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IMAAC

**Interagency Modeling and
Atmospheric Assessment Center**

IMAAC—First Responder Perspective

*Case-Study of Rubber Fire at a
Warehouse, Waynesfield, OH*

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Incident Description

- **When:** January 20, 2014 (EST)
- **Where:** Waynesfield, OH is currently under the effects of an arctic front, which will cause the winds to shift from the northwest to the northeast shortly after the initial product.
- **What:** Active fire in a factory that produces rubber mud flaps. Approximately 100 pallets or 10,000 tires worth of rubber on fire.
- **Modeling Assumptions:** This hazard is modeled as an oil fire.



Time-Line of Events

- 0415Z Initial Call
- 0450Z Initial IMAAC Product Released
- 0730Z Second IMAAC Product Released
- 1100Z Third IMAAC Product Released



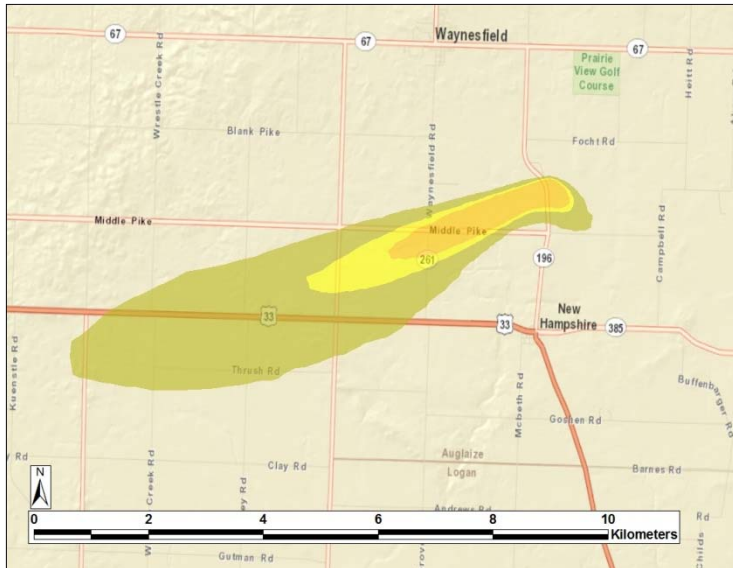
What Was Different

- Meteorology changed:
 - Cold front passed and winds shifted
 - Bands of light to moderate snow continued to affect the area
- Material Amount updated—Continuous release
- Population at Risk changed over time

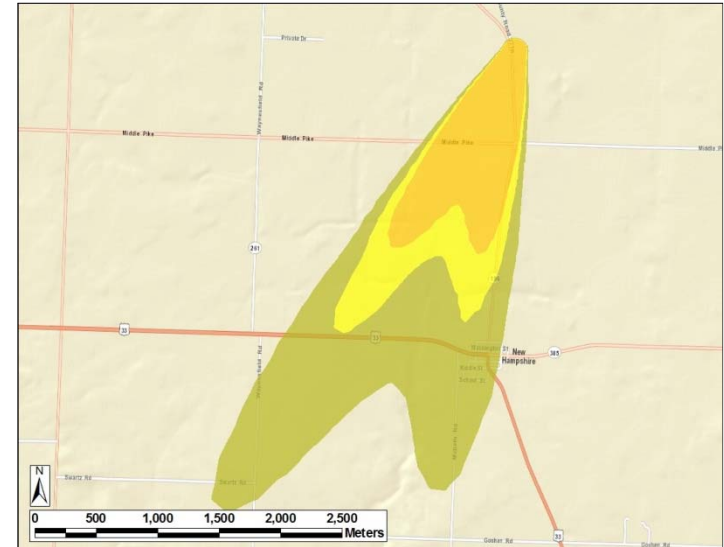


POL

Initial + 2 Hours



Updated + 10 Hours



FACTS

Waynesfield, OH
 Event Time: 0020Z 21JAN2014
 Type: Oil Fire
 Amount: 5,000 kg/hr Burn Rate
 Dissemination: Rubber Fire
 Weather: 12 km NAM
 Model: HPAC 5.2
 Static Population Estimates:
 LandScan 2012

Oilfire Gas Surface Dosage 21-Jan-14 11:00:00Z (2.000 hr) mg-min/m3	
 Hazardous	360.72
 Very Unhealthy	216.72
 Unhealthy	94.32



POL Explanation

Hazardous	Serious risk of (1) respiratory symptoms in children/adults, (2) aggravation of heart or lung disease, and (3) premature mortality in persons with cardiopulmonary disease and the elderly.
Very Unhealthy	Significant increase of (1) respiratory symptoms in children/adults, (2) aggravation of heart or lung disease, and (3) premature mortality in persons with cardiopulmonary disease and the elderly.
Unhealthy	Increased (1) respiratory symptoms in children/adults, (2) aggravation of heart or lung disease, and (3) premature mortality in persons with cardiopulmonary disease and the elderly.



First Responder Perspective

- First Responders used the product to...
 - Determine Location of Command Post
 - Change monitoring stations closer to population
 - Ability to identify the real hazard (e.g. PPE,)
 - Ingress/Egress zones
 - Road closures



Conclusions

- Scientists working with the Incident Command Team
 - This is an iterative process within the National Incident Management System (NIMS)
 - Improves response decisions to protect population and environment
 - Builds Trust

HAZMAT Plume Modeling Cycle

