

# Ohio River Spill Modeling

Technical Committee

June 10–11, 2014

# Background

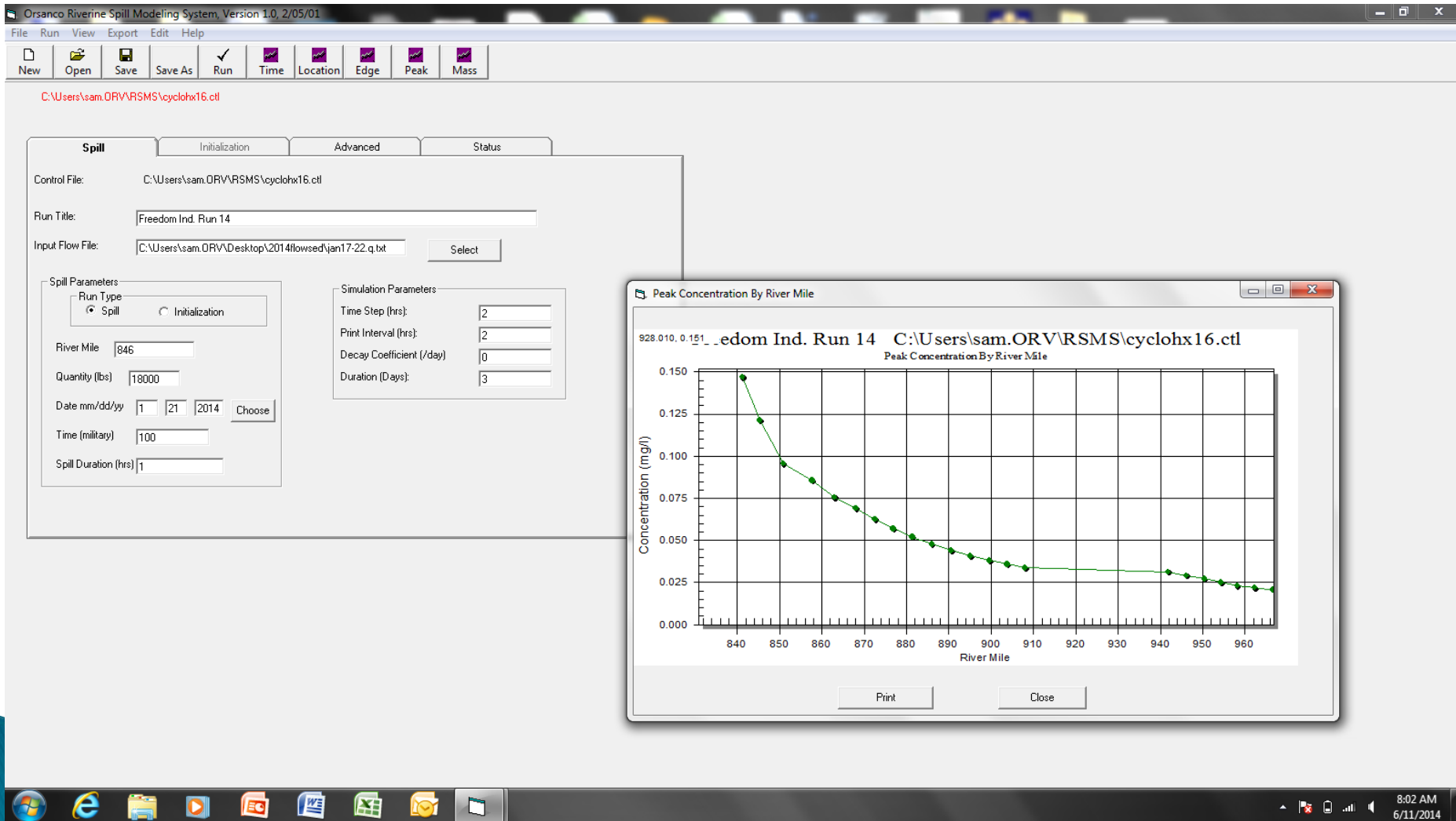
- ▶ Ohio River Spill Modeling System
  - Developed in 2000
  - Based on USGS BLTM model
  - Uses USACE CASCADE flows
- ▶ Predicts plume time-of-travel
  - Leading edge; peak; trailing edge
- ▶ Estimates pollutant concentration
- ▶ Utilized to:
  - Inform water utilities and others of spill location
  - Inform sampling crews where to monitor
- ▶ Recent Elk River spill highlighted issues

# Modeling Issues/Needs

- ▶ CASCADE model being phased out
- ▶ Model has several bugs which must be worked around
- ▶ Limited spatial extent of model runs
  - Only models 50 river segments per run
  - Does not include tributaries
- ▶ Handling of model inputs/outputs cumbersome
  - Slows down response



# RSMS Screenshot



# Proposed Model Improvements

1. Transition to HEC-RAS flow model input

2. Fix bugs

- Correct timing issue
- Correct model projections for lower river

3. Improve handling of inputs/outputs

- Automate flow input
- Modify data outputs for improved data sharing

4. Increase distance modeled per run

5. Expand model to include tributaries

# Upgrading the Spill Model

- ▶ Consulted with USACE and original designers of current model
  - ▶ Designers believe BLTM is still best model available
  - ▶ Initial rough estimate to upgrade: ~\$50K
  - ▶ No funds in FY15 budget for upgrades
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