

# CANSAC ACTIVITIES

**(California and Nevada Smoke and Air  
Committee)**

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**IASC Meeting**

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## Purpose:

- Oversee the implementation and operation of the Operational Mesoscale Meteorology Forecast Facility for Smoke and Fire Management. This facility is operated by the Climate, Ecosystem and Fire Application (CEFA) branch of the Desert Research Institute (DRI) located in Reno, Nevada.
- Facilitate the transfer of MM5 or mesoscale research done by the Riverside Fire Lab, California Air Resources Board (CARB), Environmental Protection Agency (EPA), Universities, and government agencies for operational applications
- Work closely with the other regional meso modeling centers to improve model accuracy and the implementation of “Bluesky” and other similar programs

## Some specific uses of CANSAC output

- Main focus is to support prescribed burning and smoke management throughout the state.  To use model forecasts on an operational basis such that they would be integrated into the decision-making process for making burn day decisions at ARB.
- The data would help the ARB to evaluate transport throughout California including Bay Area to the San Joaquin Valley and Sacramento.
- The meteorological modeling data provided would allow the ARB to expand testing and evaluation of the alternative modeling for toxics throughout the state on an ongoing basis as part of community health modeling.

# Work Share within CANSAC

- Board of Directors (BOD)
- Technical Advisory Group (TAG)
- Operational Applications Group (OAG)

# Board of Directors

- Develop an annual operating plan (AOP) between CANSAC and CEFA/DRI that provides the necessary funding for operations of the Mesoscale Meteorology Forecast Facility for Smoke and Fire Management. This AOP will include budget projections and a list of deliverables.
- Responsible for overall management of CANSAC.
- Review recommendations of the Technical Advisory Group and Operational Applications Group. This review will include approval and prioritization of tasks.
- Submit to member agencies an annual program of work and progress reports.

# Technical Advisory Group

- Monitor MM5 output and make recommendations for improved model performance.
- Coordinate with other meso modeling centers
- Review, for field application, research projects done by the Riverside Fire Lab, California Air Resources Board, Environmental Protection Agency, and all other relevant agencies.
- Work with the Pacific Northwest MM5 consortium to implement “Bluesky” in California and Nevada.
- Submit recommendations and reports to the Board of Directors.

# Operational Advisory Group

- Represent the potential end user.
- Recommend new graphics and visualizations for field use.
- Communicate to groups within their respective agencies to disseminate information and to market products.
- Submit recommendations and reports to the Board of Directors.

# Summary of Activities/Results

- A post-doctorate fellow is in the process of being hired;
- The construction of a computer room to accommodate the computer cluster is progressing;
- Agencies are turning in their signed charters;
- Grant money is to be transferred to DRI.
  
- The most recent meetings are:
  - a BOD meeting to discuss the status of the implementation of CANSAC program,
  - a joint TAG&OAG meeting to discuss end-user needs,
  - a preliminary list of stations (locations) in CA (~45) and NV (~23) at which model output will be specifically examined and made available at the web site.

## **CALIFORNIA (45 total):**

Slater Butte 4670'

Ash Creek 3700'

Redding ~500'

Carpenter Ridge 4812'

Marysville ~55'

Meyers

Sacramento ~ 30'

Sonora ~2000'

Salinas

Parkridge 7540'

Paso Robles

Ozena

Point Mugu

Bell Canyon 750'

San Diego

Medford ~1370'

Eureka ~30'

Susanville 4442'

Mendocino Pass 5100'

Pike Co. LO 3714'

Bald Mtn

Oakland ~15'

Crane Flat 6644'

Prather

Ft Hunter Liggett

Bakersfield

Edwards AFB

Mill Creek

Thermal

Fish Creek Mtn

Canby 4312'

Hayfork 2340'

Corning 294'

Ukiah 675'

Fort Bragg ~70'

Lake Berryessa

Tracy ~50'

Bishop 4120'

Fresno

Black Rock

Vandenberg AFB

Mojave Riv. Sink 950'

Clark

Blythe

Buttercup

**NEVADA (23 total):**

Tonopah

Elko

Fish Springs

Fox Mountain

Spruce Mtn

Pancake

Kane Springs

Immigration Wash

Lovelock

Dog Valley

Texas Spring

Beacon Light

Rock Spring Ck.

Cattle Camp

Kyle Canyon

Las Vegas?

Reno

Markleeville

Siard Canyon

Coils Creek

Desatoya

Alligator Ridge

Red Rock

	<b>Field Use products</b>			<b>Meteorologist products</b>	
DO- MAIN	PRODUCT TITLE	Run and valid time informa- tion	DO- MAIN	PRODUCT TITLE	Run and valid time informa- tion
	<b><u>INTERIM</u> Startup List</b> (from NPS data, for early 2003)			<b><u>INTERIM</u> Startup List</b> (from NPS data, for early 2003)	
<b>12km</b>	Meteograms (SFO SJC SAC LAX ROB)	Run off 00 /12z 3-hrly output	<b>12km</b>	Time Height Sections (SJC, MRY, SFO)	0-36 hours from 00 / 12Z
12km	Trajectory charts (from “TRJ” at end of meteogram list on NPS)	Start at 00, 12, 24, and 36 hr	12km	Profiler comparisons (LVK, SAC)	Run off 00/ 12z, Output-2 hrly
12km	Calif 22m winds (color coded)	<b>These 22m wind graphics</b>	12km	Oakland Sounding (Skew T’s)	
12km	N Calif 22m winds	<b>have 3-hourly</b>	12km	Vandenberg Sounding (Skew T’s)	
12km	C Calif 22m winds	<b>output thru 36h</b>	12km	925 mb winds/ Theta E	
12km	S Calif 22m winds	<b>Run at 00 / 12Z</b>	12km	850 mb winds/ Vertical motion	
12km	Sfc RH / 6-hour precip accumula.				
			<b>108km</b>	500 mb hts/ Abs vorticity	
			108km	SLP / 6-hour precip accumulation	
			108km	300 mb Hts/ Wind speed	

DO-MAIN	PRODUCT TITLE	Run and valid time information	DO-MAIN	PRODUCT TITLE	Run and valid time information
	<b>CANSAC MM5 Group</b> (replaces above later in 2003)			<b>CANSAC MM5 Group</b> (replaces above later in 2003)	
12km	Ventilation Index		12km	SLP, 20' winds, topography or 925 mb Temps	3-hourly
12km	Haines Index (High 700-500mb)		12km	850 mb heights, temps, winds	
12km	Haines Index (Mid 850-700mb)		12km	850 mb heights, RH	
12km	Fosberg Fire Weather Index		12km	700mb heights, temps, winds	
12km	Surface wind speed		12km	700mb vertical velocity, RH, winds	
12km	Surface relative humidity		12km	500mb heights, temps, winds	
12km	Surface temperature		12km	500mb heights, RH	
12km	Freezing level AGL		12km	500mb heights, absolute vorticity	
12km	Mid level cloud Water (10-20K)		12km	300 mb wind isotachs	
12km	Low level cloud Water (3-10K)		12km	Probability of frozen precipitation	
12km	24-hour precipitation		12km	1000 to 500mb thickness	
12km	3-hour snowfall		12km	Near Sfc cloud water (between sfc & 3K)	
	Soundings and Meteograms		12km	Planetary boundary layer	
			12km	Maximum CAPE	
			12km	3-hour precipitation	
				Soundings and Meteograms	