JOINT AIR QUALITY MONITORING PROGRAM AGREEMENT:
Environmental Protection Agency and State Department
Signed February 18, 2015

December 1, 2016

Clean Air Act Advisory Committee Meeting

EPA/State Department Agreement

State Department wished for assistance in measuring air quality in countries which were either not measuring air quality or not posting the values

- **EPA help State Department design a contract to provide them ozone or PM2.5 monitors and also provide technical support in training for their staff to measure air pollution and send it to AirNow**

- **EPA assisted them in "messaging" and alerting their staff using the AQI**

- **The State Department is focused on 2 goals for countries where embassies have installed a PM2.5 air quality monitor:**

  - **1.   Ensure U.S. citizens and government personnel overseas have sufficient data to make informed health decisions while enhancing the availability of ambient air quality data and expertise around the world and**

  - **2.   Where possible, use the air quality monitor and its public data as an opportunity for the U.S. to create partnerships on air quality with other nations.**

AirNow System Basics

- Year Round 24/7 coverage/delivers real-time data (ozone & particles) for 50 States, 6 Canadian Provinces and 24 U.S. National Parks

- Next-day AQI forecasts for over 400 cities (summer) and over 300 cities (year-round)

- Successful iPhone and Android apps

- State-of-the-science information about air pollution health effects for the public, media and stakeholders

- Public/Private partnerships with The Weather Channel, USA Today, CNN, weather service providers, NOAA National Weather Service
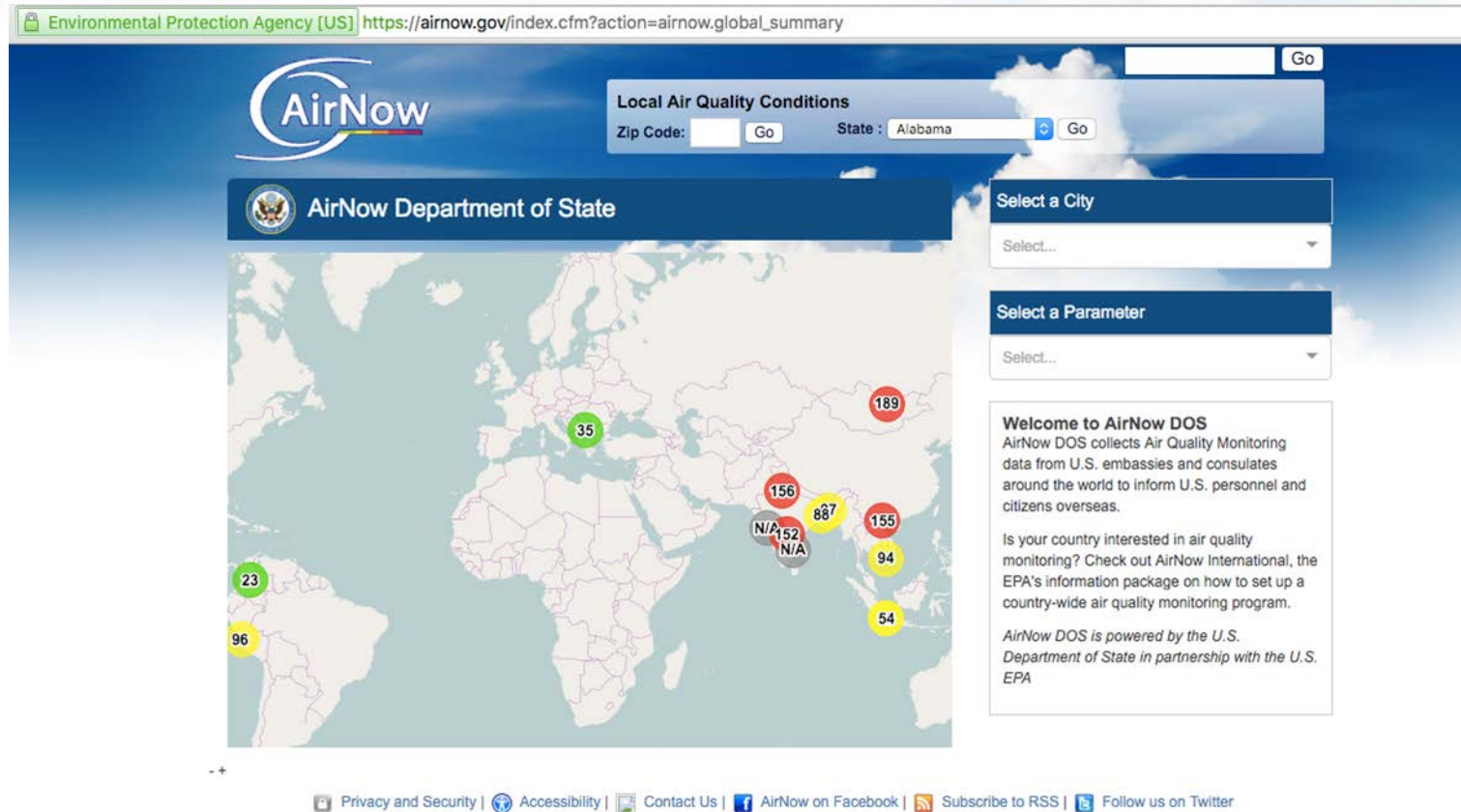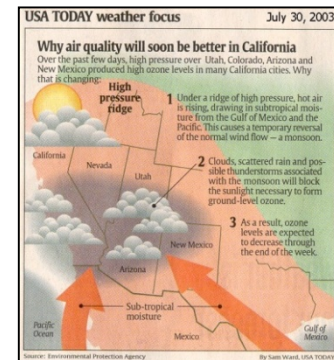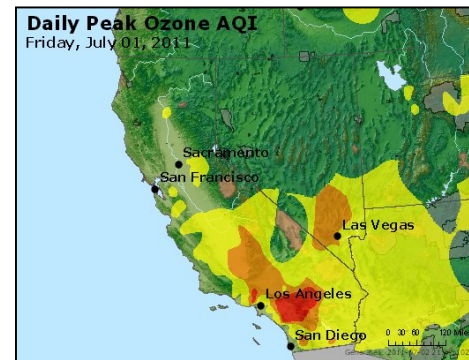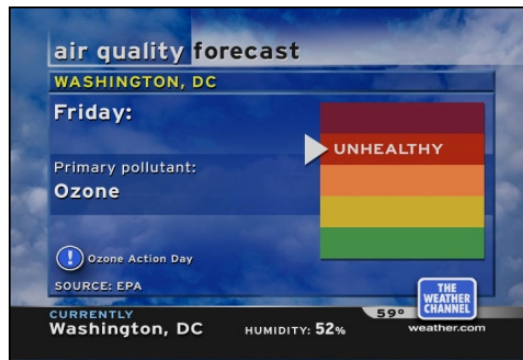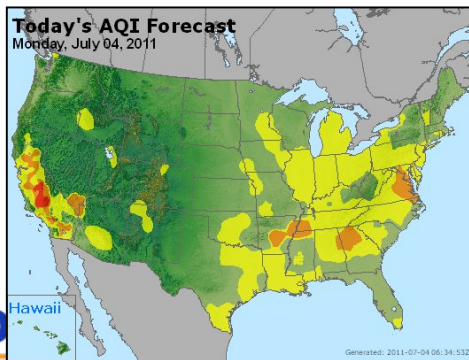
AirNow System: Main Elements

