

TIPS Steering Committee Meeting

Office of Surface Mining

May 9-11, 2006

Residence Inn by Marriott, Baltimore, MD

Next meeting dates:

TIPS 2007 Annual Steering Committee Meeting-West

Begin: 5/8/2007

End: 5/10/2007

Location: West-City TBD

TIPS 2008 Annual Steering Committee Meeting-Mid-Cont

Begin: 5/13/2008

End: 5/15/2008

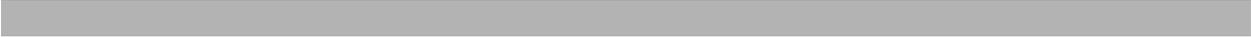
Location: Mid-Continent--City TBD

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Major Concerns for Service Managers

1. The CHFO would be receptive to an in-house training for ERDAS Imagine remote sensing software, which is consistent with the CHFO current remote sensing strategic plan.
 2. An advanced SurvCAD class or integrating some of our PMT and bond calc reviews into class examples would be helpful--like volume calculations and distance to move material.
 3. A refresher on Arc would be good since it has been a while.
 4. I think that it would be helpful if we had someone available to help individuals with specific, on-the-job needs they encounter.
 5. We have heard rumors of this mobile computing initiative though we have yet, despite incessant mumbling on our part, to see fruit.
- 

List of Attendees

Berry, David (CO)
Collins, Gerald (VA)
Wilson, Tim (KS)
Koehler, Richard (NM)
Evans, Larry (WV)
Roberts, Scott (PA)
Melton, Greg (AR)
Mullins, Doug (VA)
Schlimgen, Mark (TX)
Gainer, Willis (OSM-ABQ)
Siddell, Doug (OSM-AR)
Card, Bill (OSM-AR)
Winters, Bill (OSM-AR)
Uranowski, Lois (OSM-AR)
McKenzie, Bob (OSM-AR)
Craynon, John (OSM-HDQ)
Donnelly, Sarah (OSM-HDQ)
Barchenger, Ervin (OSM-MCR)
Joseph, William (OSM-MCR)
Meier, Len (OSM-MCR)
Clark, Billie (OSM-WR)
Evans, Karyn (OSM-WR)
Trudeau, Dawn (OSM-WR)
Hamm, Lou (OSM-WR)
Klein, Al (OSM-WR)
Osborne, Diane (OSM-WR)
McNish, Cathy (OSM-WR)

Welcome and Introductions: Billie Clark

- Out of 23 employees in the TIPS Division 19 are new or have a new assignment.
- Congratulations to Lois for her promotion to Technology transfer. Louis Hamm is now the Branch Chief for TIPS. Karyn Evans is the TIPS Training Team Leader, Cathy McNish is the TIPS software manager, Bruce Swartz is working with Capital Planning.
- Joe Galetovic and Linda Wagner have retired since our last meeting.
- Mary Greene & Greg Morlock are on temporary assignment with Office of Technology Transfer (OTT).

Welcome to Baltimore - Who's Steering the Boat?: Lois Uranowski

- Morning break around 9am, city maps and guides are available
- Please turn off all cell phones.
- We have reservations at Rusty Scupper 7pm for dinner.
- Tomorrow, baseball game – please pick up your tickets at the break.
- Review of agenda.

Introduction and Agenda Review: Al Klein

- I have been a committee member for 3 years. There have been lots of on-going changes including decreasing funds. TIPS is continuing to explode and expand. This steering group is important and a task we need to take very seriously considering the competition for the shrinking pot of resources. In planning the budget we rely on what comes out of this meeting as far as the directions that TIPS will be taking for the future. Work force plans around the department and change of personnel is now happening. States are also concerned with the number of retirements and the new people becoming involved in this program. We will have break out sessions for brain storming to give us ideas on how we will be operating. We have a lot of different ideas, some from the past and things we should plan for the future. Let's steer the ship!

