

# ADVANCED NATIONAL FIRE DANGER RATING SYSTEM



## 2011

### Course Information Packet



National Advanced Fire & Resource Institute

**ADVANCED NATIONAL FIRE DANGER RATING SYSTEM**  
**February 22 - March 4, 2011**  
**Tucson, AZ**

**C O N T E N T S**

	<b>PAGE</b>
Contents page.....	2
Selection Letter.....	3
Course Goals/Objectives.....	4
Course Schedule.....	5
Participant Roster.....	13
Steering Committee Roster.....	15
Faculty Roster.....	16
Local Maps.....	18
Hotels.....	20
Tucson Info.....	21
Dining.....	22



**National Advanced Fire & Resource Institute**  
Managed By The U.S. Forest Service

3265 East Universal Way, Tucson, Arizona 85756  
Phone 520-799-8787 • Fax 520-799-8785 • [www.nafri.gov](http://www.nafri.gov)

**File Code:** 5100

**Date:** December 20, 2010

**Subject:** Advanced National Fire Danger Rating System (NFDRS).

**To:** NFDRS Participants

Congratulations you have been selected to attend the Advanced National Fire Danger Rating System course. The course starts at 1300 on Tuesday February 22<sup>nd</sup> and runs through 1200 on Friday March 4<sup>th</sup>, 2011. **It is required that you stay in class through noon on Friday.** Please make your reservations accordingly.

A detailed NFDRS course packet can be viewed and retrieved from:  
[http://nafri.gov/courses/coursepacket\\_nfdrs.pdf](http://nafri.gov/courses/coursepacket_nfdrs.pdf).

**This is a two week course; you may be expected to work part of the weekend of February 26<sup>th</sup> - 27<sup>th</sup>.**

**Be sure to bring your Agency laptop to use during the course to connect to the terminal server at NAFRI.** If you do not have a laptop available to you, please advise the Course Coordinator by January 14th so that she can arrange to have one for your use during the course. These are in limited supply and are on a first come first serve basis; use of your own agency laptop is strongly suggested. You will also need to bring a short data cable to connect your computer to the network.

**Prior to Class:**

1. Connecting to the terminal server requires remote desktop connection 6.1. If you are using a current Forest Service or BLM laptop the correct version should already be installed.
2. Check to ensure you have the correct version; navigate to Start > All Programs > Accessories. If you see remote desktop connection under the accessories list then the correct version is installed. If you see the remote desktop connection under Start > All Programs > Accessories > Communications you will need to update your remote desktop connection software.

If you do not have the correct version you can download it from the following link (Windows XP only) or obtain a copy from the course coordinator.

<http://www.microsoft.com/downloads/details.aspx?FamilyId=6E1EC93D-BDBD-4983-92F7-479E088570AD&displaylang=en>

3. Save the NAFRI-TS.RDP file to your desktop. The preconfigured NAFRI-TS.RDP file is attached in this email.

If you have questions concerning this process, please contact: Tyler Hackney, Information Technology Specialist – 406.329.4935 – email: [thackney@fs.fed.us](mailto:thackney@fs.fed.us).

The course will be held at the NAFRI training facility located at 3265 E. Universal Way, Tucson, AZ 85756. You can find several maps on the NAFRI website: <http://nafri.gov/pages/locationandlogistics.htm>. These maps will give you a reference point for the hotels, eating establishments in the area and to the Training Institute which is located near the Tucson International Airport. You will need to make your own hotel reservations.

All of the hotels offer some version of a continental breakfast. There are plenty of lunch options within walking distance of the facility. The dinner options at this time consist of local hotel restaurants and fast food options. The hotels will shuttle within a five mile radius with some advance notice.

Temperatures vary in February and March; please check the National Weather Service website for current and near term weather forecasts: <http://www.wrh.noaa.gov/twc/>.

NAFRI will be providing a van shuttle service to and from the hotels as needed for the course, once in the morning and again after class in the afternoon. Please advise the Course Coordinator if you will be utilizing this service so she can plan our driver needs. In addition, most of the airport area hotels will provide a shuttle to NAFRI. <http://www.nafri.gov/pages/shuttleservice.htm>

For course attendance, we ask that you come prepared with business casual dress as a minimum. Shorts, torn jeans and T-Shirts are acceptable for after hours and weekend wear, they are not appropriate dress while attending a national level course.

Please contact Donna Kreiensiack, Course Coordinator, (520) 799-8745, email: [dkkreiensiack@fs.fed.us](mailto:dkkreiensiack@fs.fed.us), with any questions or concerns about the NFDRS course. If she is not available, please call JoAnne Ware, (520) 799-8751 or send email to [jware@fs.fed.us](mailto:jware@fs.fed.us).

