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# OSM's Underground Mine Map Initiative

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A vertical strip on the left side of the slide shows a fragment of a topographic map with contour lines and a grid.

# Reasons for needing accurate underground mine maps

- Breakthrough prevention (impoundments, mines)
- Subsidence prediction/avoidance
- Underground mine pools
- AMD issues
- CCB placement

Bottom line: Protection of miners, the public, and the environment

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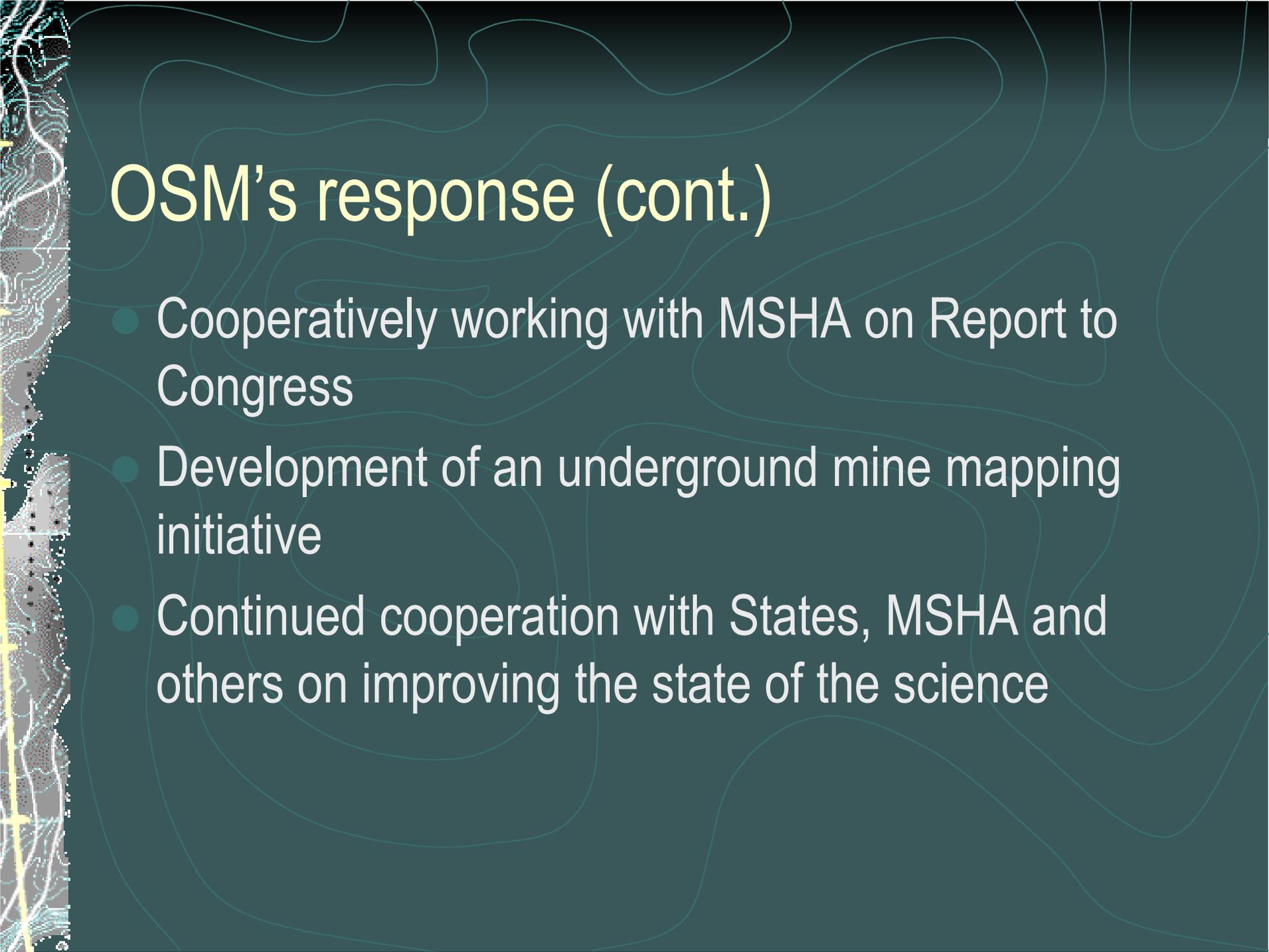
# Two Significant “Triggering” Events

- Martin County Coal Company impoundment failure in Kentucky, October, 2000
- Quecreek Mine breakthrough in Pennsylvania, July 2002