The New TIPS Look: Overview of TIPS Organization: Louis Hamm

- I have been here since TIPS began and there are only two of us left, Greg Morlock and myself. There were nine of us in the beginning. TIPS has come a long way. We often refer to the annual Steering Committee meeting as the Carl Campbell holiday. Last year we talked about exhibit 300 and justifying our existence. We talked of starting a geographic information group – that proposal was approved. We talked about EGIM. In Remote Sensing Dianne Osborne has replaced Kyle. Steve Trujillo now tracks our account budgets. This year, TIPS is a new division under Billie Clark. The training and IT functions have been separated. The IT function will be under Dan Rivers. TIPS is now under the direction of Louis Hamm. Cathy McNish is here representing the IT Branch. Exhibit 300 is being covered by Bruce Swartz with the help of Steve Trujillo. Dawn Trudeau and Karyn Evans, who is a trained facilitator, are also new faces.
- Technology Transfer
- We have had a couple retirements and a change of position, to include myself. Linda and Joe have retired and it will be a challenge to replace them. We are excited about what these changes are going to do for our region. My plan for technology transfer in the West is for the function to be the main front line for all OSM customer contact. These are the specialists that will assess customer needs and either provide assistance directly or direct it to the appropriate solution source in OSM.
- In the Beginning...
- TIPS was a national functioning tool for everyone. The original premise for TIPS at the time, 19-20 years ago, is every state was asking for computers and software for SMCRA duties. It was clear each state was going to use different tools. TIPS was a means to have consistency throughout the states. This is how TIPS was meant to function and should continue to function. All states have access to the same tools, and these are the same tools used by the mining industry.
- Future of TIPS
- We will be asking you to help us. We will be talking about exhibit 300, the budget, the monies we do have, the budget cuts on the horizon, the EGIM process and Geospatial line of business.

Training Program – What's Up and What's New: Karyn Evans

- **Training Accomplishments**

- Early registration for instructor-Led classes, championing the use of live meeting, increased communication/collaboration with NTTP, State/Tribe & OSM training contacts, customers, and internally.
- We have added two new on-line classes: Blasting Log Evaluation and Galena Slope Stability; large interest for on-line courses, but they have not always been completed.
- **Training Initiatives**
- DOI Learn – New Learning Management System. Working with NTTP and Fish and Wildlife Service to implement. It is a student database and users will be able to see all Interior classes, including TIPS. This database will be launched internally until we have the opportunity to work out any bugs, and then it'll be launched to the states.
- Working with course managers to measure learning effectiveness of training classes using 2nd level evaluations. Course managers are going to provide post-training assistance using such tools as **BLOGS**.
- Working on the Annual NTTP/TIPS training needs survey.
- Working on decreasing student drop-outs from TIPS. Researching video capabilities for training classes. Marketing TIPS Training Program: Increasing instructor pool.
- Monthly updates on classes available through e-mail. Improving communications with Training coordinators. Asking them to be a part of the solution.
- Developing SDPS on-line course; updated TIPS Training Website Portal
- Giving students a better understanding of how they can access training on-line.

Software and Usage Summary: Cathy McNish

- 16 core software Packages
- Kentucky has the highest software licenses uses, then West Virginia and then third is Texas
- ArcGIS, ArcView, and AutoCAD have had the largest percent of usage.
- A big issue is how to track software use because software developers are moving to a different licensing system that we will not be able to track. Looking for different methods of tracking.
- Cannot track SurvCADD. If using TIPS AutoCAD we can track AutoCAD. May need to send out individual surveys.
- Capturing every time someone goes to the server and checks out software. Track every time they hit in one day as one hit.
- ArcGIS has several different Modules it is counted as one hit. To do as a link would be very difficult.
- Will have the problem of customers being put upon to do the survey, but maybe a worthwhile idea.
- Changing the way the licensing works with ESRI. Soon it will not require a license server. You will be able to install individually on individual workstations and laptops because of Department Enterprise licensing. Don't have to worry about internet connection.

Discussion

- Joseph: How many copies are we going to need and how much is it going to cost?
- Clark: ESRI enterprise agreement 1.5% 76,000 a year, but can get additional licenses immediately.
- Uranowski: If offering, stand alones will have a significant increase in Pennsylvania.
- Hamm: ArcGIS used to cost \$20,000 for the public. States were paying \$12,000. At that time we were paying \$2,000. For every license with all the extensions.
- Joseph: Will not be able to get out of the Server business.

TIPS 2006/2007 Budgets: Louis Hamm

- Budget background - TIPS functioned for most of its' life on a budget less than \$1 million. All this time directors would say TIPS was one of the best things that OSM does. Jeff Jarrett gave it another million dollars in '05 and '06 thanks to one director that thought it was really worth while. Our current budget is \$1.7 million.
- Hardware survey (through tips service managers) 2006 results
- Much of the budget increases went to hiring new personnel.
- Monies left from that this year are about 200,000, which we have left to buy the items on the survey.
- If you take all of the priority 1 it is just under half a million. Everything on the list is about \$700,000. What do we spend our \$200,000 on?
- Open for discussion of the kinds of things we should be providing with the limited monies that we have.
- New philosophy I would like to have some money that is available each year starting with 2007 to buy equipment for states that need it for emergencies, hardware, software, plotters that die. Put aside about \$50,000 to handle emergencies.
- Rick Koehler: Good idea, when it comes time to give reports for the state that's one of the things the states say this was a reliable service. A contingency fund for things that appear or even a new technology that rapidly develops. Could be handled in such a way to have a constraint so they could have an emergency every once in a while and not every year.