  
Merrie Johnson  
Director

# **ADVANCED NATIONAL FIRE DANGER RATING SYSTEM**

## **Course Goals and Objectives**

### **VISION STATEMENT**

The National Fire Danger Rating System (NFDRS) is a trusted decision tool for fire and resource managers. The NFDRS is based upon the integration of the latest fire and atmospheric sciences, climatology, remote sensing, and GIS technology. It is supported by processors and data management systems which are robust and flexible enough to remain state of the art. The NFDRS is easy to use - requiring limited human intervention, minimal in cost, and can be applied through space (locally, regionally, nationally) and time (today, tomorrow, seasonally) across the United States. System access is web-based and outputs are displayed with tabular, graphical, and GIS formats. Fire danger is a description of factors - fuels, weather, topography - which affect the initiation, spread, and difficulty of control of wildfires on an area.

### **COURSE GOAL**

The goal of this training course is to promote better decision-making and planning using the National Fire Danger Rating System (NFDRS). Promote the development and implementation of fire danger rating operating plans at the local level to be integrated into Geographic Area and National level decision processes. Develop a pool of technical experts and cadre for Fire Danger Rating (FDR) guidance and instruction.

### **COURSE OBJECTIVES**

1. Through the development of an operating plan participants will demonstrate skills required to design, setup, and manage NFDRS at the local level. These include:
  - a. Identifying the fire problem(s).
  - b. Delineating Fire Danger Rating Areas.
  - c. Verifying input data used for NFDRS.
  - d. Applying NFDRS tools to inform and support fire management decisions.
  - e. Documenting the analysis, decisions, and operational processes.
2. Describe the relationship of NFDRS to other wildland fire decision support tools.
3. Demonstrate how fire danger rating supports local, state, Geographic Area and National decision-making.
4. Introduce new NFDRS related technology
5. Participants will develop technical knowledge to support Geographic Area NFDRS training and implementation.

## **UNIT OBJECTIVES**

### **Unit I - Introduction (LP 1-3)**

**Unit Leader - Linnea Keating**

Upon successful completion of this unit, students will be able to:

1. Demonstrate a basic working knowledge in Arc GIS, FireFamily Plus and pivot tables. (prework)
2. Demonstrate knowledge of the processes required to setup and manage the National Fire Danger Rating System (NFDRS) to support fire management decision-making process for an interagency landscape. (LP 1)
3. Develop a Fire Danger Rating Operating Plan for an interagency landscape through a series of classroom exercises based on the lectures and laboratory activities. (LP 1)
4. Utilize the latest in fire-danger related technology and provide insights on how this new technology might be used in conjunction with NFDRS. (LP 1)
5. Be acquainted with the history of fire danger rating in the United States. (LP 2)
6. Know the four principles of rating fire danger in the United States. (LP 2)
7. Differentiate among fire management tasks and the role the NFDRS plays in accomplishing those tasks. (LP 2)
8. Describe the forestry weather/fire danger rating system which encompasses weather data collection, transmission, and archiving; NFDRS calculations; distribution of NFDRS and weather information; and post analysis methods and tools. (LP 2)
9. Use Arc GIS to develop fire danger rating areas. (LP 3)

### **Unit II - Characterization of the Fire Danger Rating Area (LP 5-9) Supporting Ex 1-4**

**Unit Leader - Kai Olsen**

Upon successful completion of this unit, students will be able to:

1. List some possible sources of problem framing. (LP 5)
2. Describe problem frames which might affect fire management decisions. (LP 5)
3. Identify and define fire danger problems within a geographic area given a unique set of social, political, temporal, and spatial frames. (LP 5)
4. Given a fire danger problem (issue), apply an appropriate fire management tool to a specific target group. (LP 6)
5. Gain a general understanding of modeling concepts, process and purpose. (LP 6)

6. Compare and contrast the characteristics and sensitivity of NFDRS model outputs as they relate to fire danger rating and making decisions. (LP 6)
7. Discuss factors which are considered when selecting the most appropriate NFDRS index and/or component affecting target groups and their activities.(LP 6)
8. Utilize climate information in establishing and assessing fire danger rating areas. (LP 7)
9. Relate climate information directly to NFDRS. (LP 7)
10. Describe each climate data set and understand its appropriate use. (LP 7)
11. Discuss the importance of meteorologist input for local weather influences on the development of a fire danger operating plan. (LP 8)
12. Understand the concept and methodology of fire climate zone classification using the California example. (LP 9)
13. List data sources which are available to assist with the classification of geographic areas with respect to fire danger rating. (LP 9)
14. Classify geographic areas with respect to relatively homogeneous climate, topography, and vegetation within a given project area. (LP 9)

**Unit III - Pre-analysis Development**  
**(LP 10-18) Supporting Ex 5-6**

**Unit Leader - Jeff Kline**

Upon successful completion of this unit, students will be able to:

1. Identify the importance and methods of historic data quality control. (LP 10)
2. Demonstrate the ability to use weather data from WRCC to correct data sets. (LP 10)
3. Know and understand the statistics in various text and graphical reports in FireFamily Plus. (LP 11)
4. Describe the dynamics of the dead and live fuel moisture and fuel load exchange.(LP 12)
5. Compare and contrast the differences between the 1978 and 1988 system.(LP 12)
6. Describe the advantages and disadvantages of SIGS
7. Describe simple statistical methods to determine if RAWS is representative of the FDRA.
8. Perform an analysis of RAWS to determine if it is representative for the FDRA.

