. 26 <sup>th</sup>			
8:00 - 8:10	Welcome/Housekeeping (Mike Crimmins/Chris Jones/Dean Fish)		
8:10 - 8:30	Grazing and Grasslands under Changing Climate: Concepts, Questions, and Anticipatory Decision-making – Dr. Thomas Sisk, NAU		
8:30 – 9:30	Other Factors affecting Climate and Rangelands – 15 minute overviews of additional ecological and other factors applicable to climate and rangelands		
	- Invasive Plants: - Insects: - Atmospheric Carbon Fertilization: - Range/Livestock Economics:	– Larry Howery, UA – David C. Lightfoot, UNM – George W. Koch, NAU – George Frisvold, UA	
9:30 - 10:00	Break (Setout evaluations)		
10:00 - 10:15	Pre-game Survey	– Niina Haas, UA	

#### Climate Change and Rangeland Mgmt: Game of States and Transitions – Michael Crimmins and George Zaimes, UA

 Introduction to breakout activities to use state and transition models to illustrate and consider ecological interactions between climate variability/change and range management.



Climate Change and Rangeland Management

10:45 - 12:00	Team Breakouts Climate Scenarios and State & Transition Game Playing
12:00 – 1:15pm	Lunch
1:15 – 1:25	Mid-game Discussion – Michael Crimmins
1:25 – 3:00	Resume Team Breakouts Climate Scenarios and State & Transition Game Playing
3:00 - 3:15	Post-game survey – Niina Haas
3:15 - 3:30	Break
3:30 - 4:20	Team Scenario Presentations/Summary
4:20 - 4:40	Workshop Commentary by Susan Moran, ARS
4:40 - 5:00	Workshop Wrap-up by Michael Crimmins
5:00	End Day/Workshop

# Friday Jan. 27<sup>th</sup>

7:00 – 8:30am	Board of Directors Meeting	
		– SRM–Arizona Section
9:30am – 12pm	Golf Tournament	
		(Call 1-800-272-2438 ext. 3664 for tee time – 9:30am
		at the earliest. \$45 per person, includes 2-person cart.)