Discussion

- Meier: How do you envision this process after the last two years?
- Donnelly: Certain portion – say 5-10 percent could be set aside for emergencies. Hold equipment purchase until students are taken care of.
- Wilson: What happens if the monies don't get used?
- Kline: Augment equipment every year?
- Hamm: We do put aside monies for equipment every year this would be different.
- Kline: Limited to hardware and software? 200,000 set aside for routine each year and then 50,000 for emergencies
- Barchinger: What is the role of TIPS in this business? We need to decide.

- Clark: TIPS has been planting the seed of emerging technology as it develops. The goal is to purchase a few devices for planting the seed of technology and then letting it take off with customers making their own purchases.
- L. Evans: Concern: State IT consolidation and the wisdom of those doing it prohibit buying mobile computing PDA's/Tablets. Confused and concerned about the future of acquiring data for Virginia so an emergency fund would be good.
- Rick: Difficult decision but worthwhile for TIPS to support.
- Gerald Collins: If we didn't have TIPS to fall back on we wouldn't have anything to fall back on.
- Craynon: \$300,000 was set aside for research related to underground mining in 06 and the state requests were 1.5 million. Priorities are going to have to be set.
- Hamm: We also get requests for 50 to 80 thousand every year in imagery.
- Barry: Try to meet need with grant then reach out for resources and training. How can we prioritize?
- Kline: We have break out sessions tomorrow. Until there were some additions made to the budget TIPS wasn't able to have a structured approach and it was decided not to buy hardware for the states, our philosophical approach. Grants have not been able to keep up with needs. We are seeing the competing force of grants to hardware. Where's the compromise we need to be definitive on the following: Policy overview of the future as a steering group.
 - Planting the seeds of technology
 - What is the priority
 - What is considered an emergency?
 - What amount should be set aside each year?
 - If we need more monies for Technical IT through OSM we need to have it stated.
- Hamm: Will be talking about hardware, software and training in the breakout sessions tomorrow.
- Clark: We want you to pick what you want us to do this year by line item. Lay out in front of Brent tomorrow. Lou needs to be clear on what he needs to do next week.
- Card: Based on the recent geospatial survey 33 out of 42 State and Tribal customers do not have a formal Geospatial plan.

National Technology Transfer Team: Ervin Barchenger on behalf of Kim Vories

- NTTT mission – provide a forum to guide, coordinate, and communicate OSM national and regional technology transfer activities. Promote a broader understanding of support.
- NTTT consists of: Greg Conrad, Dave Berry, John Craynon, Sarah Donnally, Billie Clark, Bob McKenzie, Greg Morlock, Kimery Vories and serves as a communication tool with all of the various entities and TIPS, NTTP.
- Technology Transfer Products
- Technical papers, NTTP Training Forums & Workshops, TIPS
- Events
 - Stream loss & Restoration Workshop
 - Indiana Bat & Coal Mining Workshop
 - Slurry Injection Workshop
 - Mid-Continent Region Hydrology Workshop
 - FGD Placement at Mines & NAs CCR Report Forum

- Applied Science Funding
- 2005 Congress authorized OSM to initiate a program to select and fund applied science proposals that would result in improved business.
- 2005 Projects
 - Kinetic Test Method 50,000
 - Evaluate Prime Farmland 49,900
 - Rapid Assessment Protocols for Beneficial Use of Post 2000 Coal Combustion Products

National Technical Training Program: Sarah Donnelly

- Lou talked about working together with TIPS and the fact that this has occurred has been the main reason for both NTTP and TIPS getting the budget increases. We all understood the complimentary roles and working together has been an incredibly good thing. The program has grown from 11 to 47 classes and we are still working with the same amount of staff.
- Some examples of new classes:
 - Coal field Communications: How to get it Right! Doing a lot of practical exercises in the class. Have included practical information.
 - Master Instructor Development Forum: Learn new stuff. Looking at four areas: Learning styles, Presentation Skills, Multi-Media Presentation Skills, Transfer of Learning to Job.
- A class of instructors getting together to discuss new techniques and instructions that work. Getting instructors to think from beginning to end. It is going to make the students very conscious of what they are taking back. You signed up to teach because you were the best in your field.
- Accomplishments
 - Trained 957 students in 51 sessions of 38 different courses, present in 23 locations in 14 states.
- Special Sessions
 - Acid Rock 101, OSM Orientation, Coalfield Communications,
- In 2005 171 instructors 43% State and tribes (77), 47% OSM (84), 6% Solicitors (10), 4% Other (7).
- Planning Survey – Five year program
- Instructor Advisory Council
- Input into on how we can make it better for you. Incentives to keep instructors.