9. Understand the development and management of a fire danger weather station network. (LP 14)
10. Identify and select those aspects of managing a station network that need improving and formulate a local action plan, strategic plan. This will facilitate continued success in Fire Danger Rating. (LP 14)
11. Define the three inputs of the Growing Season or Live Fuel Index.(LP 15)
12. Describe two key differences between the Nelson fuel moisture model and the traditional NFDRS fuel moisture calculations.(LP 15)
13. Understand the advanced features of FireFamily plus. (LP 16)
14. Compute the Fosberg fire Weather Index (FFWI) for each day of weather for a station in a FireFamily plus database and use it in some simple analysis to compare FFWI with Burning Index, Spread component, and Energy Release Component. (LP 17)
15. Review key fields on the Display/Edit Default NFDR Parameters screen and their role in NFDRS calculations. (LP 18)
16. Review the functionality of the live fuel moisture model. (LP 18)
17. Describe techniques to better manage the woody and herbaceous components of the live fuel moisture model in the NFDRS processor through WIMS. (LP 18)

**Unit IV - Analysis and Application**  
**(LP 19-28) Supporting Ex 7-8**

**Unit Leader - Clint Cross**

Upon successful completion of this unit, students will be able to:

1. Discuss current RAWS (Remote Automated Weather Station) issues. (LP 19)
2. Describe the relationship between good decisions and good outcomes. (LP 20)
3. Describe the two Decision Models commonly used in fire management and state when each is typically used. (LP 20)
4. Describe how risk assessments are incorporated into each decision model. (LP 20)
5. List two factors that improve our assessments of risk and two decision traps that impede our use of risk information in decision making. (LP 20)
6. Understand why NFDRS indexes should be compared to fire history records. (LP 21)
7. Identify good measures of "fire business" against which NFDRS can be compared. (LP 21)



8. Identify and Interpret Weather/Fire Business Relationships. (LP 21)
9. Use FireFamily Plus to identify good measures of "fire business" and interpret weather/fire business relationships for two weather stations and several fuel model index combinations. (LP 22)
10. Choose station/variable/index combination that matches the requirements of the various fire management tools where NFDRS can be used (staffing levels, adjective rating, dispatch levels, restrictions, pocket cards, etc.) (LP 22)
11. For the index matched to the activity, set and justify decision points. (LP 22)
12. Create a unique fire data set by fire danger rating area. (LP23)
13. Understand the effects different methods of determining decision points may have upon program management. (LP 24)
14. Understand how to implement climatological breakpoints and fire business thresholds. (LP 24)
15. Relate a local view of the interagency planning and implementation of a fire danger operating plan. (LP 25)
16. List several fire management decisions based on NFDRS outputs. (LP 25)
17. Describe possible elements of success or failure while developing plans in an interagency or group environment. (LP 25)
18. Introduce students to national level perspectives on current and emerging developments in fire danger rating.(LP 26)
19. Introduce students to national level perspectives on current and emerging developments in fire danger rating. (LP 27)
20. Describe the agency leadership perspective on the importance fire danger rating. (LP 27)
21. Describe what the Predictive Services (PS) program is and what role they play in resource allocation decision support. (LP 28)
22. Understand how Predictive Services uses NFDRS outputs, weather and climatological information for resource allocation decision support. (LP 28)
23. Describe the National Weather Service current and future role in support of fire danger rating.

**Unit V – Operating Plan Exercise**  
**(LP 4 and Ex. 1-8)**

**Unit Leader – Brain Goff**

1. Describe some common fire danger based decisions and how they may be incorporated into a Fire Danger Operating Plan. (LP 4)
2. Outline a general process for development of a Fire Danger Operating Plan. (LP 4)
3. Describe the value of having leadership or management support for development of a Fire Danger Operating Plan. (LP 4)
  
1. Identify and describe wildfire ignition problems for a project area. (EX 1)
2. Identify an initial NFDRS index/component that best matches the desired fire management response to a fire ignition problem based on the sensitivity and characteristics of the index/component. (EX 2)
3. Delineate the project area into homogenous areas of the fire environment components: vegetation, climate, and topography. (EX 3)
4. Delineate the project area into Fire Danger Rating Areas by analyzing homogenous areas of the fire environment components: vegetation, climate, and topography. (EX 4)
5. Evaluate and validate the available fire weather data for use in fire danger analysis. (EX 5)
6. Evaluate the degree to which fire weather stations are representative of FDRAs. (EX 5)
7. Develop recommendations to address situations where representative weather data for a FDRA is not available. (EX 5)
8. Select a representative slope class, climate class, and herbaceous fuel type for each fire danger rating area (FDRA) in the project area. (EX 6)
9. Develop the appropriate NFDRS fire management tools to respond to fire ignition problems in a fire danger rating area (FDRA). (EX 7)
10. Prepare a written Fire Danger Operating Plan. (EX 8)
11. Make a presentation discussing the technical processes utilized to develop the Fire Danger Operating Plan. (EX 8)
12. Develop a NFDRS Operating Plan using the available technology, for a broad landscape, through a series of classroom exercises based on the lectures and laboratory activities. (LP 1, EX 1-7)
13. Demonstrate knowledge of the processes required to set up and manage the NFDRS to support the fire management decision-making process across a broad landscape. (EX 8)