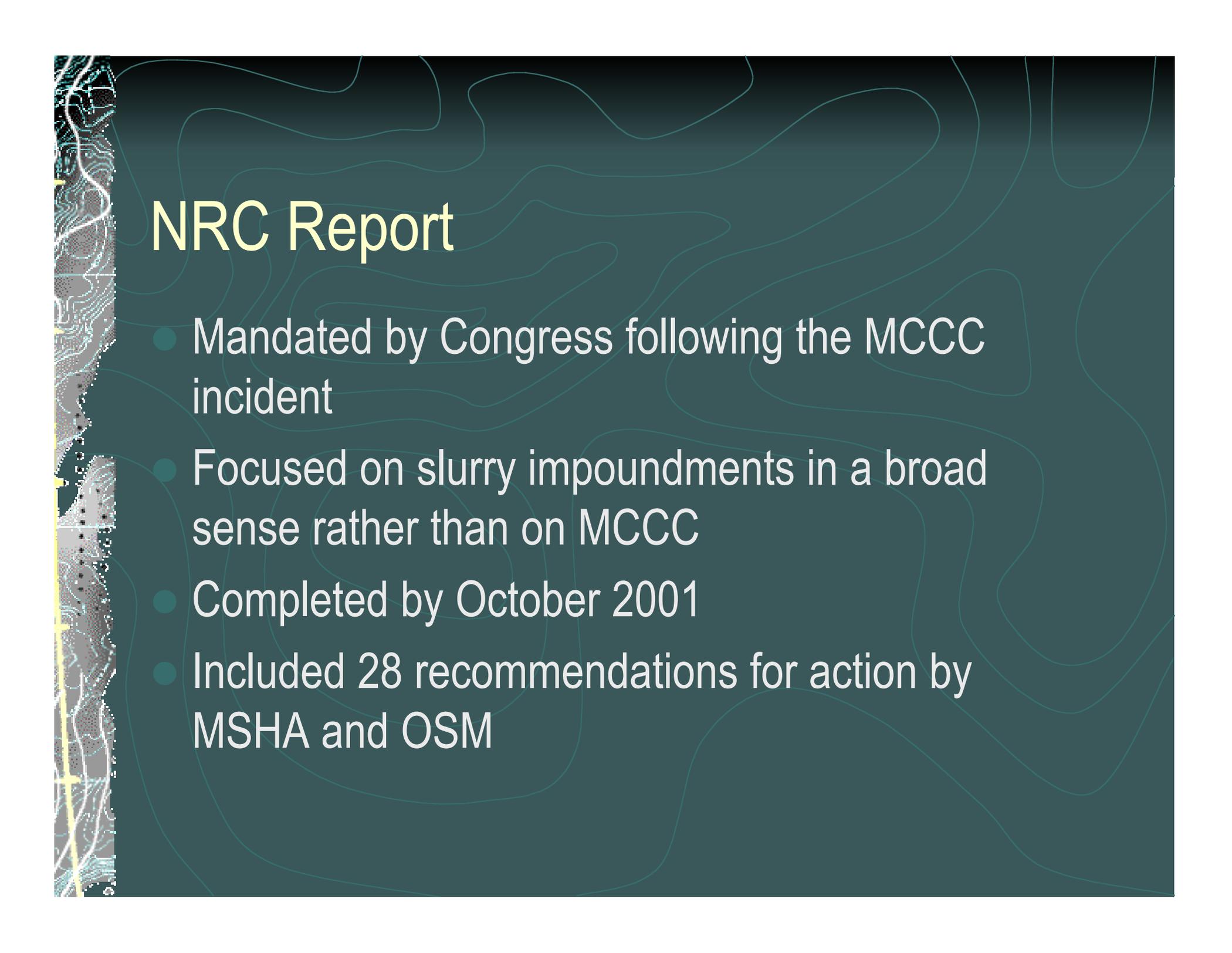
## OSM's response

- Cooperation on National Research Council study and report
- Formation of joint technical working group with MSHA
- Cooperative efforts with the States and MSHA to address technical issues and NRC recommendations

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## OSM's response (cont.)

- Cooperatively working with MSHA on Report to Congress
- Development of an underground mine mapping initiative
- Continued cooperation with States, MSHA and others on improving the state of the science



# NRC Report

- Mandated by Congress following the MCCC incident
- Focused on slurry impoundments in a broad sense rather than on MCCC
- Completed by October 2001
- Included 28 recommendations for action by MSHA and OSM



