# STATUS

*KEY FUNCTIONS*

- ➢ Acquire and provide a stable storage repository for fire activity data for all fire types within the WRAP region.
- ➢ Make data available in near-real time to be used for regional coordination by agencies making burn/no-burn decisions.
- ➢ Perform QA/QC tasks in the form of automated routines and by allowing for manual inspection, review, and altering of data.
- ➢ Report data for QA/QC purposes, and in the form of comprehensive, QC'd inventories of fire activity and emissions.

The FETS was developed through the WRAP's Fire Emissions Joint Forum (FEJF), Air Sciences Inc. and Wingate Designs, and became operable in mid-2007. The basic features and functions include:

- ➢ Web-based manual data entry pages.
- ➢ Several options for automated data upload, including: FTP, Web Services, and e-mail.
- ➢ A web-based map tool displaying planned and accomplished fire events for all fire types and showing the locations of satellite fire detections for the previous 48 hours.
- ➢ A pop-up table showing the current status of fire data submittals to the FETS.
- ➢ Two draft report functions.
- ➢ **50 registered users / 75 visitors per day**

| System Users | Purpose | Frequency |
|---|---|---|
| *State & Tribe* | | |
| Smoke Management Programs | Regional Coordination; Burn decisions | Daily |
| Air Quality Planners | Emission Inventories; Regional Haze Plans; Air Quality episodes | Periodic |
| *Land Managers* | Regional Coordination; Burn plans | Daily |
| *Public* | Interest; Air Quality advisories | Periodic |

# WORK COMPLETED IN THE LAST 12 MONTHS

Since the FETS came online, development has focused on data acquisition to build a comprehensive dataset of fire activity in the WRAP region, enhancing data quality control routines, and augmenting regional coordination tools.

- ➢ **Data Acquisition**. Collecting fire activity data from Alaska, Montana, Idaho, Oregon, Washington, New Mexico, Nez Perce Tribe, Wyoming, Arizona, and federal wildland fire data. Establishing data handshake with California, Colorado, Utah, and Nevada.
- ➢ **Quality Control.** Established QC levels to build toward comprehensive, gap-filled historical emission inventories.
- ➢ **Regional Coordination.** Enhanced the map tool to include satellite fire detections, greater control over data layers including Class I areas and Tribal lands, and details regarding the timing and quality of data submitted by each agency.

*More details:* http://www.wrapfets.org/resources.cfm

## Regional Haze Plan Support

- ➢ Satisfies Regional Haze Rule §309 requirement for States and Tribes to develop a tracking system for fire activity and emissions.
- ➢ Classifies fires as "Natural" or "Anthropogenic."
- ➢ Tracks and stores data pertaining to application of Emission Reduction Techniques (ERTs) including estimates of emissions averted.
- ➢ Provides data for states and Tribes to track progress toward meeting Annual Emission Goals (AEGs).
- ➢ Provides regional coordination support for Smoke Management Programs (SMPs) by mapping events real-time along with Class I area boundaries, and providing contact information for neighboring SMPs.
- ➢ Provides export functions for emission inventory reports and summary statistics.

**Current Processes**

**Acquire Data From SMPs (and others)** → **Automated QA/QC, Error Reports on Incoming Data** → **Store Activity Data; Estimate Emissions**

FETS feeds the Decision Support System for Air Quality Planning

# NEXT STEPS

Development of the FETS in the near term will focus on enhancing the user experience and coordination tools in response to feedback, improving emissions calculations and reporting options, and working toward creating more robust, comprehensive emission inventories for WRAP members.

## EMISSION INVENTORY/FETS IMPROVEMENTS

**Example Tasks:**

➢ Use USDA-FS RSAC products for gap-filling areas missed by the FETS (e.g., figure at right).

➢ Allow SMPs to view Approved and Proposed burns to enhance coordination. Establish timing for submitting proposed and approved burns.

➢ Create coded regional polygon overlays on the Map Tool as a proxy for approved burns for agencies without prior knowledge of individual locations.

## EMISSIONS CALCULATIONS AND REPORTING

**Example Tasks:**

➢ Review NWGC Policy. Consider changes to FETS fire classifications to best characterize changes.