Tuesday February 22, 2011	<b>NATIONAL ADVANCED FIRE AND RESOURCE INSTITUTE</b>	
	<i>TRAVEL DAY TO NAFRI</i>	
1000 - 1100	Steering Committee Meeting	Steering Committee
1100 - 1200	Faculty Meeting	Faculty
1200 - 1300	LUNCH	
1300 - 1400	NAFRI Details Welcome and Introduction	Donna Kreiensieck Clint Cross
	Review of Pre-Course Work	Linnea Keating
1400 - 1500	Lesson 1 - Introduction to the Fire Danger Operating Plan Exercise	Brian Goff Russ Gripp
1500 - 1600	Lesson 2 - History, Perspective, and Principles of National Fire Danger Rating System	John Deeming
1600 - 1700	Groups meet with coaches	Coaches
1700	Daily Wrap-Up	<b>Clint Cross</b>

<b>Wednesday</b> <b>February 23, 2011</b>	<b>NATIONAL ADVANCED FIRE AND RESOURCE INSTITUTE</b>	
	Daily Review	<b>Chuck Maxwell</b>
0800 - 0930	Lesson 3 - Lab 1 GIS/ARCMAP tutorial Connectivity and Computer Setup	Katy Madrid - Hipke Kai Olsen
0930 - 1030	Lesson 4 - Introduction to Development of the Fire Danger Operating Plan	Brian Goff
1030 - 1200	Lesson 5 - Framing the Fire Problem	Deb Roy Jeff Kline
1200 - 1300	LUNCH	
1300 - 1400	Exercise 1 - Identification of the Fire Problem	Deb Roy Brian Goff
1400 - 1530	Lesson 6 - Component/Indices (Matching Tasks and Sensitivity)	Jeff Kline
1530 - 1700	Exercise 2 - Matching NFDRS Index/Component to the Fire Problem	Mike Hamilton Brian Goff
1700	Daily Wrap-Up	<b>Chuck Maxwell</b>
1800	Ice Breaker	

<b>Thursday</b> <b>February 24, 2011</b>	<b>NATIONAL ADVANCED FIRE AND RESOURCE INSTITUTE</b>	
	Daily Review	<b>Shari Miller</b>
0800 - 0930	Lesson 7 - Climatology and Fire Danger Rating	Tim Brown
0930 - 1030	Lesson 8 - Meteorologist input to the Fire Danger Rating Operating Plan	Shelby Law
1030 - 1130	Lesson 9 - Classification of Geographic Areas for Fire Danger Rating	Jeff Kline
1130 - 1230	LUNCH	
1230 - 1400	Exercise 3 - Characterization of Vegetation, Climate and Topography	Chuck Maxwell Sean Triplett Brian Goff
1400 - 1500	Lesson 10 - Data Sets & Quality Assurance	Dave Christensen Kai Olsen
1500 - 1700	Lesson 11 - Statistics used in FireFamily Plus	Larry Bradshaw
1700	Daily Wrap -Up	<b>Shari Miller</b>

Friday February 25, 2011	<b>NATIONAL ADVANCED FIRE AND RESOURCE INSTITUTE</b>	
	Daily Review	<b>Russ Gripp</b>
0800 - 1000	Lesson 12 Fuel Moisture Concepts	Matt Jolly
1000 - 1030	Review of Exercises 1, 2, & 3	Brian Goff Russ Gripp
1030 - 1200	Exercise 4 - Delineate Fire Danger Rating Areas	Shari Miller Kim Kelly Brian Goff
1200 - 1300	LUNCH	
1300 - 1430	Lesson 13 - Evaluating Weather Stations for Fire Danger Rating Areas	Tim Brown
1430 - 1530	Lesson 14 - Developing and Managing Your Fire Danger Network	Gary Curcio
1530 - 1700	Exercise 5 - Validating Fire Weather Data	Shelby Law Brian Goff
1700	Daily Wrap-Up	<b>Russ Gripp</b>

Monday February 28, 2011	<b>NATIONAL ADVANCED FIRE AND RESOURCE INSTITUTE</b>	
	Daily Review	<b>Mike Hamilton</b>
0800 - 0830	Review of Exercises 4 & 5	Brian Goff Russ Gripp
0830 - 1000	Lesson 15 - Lab 2 Advanced Fuel Moisture Concepts	Matt Jolly
1000 - 1130	Lesson 16 - Advanced Features of FireFamily Plus	Larry Bradshaw
1130 - 1230	LUNCH	
1230 - 1400	Lesson 17 - Lab 3 - Advanced Features of FireFamily Plus	Larry Bradshaw
1400 - 1530	Lesson 18 - Managing the Model	Clint Cross Russ Gripp
1530 - 1630	Exercise 6 - Assigning Slope Class, Climate Class, and Herbaceous Type	Barry Garten Brian Goff
1630 - 1700	Phase Evaluations	Coaches
1700	Daily Wrap-Up	<b>Mike Hamilton</b>