- **Monitoring and Acquisition of Data**
- **AirNow Data Flow**
- **AirNow-Tech**
- **Forecasting**
- **Community**
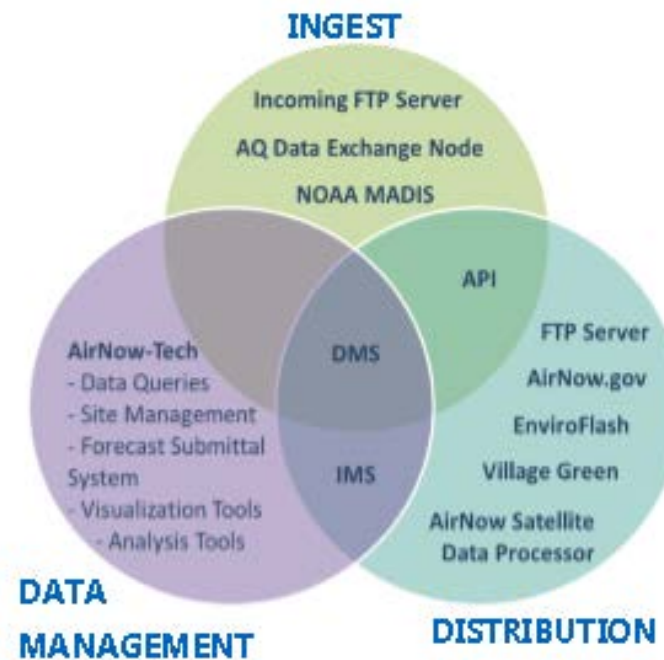
Department of State Monitoring

- Agreement between USEPA and DoS

- DoS has 20 monitors around the world, up to total of 50 planned

Latest List of Embassies and Consulates with PM2.5 Air Quality Monitors

(10 countries and 20 PM2.5 air quality monitors)

Countries	Cities
Bangladesh	Dhaka
China	Beijing, Chengdu, Chengdu, Shanghai and Shenyang
Columbia	Bogota
Ethiopia	Addis Ababa Central Addis Ababa School
India	Chennai, Delhi, Hyderabad, Kolkata, and Mumbai

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Latest List of Embassies and Consulates with PM2.5 Air Quality Monitors

(10 countries and 20 PM2.5 air quality monitors)

Countries	Cities
Indonesia	Jakarta Central and Jakarta South
Kosovo	Pristina
Mongolia	Ulaanbaatar
Peru	Lima
Vietnam	Hanoi and Ho Chi Minh City

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Mumbai, India

New realtime data computation method

- "NowCast" replaces what was known as the PM2.5 and Ozone surrogate equations
- Exists to calculate an hourly value to show realtime Air Quality Index values
- The formerly used PM2.5 surrogate was generally biased low
- The ozone surrogate required intensive data analysis to derive slope-intercepts for every monitor
- New NowCast method uses a real-time "windowed" approach, making it more reactive and requiring no ongoing data analysis

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The NowCast Method

- **An average of the previous 8 -12 hours**
- **If air quality is less variable, the hours are weighted more evenly (approaching the NAAQS averaging period of 8 hours for ozone and 24 for PM2.5)**
- **If air quality is more variable, recent hours are weighted more heavily**

Air Quality

Less variable   More variable

| ~8 hour average | OZONE | ~ 1-hour average |

| ~12 hour average | PM2.5 | ~ 3-hour average |

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