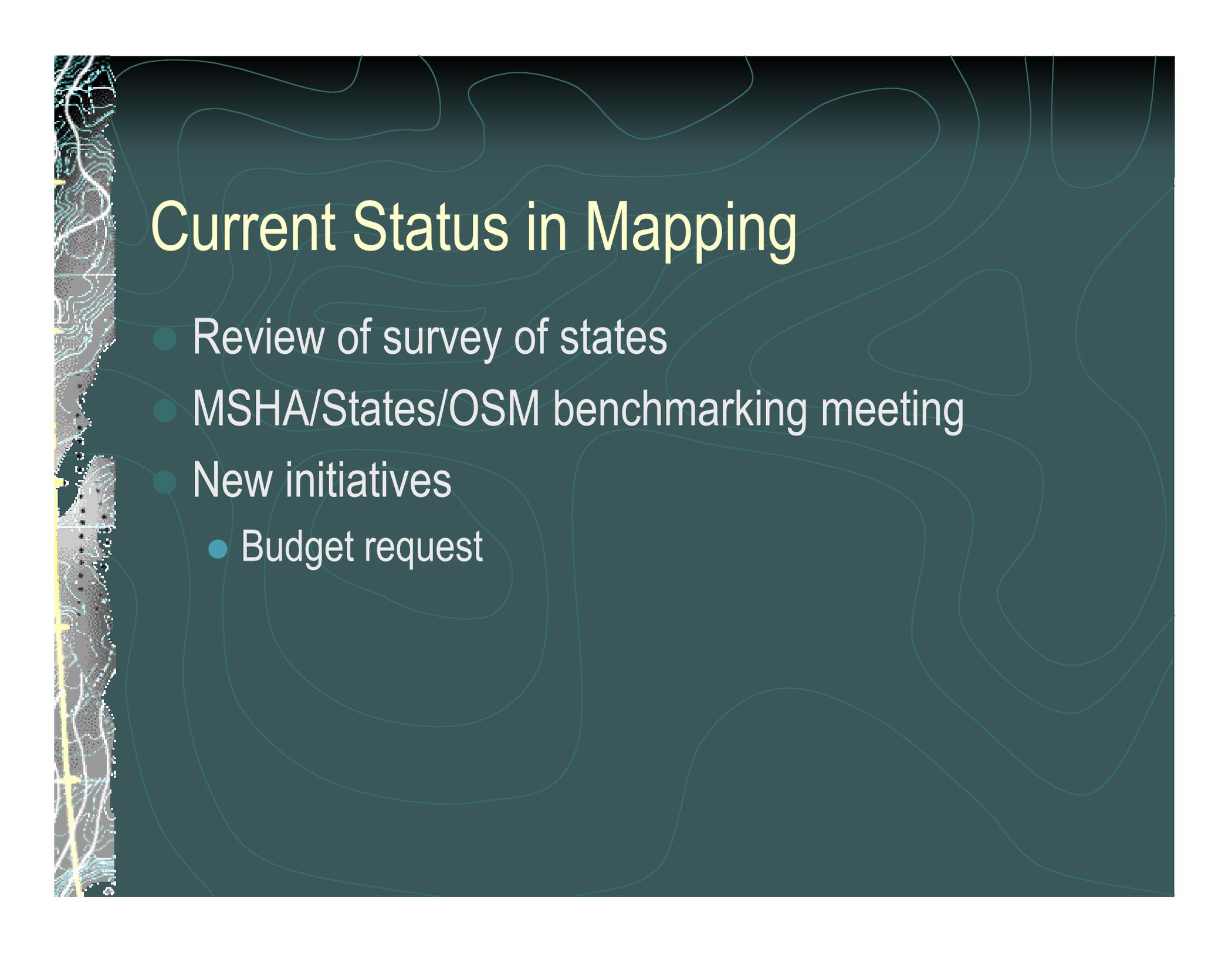
# NRC recommendations

- OSM and MSHA grouped into 6 categories
  - Administrative Issues
  - Technical Review Issues
  - Mine Surveying and Mapping Issues
  - Use of Geophysical Methods
  - Chemical Properties of Coal Waste
  - Alternative Coal Waste Disposal Methods

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# Primary technical issues

- Technical review criteria
  - Siting, failure evaluation, etc.
- Mapping standards
  - Map availability and quality
- Geophysical techniques



# Current Status in Mapping

- Review of survey of states
- MSHA/States/OSM benchmarking meeting
- New initiatives
  - Budget request



# Summary of OSM Initiative

- Includes and builds on ongoing State and Federal efforts
- Builds on TIPS and other OSM/State partnerships
- Focused on delivering the needed product and capacity building



# Issues of concern

- Getting maps into digital format
- Managing data and data standards
- Georeferencing and GIS issues
- Availability and liability

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## Future efforts

- Continued cooperation with the States, MSHA and others to use the best available tools
- Addressing existing mine maps and availability of those maps



# Key Points to Consider

- Cooperation and coordination is necessary
- Understanding the current status is key to identifying future needs
- Funding to improve map availability and quality is necessary



# OSM Specifics

- Mine Map Repository – Greig Robertson
- TIPS and Mine Mapping – Len Meier