Tuesday March 1, 2011	NATIONAL ADVANCED FIRE AND RESOURCE INSTITUTE	
	Daily Review	<b>Barry Garten</b>
0800 - 0900	Lesson 19 - Fire Weather Innovations	Linnea Keating
0900 - 1000	Lesson 20 - Risk and Decision Making in Fire Management	Deb Roy
1000 - 1100	Lesson 21 - Defining Decision Thresholds	Matt Jolly Jon Wallace
1100 - 1200	Lesson 22 - Lab 4 Fire Business Thresholds	Larry Bradshaw
1200 - 1300	LUNCH	
1300 - 1500	Lesson 22 - Lab 4 Fire Business Thresholds (Cont'd)	Larry Bradshaw
1500 - 1700	Lesson 23 - Lab 5 Creating a Unique Fire Data Set	Kai Olsen
1700	Daily Wrap-Up	<b>Barry Garten</b>
1800	Social at Residence Inn	



<b>Wednesday</b> <b>March 2, 2011</b>	<b>NATIONAL ADVANCED FIRE AND RESOURCE INSTITUTE</b>	
	Daily Review	<b>Kathy Pipkin</b>
0800 - 0900	Lesson 24 - Applications of Breakpoints and Thresholds	Tobin Kelley
0900 - 1100	Lesson 25 - Fire Management Officer Perspective and Local Application	Brian Goff
1100 - 1130	Exercise 7 - Matching NFDRS Outputs to Fire Business	Jon Wallace Brian Goff
1130 - 1230	LUNCH	
1230 - 1700	Exercise 7 - Matching NFDRS Outputs to Fire Business (Continued)	Jon Wallace Brian Goff
1700	Daily Wrap-Up	<b>Kathy Pipkin</b>

Thursday March 3, 2011	<b>NATIONAL ADVANCED FIRE AND RESOURCE INSTITUTE</b>	
	Daily Review	<b>Deb Roy</b>
0800 - 0830	Lesson 26 - National Level Perspective of Current Issues & Future Direction of NFDRS	Paul Schlobohm
0830 - 1000	Lesson 27 - Describe the agency leadership perspective on the importance of Fire Danger Rating	Dan Olsen
1000 - 1130	Lesson 28 - National and Geographic Area Coordination Center Applications	Chuck Maxwell Valerie Meyers
1130 - 1230	LUNCH	
1230 - 1700	Exercise 8 - Preparation and Presentation of the Fire Danger Operating Plan	Brian Goff
1700	Daily Wrap-Up	<b>Deb Roy</b>
1800	Plans Due	Brian Goff

Friday March 4, 2011	<b>NATIONAL ADVANCED FIRE AND RESOURCE INSTITUTE</b>	
	Daily Review	<b>Clint Cross</b>
0730 - 1030	Presentation - 15 minutes per group	Brian Goff Russ Gripp
1030 - 1130	Faculty Feedback on Operating Plan	Coaches
1130 - 1200	Close out and evaluations	Clint Cross
	<i>TRAVEL DAY FROM NAFRI</i>	

# 2011 NFDRS Participant Roster

**Bevis Eric**  
US Forest Service  
Klamath National Forest  
Yreka CA

**Bradley Tim**  
US Forest Service  
Salmon Challis National  
Salmon ID

**Christopher, Edwin**  
NC Division of Forest  
District 13  
Fairfield NC

**Copple Donald**  
US Forest Service  
Montana DNRC  
Dillon MT

**Duncan Trent**  
NC Division of Forest  
District 11  
Asheville NC

**Dyer Andy (Ronald)**  
US Forest Service  
Ouachita National Forest  
Hot Springs AR

**Fox Cheryl J**  
US Forest Service  
Black Hills National  
Rapid City SD

**Greathouse David**  
NC Division of Forest  
Young Offenders Forest  
Morganton NC

**Gustaveson Dustin**  
Oregon Dept of Forestry  
Lake Unit  
Salem OR

**Heinsch Faith Ann**  
US Forest Service  
Rocky Mountain Research  
Missoula MT

**Holt Robert**  
US Forest Service  
Northern California Coord  
Redding CA

**Klukas Tim**  
US Forest Service  
Shoshone National Forest  
Cody WY

**Luttrell Karla**  
US Forest Service  
Helena National Forest  
Helena MT

**Mattfeldt Mike**  
Bureau of Land Management  
Salt Lake Field Office  
Salt Lake City UT

**Money Keith**  
NC Division of Forest  
District 10  
Lexington NC

**Polk Stephen G**  
US Forest Service  
George Washington &  
Roanoke VA

**Rigby Teresa**  
West Desert District  
Salt Lake Field Office  
Salt Lake City UT

**Rys-Sikora Anne**  
Lolo National Forest  
Lolo National Forest  
Missoula MT

**Swendsen Scott**  
US Forest Service  
Chugach National Forest  
Soldotna AK

**Webb Charles**  
Bureau of Land Management  
Phoenix Field Office  
Phoenix AZ

**Wilson Richard**  
Bureau of Land Management  
Shoshone Field Office  
Shoshone ID

**Zimmerlee Boone**  
Oregon Dept of Forestry  
Prineville/Sisters  
Sisters OR

**Advanced National Fire Danger Rating System**  
**February 22 - March 4, 2011**  
**Tucson, Arizona**  
**STEERING ROSTER**

