

AERMOD and Risk Assessment Training

December 2-4, 2024

Agenda

Day One - Morning
Introduction to Risk Assessment
Physics of Air Dispersion <ul style="list-style-type: none">• Turbulence• Meteorology• Receptors• Topography• Plume Risk• Building Downwash• Deposition• Particle Phases
Hands-on Meteorological Data Processing
Refined Model Introduction. Overview and Data Input for AERMOD and BPIP models
Coordinate Systems and Maps
Hands-on BPIP and AERMOD
Terrain Processing
Day One – Afternoon
Hands-on AERMAP
Analyzing Results
Understanding PUFF and Plume Models
Atmospheric Physics – Planetary Boundary Layer Theory and Turbulence
Special Topics <ul style="list-style-type: none">• Coastal and Valley Issues• Flares• Odor• Roads
Storage Tanks
Air Dispersion Modeling Challenges
Day 2 – Morning
Day 1 Review
Detailed Case Studies
Multi-Chemical Runs
Wet and Dry Deposition
Factors Unique to Risk Modeling

Day 2 – Afternoon
Human Health Risk Assessment
Exposure Scenarios
Receptor Selection (Land Use)
Watersheds/Water Bodies
Site-specific Parameters
Fate, Transport, and Toxicity Parameters
Day 3 – Morning
Day 2 Review
Risk Characterization <ul style="list-style-type: none"> • Cancer • Non-Cancer (Hazard) • Acute
Acute
Uncertainty
Risk Communication
Hands on Case Studies
Day 3 – Afternoon
Ecological Risk Assessment
Food Webs
Receptor Selection (Land Use)
Watersheds/Water Bodies
Site-specific Parameters
Fate, Transport, and Toxicity
Risk Characterization
Uncertainty
Hands on Case Studies