Steering Committee Members: Constituent Reports

Doug Siddell

TIPS Contributions to KFO to date in FY 2006

- KFO Mobile GIS Initiative

- ArcPad class at KFO on December 6-7, 2005 for 10 **KFO** staff
- TIPS sent instructors Lou Hamm, Len Meier, and Julian Calabrese
- Six HP IPAQ PDA's with Microsoft Windows CE OS, GPS antennas, flash memory
- 1 Trimble Recon GPS unit
- 1 new Toshiba tablet with Microsoft XP OS
- 7 copies of ArcPad software
- 2 additional HP IPAQ
- Training for Annabeth Rice
 - Introduction to ArcGIS for Mining and Reclamation in April
- Training for Jonathan Middleton
 - Introduction to ArcGIS for Mining and Reclamation in April
- Upgrades to ArcSDE 9.1

TIPS Commitments to KFO for remainder of FY 2006

- Training for Jo Gault from software vendor
 - Microsoft SQL Server training in May
 - Managing a Versioned Geodatabase in June
 - QA/QC for GIS Data using ArcGIS Desktop in September
- Training for Daniel Lewis from software vendor
 - Managing a Versioned Geodatabase in June
 - Introduction to Programming ArcObjects with VBA in June

Benefits KFO has derived from TIPS

- Support for KFO Mobile GIS Initiative
- Training of KFO personnel
- Specialized hardware
- Scientific software applications. All software used by KFO staff for analysis of surface coal mining impacts is funded through TIPS. This software list includes AQTESOLV, AquaChem, ArcGIS, AutoDesk Map, earthVision, Galena, Groundwater Modeling System (GMS), Groundwater Vistas, HEC-RAS, Surface Deformation Prediction System (SDPS), SedCAD, and StatGraphics. This software is on the desktop of KFO permitting and inspection personnel who use it to do their jobs.
- Recognition of KFO technical expertise
- Advancement of KFO GIS

How TIPS can Help KFO

- Remote sensing project for Clear Fork, Laurel Fork, and Bennett's Fork areas using QuickBird satellite imagery.
- Replacement plotter will be needed.

KFO Contributions to TIPS

KFO contributes to the success of TIPS through its personnel who are subject matter experts in their disciplines and by sharing its geospatial resources for national applications.

Personnel

Seven KFO personnel contribute to TIPS functions. These personnel serve as TIPS instructors, course developers, a service manager, and a chairman of a national committee.

- Bill Card
 - Former OSM representative on DOI EGIM workgroup
 - Chairman, National Coal Mining Geospatial Committee
- Jo Gault
 - Course Developer for Underground Mine Mapping
 - TIPS Instructor
 - Underground Mine Mapping
 - Introduction to ArcGIS for Mining and Reclamation
 - TIPS Service Manager for KFO, LFO, and KY
- Daniel Lewis
 - Develops and maintains code written in InstallShield software used to distribute TIPS scientific software on CDs. Currently prototyping for installation from hard drives.
- Rob Liddle
 - TIPS Instructor for AquaChem
- Rick Mann
 - TIPS Instructor for AutoCAD Map
- Danny Rahnema
 - Course developer
 - SedCad
 - SDPS
 - TIPS Instructor
 - SedCAD
 - SDPS
- Sheila Walton
 - Course developer for SedCad
 - TIPS Instructor for SedCad
 - Possible TIPS Instructor for AutoCAD

 - Geospatial Resources
 - KFO will participate in a pilot project to share its geospatial data on a national basis. A network environment will be created to allow connections between KFO GIS and a national server located at OSM in Denver. Selected KFO GIS dataset(s) will be accessed by the national server through the Internet. These dataset(s) will be copied onto the national server and combined with similar data from other state program(s) in a feasibility study. Results from the study will be used to plan a larger scale, permanent implementation of a geospatial infrastructure to provide coal mining spatial data to the Nation.

 - Charleston Field Office
 - Thank you for the opportunity to provide feedback to you concerning the upcoming TIPS Steering Committee meeting. This memo outlines the identified needs of the OSM CHFO staff in carrying out the mission of SMCRA in West Virginia.