**Clint Cross, Chair**

US Forest Service  
Atlanta, GA 30309

**Brian Goff**

US Forest Service  
Pendleton, OR 97801

**Russ Gripp**

US Forest Service  
Yreka, CA 96097

**Linnea Keating**

US Forest Service  
Orofino, ID 83544

**Jeff Kline**

DOI Bureau of Land Management  
Salt Lake City, UT 84119

**Donna Kreiensieck, Course Coordinator**

US Forest Service, NAFRI  
Tucson, AZ 85756

**Katy Madrid-Hipke**

DOI Bureau of Land Management  
Boise, ID 83705

**Kai Olsen**

DOI Bureau of Land Management  
Winnemucca, NV 89445

**Bryan Schieber**

CAL Fire  
Redding, CA 96002

**Advanced National Fire Danger Rating System**  
**February 22 - March 4, 2011**  
**Tucson, Arizona**  
**FACULTY ROSTER**

**Larry Bradshaw**

US Forest Service  
Missoula, MT 59801

**Tim Brown**

Desert Research Institute  
Reno, NV 89512

**Dave Christenson**

Wisconsin Dept of Natural Resources  
Woodruff, WI 54568

**Don Copple**

Montana DNRC  
Dillon, MT 59725

**Clint Cross**

US Forest Service  
Atlanta, GA 30309

**Gary Curcio**

State of North Carolina  
Kinston, NC 28504

**Barry Garten**

US Forest Service  
Roanoke, VA 24019-3050

**Brian Goff**

US Forest Service  
Pendleton, OR 97801

**Russ Gripp**

US Forest Service  
Yreka, CA 96097

**Michael Hamilton**

CAL Fire  
Redding, CA 96002

**Tim Howell**

NC Division of Resources  
Sylva, NC 28779

**Matt Jolly**

US Forest Service  
Missoula, MT 59801

**Linnea Keating**

US Forest Service  
Orofino, ID 83544

**Tobin Kelley**

US Forest Service  
Stevensville, MT 59870

**Kim Kelly**

Bureau of Indian Affairs  
Portland, OR 97232

**Jeff Kline**

DOI Bureau of Land Management  
Salt Lake City, UT 84119

**Shelby Law**

US Forest Service  
Salt Lake City, UT 84116

**Katy Madrid-Hipke**

DOI Bureau of Land Management  
Boise, ID 83705

**Chuck Maxwell**

U.S. Fish and Wildlife Service  
Albuquerque, NM 87102

**Allison Mead**

US Forest Service  
Olustee, FL 32072

**Valerie Meyers**

National Weather Service - Phoenix  
Phoenix, AZ 85072

**Shari Miller**

US Forest Service  
Wenatchee, WA 98801

**Dan Olsen**

US Forest Service  
Atlanta, GA 30309

**Kai Olsen**

DOI Bureau of Land Management  
Winnemucca, NV 89445

**Kathy Pipkin**

DOI Bureau of Land Management  
Idaho Falls, ID 83401

**Deb Roy**

US Forest Service  
Sandy, OR 97055-7248

**Scott Reed**

Arkansas Forestry Commission  
Malvern, AR 72104

**Bryan Schieber**

CAL Fire  
Redding, CA 96002

**Paul Schlobohm**

DOI Bureau of Land Management  
Boise, ID 83705

**Sean Triplett**

US Forest Service  
Boise, ID 83705

**Jon Wallace**

DOI Fish and Wildlife Service  
Boynton Beach, FL 33473

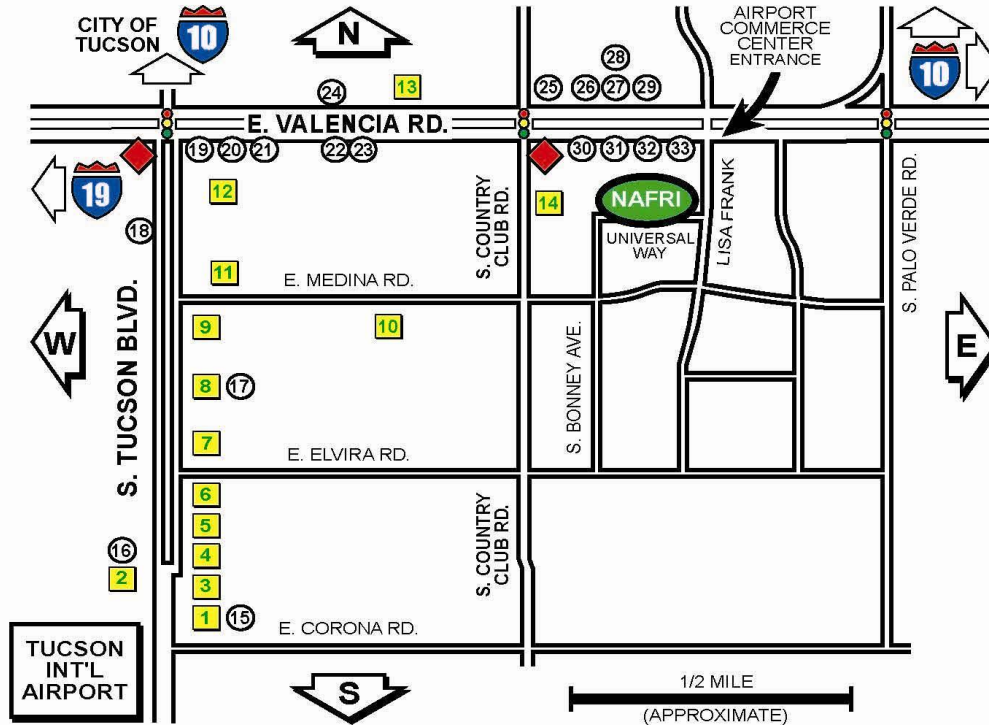




## Area Map

# NATIONAL ADVANCED FIRE & RESOURCE INSTITUTE

3265 East Universal Way • Tucson, Arizona 85706



■ HOTELS	○ RESTAURANTS	◆ CONVENIENCE & GAS	⦿ TRAFFIC LIGHTS
1 Tucson Airport Hotel & Suites	5 Fairfield Inn	9 Holiday Inn Exp.	13 Residence Inn Marriott