➢ Build a NEI-format export function to allow S/L/Ts to report FETS data directly to NEI.

➢ Address refinements to Agricultural Burning emissions calculations, including residue loading tables/emission factors from 2002 and incorporating the results from Air Sciences' emission factor study.

## OPERATIONS AND MAINTENANCE

➢ Add logic to Map Tool to limit viewing of Approved and Proposed Burns. Add links to Additional Resources for Smoke Managers (e.g. Meteorology, AirNOW, etc).

➢ Add a disclaimer to the Map communicating to the public that mapped burns are not all necessarily going to be lit.

➢ Maintenance, user support and system upgrades.

## Cross Application

The current and planned products of the FETS may be directly applied to important and emerging regional (visibility; NAAQS) and global air quality issues. FETS products include: customized fire emission inventories; tracking Emission Reduction Techniques and Alternatives to Burning; 3D gridded inventories; augmented emission estimates (e.g., green house gasses, mercury); incorporating remotely sensed fire data (enhanced spatial and fire type coverage for retrospective analyses).

## Connections with EPA and Other Systems

Stated objectives of an upcoming Pilot Study are to integrate fire activity data streams from disparate data gathering, processing, and storage systems and provide centralized access to "best methods" fire activity and emissions products. The FETS will provide a fire emissions data product, based on EPA guidance, which facilitates States' and Tribes' submittals of emissions data to EPA's National Emission Inventory (NEI).

**Future Processes (Near-term)**

| Fill Spatial/Temporal Gaps, build annual Emission Inventories | → | Build NEI Export, Web Services to serve other systems |
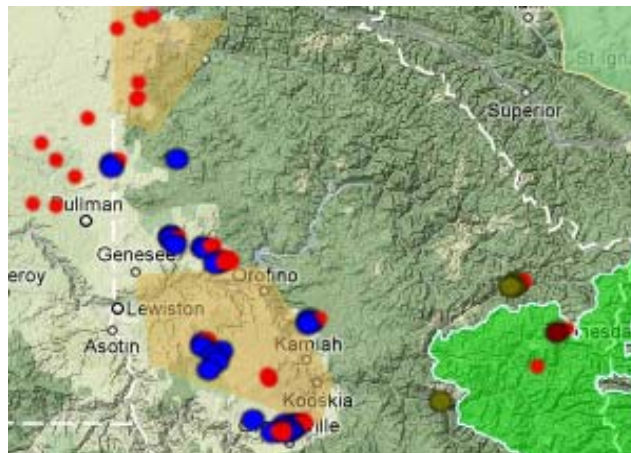


Satellite fire detections (red shapes in figure) are displayed only as a visual tool on the FETS map. Agricultural burns (blue circles) often occur concurrently with Prescribed (green) and wildland (dark red) fires. The lower right depicts a Class I area (light green). Fire detections in the upper left show areas where data are not sent to the FETS.
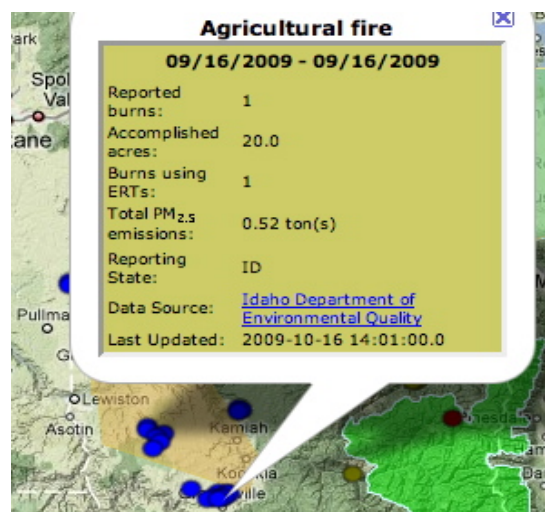


Click on a burn to see associated metadata. Acres burned, Emission Reduction Techniques (ERTs) used, and a link to the reporting agency are included.



The Data Status table on the Map page provides details on who, what, when, and where for all fires submitted to the FETS. The last column provides details on the quality and expected frequency of data submittals.

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