2 Best Western Las Brisas	6 Comfort Ste.	10 Country Inn	14 Hilton Garden Inn
3 La Quinta Inn	7 Hyatt Place	11 Courtyard Marriott	
4 Hampton Inn	8 Clarion Hotel	12 Quality Inn	
15 Finnegan's	20 Kyoto Bowl	25 McDonald's	30 Sachiko Sushi
16 The Inn Place & Las Brisas Bar/Grill	21 Denny's	26 Wendy's	31 Los Betos
17 Morgan's	22 Jerry Bob's	27 Baggins	32 Eegee's
18 Subway	23 Quiznos	28 Cafe Nation	33 Schlotzky's
19 Burger King	24 Waffle House	29 Carl's Jr.	

REVISED 9/11/07

## Nearby Hotels

<b>Best Western Las Brisas</b> ....	7060 S. Tucson Blvd .....	520-746-0271/800-780-7234
	Fax 520-889-7391 .....	<a href="http://www.bestwestern.com">www.bestwestern.com</a>
<b>Clarion Hotel</b> .....	6801 S. Tucson Blvd .....	520-746-3932/877-424-6423
	Fax 520-889-9934 .....	<a href="http://www.choicehotels.com">www.choicehotels.com</a>
<b>Comfort Suites</b> .....	6935 S. Tucson Blvd .....	520-295-4400/877-424-6423
	Fax 520-295-4497 .....	<a href="http://www.choicehotels.com">www.choicehotels.com</a>
<b>Country Inn &amp; Suites</b> .....	6681 S. Tucson Blvd .....	520-741-9000/888-201-1746
	Fax 520-741-9100 .....	<a href="http://www.countryinns.com">www.countryinns.com</a>
<b>Courtyard by Marriott</b> .....	2505 E. Executive Drive .....	520-573-0000/800-321-2211
	Fax 520-573-0470 .....	<a href="http://www.courtyard.com">www.courtyard.com</a>
<b>Fairfield Inn by Marriott</b> .....	6955 S. Tucson Blvd .....	520-295-8800/800-228-2800
	Fax 520-295-8898 .....	<a href="http://www.fairfieldinn.com">www.fairfieldinn.com</a>
<b>Hampton Inn</b> .....	6971 S. Tucson Blvd .....	520-918-9000/800-426-7866
	Fax 520-889-4002 .....	<a href="http://www.hamptoninn.com">www.hamptoninn.com</a>
<b>Hilton Garden Inn</b> .....	6575 S. Country Club Road	
	Scheduled to open early 2008	
<b>Holiday Inn Express</b> .....	2548 E. Median Road .....	520-899-6600/888-465-4329
	Fax 520-889-6168 .....	<a href="http://www.ichotelsgroup.com">www.ichotelsgroup.com</a>
<b>Hyatt Place</b> .....	6885 S Tucson Blvd .....	520-295-0405/888-HYATT HP
	Fax 520-295-9140 .....	<a href="http://www.tucsonairport.place.hyatt.com">www.tucsonairport.place.hyatt.com</a>
<b>La Quinta Inn &amp; Suites</b> .....	7001 S. Tucson Blvd .....	520-573-3333/866-725-1661
	Fax 520-573-7710 .....	<a href="http://www.laquinta.com">www.laquinta.com</a>
	Enter NAFRI in promotion/corporate field	
<b>Quality Inn Airport</b> .....	2803 E. Valencia .....	520-294-2500/866-725-1661
	Fax 520-741-0851 .....	<a href="http://www.qualityinn.com">www.qualityinn.com</a>
<b>Residence Inn by Marriott</b> ..	2660 E. Medina Road .....	520-294-5522/888-236-2427
	Fax 520-294-5542 .....	<a href="http://www.marriott.com">http://www.marriott.com</a>
	Scheduled to open early 2008	
<b>Tucson Airport Hotel</b> .....	7051 S. Tucson Blvd .....	520-573-0700
<b>&amp; Suites</b>	Fax 520-741-9645 .....	<a href="http://www.tucsonairportsuiteshotel.com">www.tucsonairportsuiteshotel.com</a>

### Specify TUCSON AIRPORT Location

All hotels provide shuttle service to and from the airport, as well as daily shuttle to and from the Institute. All hotels provide a free continental breakfast. Please mention you are with NAFRI. Other amenities are provided on a hotel by hotel basis. Be sure to confirm with the hotel when making your reservations.

## Tucson Facts and Recreation

Tucson is located in the Sonoran Desert approximately 100 miles south of Phoenix and 60 miles north of the Mexico border. It is 2,389 feet above sea level. You can expect typical Sonoran Desert climate during your stay. Temperature highs and lows from November to March are usually in the seventies during the day and forties at night. Late spring and summer daytime temperatures can run into the one-hundreds, with fifty to seventy degrees at night. Tucson receives an average of 350 days of sunshine annually.

Arizona is located in the Mountain Standard Time Zone (MST), however, AZ does not adjust to Daylight Savings Time, and therefore, during the months of April through October, AZ time mirrors Pacific Daylight Time.

Tucson is an ideal area for recreational and cultural activities, if the length of your stay allows time for exploration. Tucson has the flavor of a metropolitan area without forgetting the cultural amenities of its pioneer past. The area abounds with art museums, theaters, restaurants, resorts, and shopping areas.

Tucson metropolitan area covers 500 square miles and the valley is surrounded by five mountain ranges:

- Santa Catalinas – rugged range north and northeast
- Rincon – rolling mountains to the east
- Santa Rita – flanking the distant south & southeast
- Tucson Mountains – shorter, jagged mountains to the west
- Tortolita – closing the ring on the northwest side.

Tucson is the home of the Saguaro National Park, Arizona-Sonora Desert Museum and Coronado National Forest. All these areas provide an excellent interpretation of desert life. The Desert Museum features living examples of typical plants and animals.

Did you know that a Saguaro cactus doesn't start to grow its traditional arms until it is seventy-plus years old? You can learn this and more at the Saguaro National Park operated by the National Park Service. The Coronado National Forest is a study in contrasts. A two-hour drive can take you from desert to alpine lands where Mt. Lemmon features skiing in winter (weather permitting). More than thirty campgrounds are located throughout the Forest. Sabino Canyon east of Tucson is a popular spot known for its cool waters.

Other points of interest include Mission San Xavier del Bac south of Tucson; the frontier town of Tombstone where the famous OK Corral gun battle took place; Nogales, Sonora, Mexico for south-of-the-border shopping and sightseeing; and Tucson's many fine shopping areas including the Foothills, Tucson, Park Place, and El Con Malls.

Make sure you bring clothing suited to the time of your visit. You may want to pack athletic clothes, as the wide-open space provides many jogging and hiking areas.

For free visitor information, call or write:  
Tucson Convention and Visitors Bureau  
130 S. Scott Avenue  
Tucson, Arizona 85701  
(520) 624-1817  
[www.visittucson.org](http://www.visittucson.org)

# DINING

## **Finnegan's**

Located in Tucson Airport Hotel & Suites  
Food & Beverages served until 11:00 pm

## **Morgan's**

Located in the Clarion Hotel  
Food & Beverages served until 11:00 pm

## **The Inn Place**

Located in the Best Western Las Brisas  
Food & Beverages served in the evening from 7:00 am to 10:00 pm

## **Las Brisas Bar & Grill**

Located in the Best Western Las Brisas  
Food & Beverages served in the evening from 11:00 am to 10:00 pm

## **Sachiko Sushi**

Japanese cuisine, sushi bar and evening karaoke  
Food & Beverages served 10:30 am to 11:00 pm

## **Denny's**

24-hour restaurant

## **Jerry Bob's Family Restaurant**

Home-cooked food, Breakfast and lunch menu  
Food & Beverages served 5:00 am to 2:00 pm

## **Waffle House**

Breakfast anytime  
24 hour restaurant

## **Kyoto Bowl**

Japanese Cuisine  
Open 10:30 am to 9:00 pm

## **Los Betos Mexican Restaurant**

Drive-thru  
Open 4:30 am to 12 Midnight

## **Caffe Nation**

Coffee, espresso, bagels, baked goods and specialty lunch menu  
Free wireless internet available. Food & Beverages served 6:00 am to 6:00 pm

## **Fast Food in Area**

Burger King  
Baggins Gourmet Sandwiches  
Carl's Jr.  
Eegee's  
McDonald's

Quiznos  
Schlotzsky's Deli  
Subway  
Wendy's