- The CHFO envisions utilizing remote sensing and geospatial technologies in oversight and technical assistance capacities in implementation of the Title 4 and 5 programs. TIPS could help the OSM CHFO by defining where strategically TIPS is headed with respect to its vision of the potential uses of remote sensing and geospatial technologies in fulfilling the requirements of SMCRA. TIPS could help define its assistance to the community of stakeholders by addressing each state's capabilities and goals, and disseminating information concerning what TIPS can do to help each state reach those goals.
- The CHFO in partnership with the WVDEP is assessing the capabilities of remote sensing technology, with respect to coal mining and reclamation activities. As an extension of these efforts, a joint project with the WVDEP is currently assessing the change on drainage patterns in areas affected by surface mining operations. This effort will assess the effectiveness of remote sensing technology to determine the extent of changes to the directional flow of water from large-scale mining operations.
- The TIPS steering committee could discuss what capabilities for remote sensing and geospatial technologies are being developed by the SMCRA community, with respect to hardware and software requirements. TIPS could provide information on remote sensing and geospatial technology and promote its use within the SMCRA community by disseminating information by illustrating current uses of these technologies. Moreover, TIPS could provide technical assistance to the CHFO by identifying potential uses of remote sensing and geospatial technology to fulfill the requirements of SMCRA mining and reclamation activities in West Virginia.
- Certainty, staff training in remote sensing is of paramount importance to the CHFO. **The CHFO would be receptive to an in-house training for ERDAS Imagine remote sensing software, which is consistent with the CHFO current remote sensing strategic plan.** Additionally, an in-house ArcPAD training session for inspectors and technical staff is needed; however, this training should wait until all the newly hired inspectors and engineer are brought aboard, which we anticipate will occur by the early Fall.
- Also, sometimes I think the buying of equipment is based on which office or state asks at the time and that it is sometimes normal equipment that a state or office might be able to buy on their own anyway. TIPS should probably concentrate its purchases on truly high end hardware or software for testing as its first priority. Then, if there is money left over, look for general equipment to help those offices that are truly behind in technology. However, it will take some effort to determine which states really need help and what they already have from all sources.
- Finally, if you are not already doing so, the minutes from the TIPS steering committee or other information could be provided to the CHFO Field Office Director, and disseminated to staff in order to keep up with issues and concerns of the SMCRA community.
- Most of these thoughts came from Tom Galya. Call either of us if you have questions.

Roger Calhoun
Field Office Director
Office of Surface Mining, Charleston Field Office
1027 Virginia Street, East
Charleston, West Virginia, 25301
Office Phone: (304) 347-7158
Office Fax: (304) 347-7170
Email: rcalhoun@osmre.gov

Tim Wilson (KS, IA, MO)

Jerry Wilkinson

- Missouri has their program back. They were somewhat behind the 8 ball with personnel. Have some hardware needs; large format color scanner purchasing with their own monies. They are predominately using AutoCAD instead of ESRI. Not using tablets very much, inspectors feel they are cumbersome and too large they would rather have the Garmin GPS units. Employees enjoyed Len Meier's mobile computing course.

Todd Coffelt, IA

- Using tablet for Bat habitat and recovery, AML inventory on the tablet, would like to have an extra GeoXT to support units on the ground.

Murray Balk, KS

- Recently have been hounded to enroll some students into ESRI classes wasn't able to send because it wasn't cost effective when there are TIPS classes available. Interested in Garmin GPS course and would be willing to host class. Getting the Garmin unit was the nicest aspect of that course. Nominations problems with staff turnover and was able to get new employees in.
- May need to put nominations in on a quarterly basis this would allow us to get the people into the training that they need. Enjoy the list on the e-mail in getting students into courses. Because we are able to send folks that are a better fit to the class instead of using the slot may be reason for smaller numbers in classes.
- Len Meier called for response to needs survey. The program has been very good to us the past several years and nothing stood out as a need. We have been able to get needed equipment from the program. One thing that we could use is an aperture card reader. We acquired over a thousand maps in various conditions. Sent to Pittsburgh to the mine mapping repository. The returned products were not usable due to poor scanning of old wrinkled maps. Could put some money on new scanning equipment in the Mine Map Repository.
- Just beginning to use the tablet. Computer software has been loaded had a little bit of a problem with points not laying on the map where they needed to be. They went back and re-projected the maps and they are working now. Will do AML inventory after that.
- Have had some blast complaints and want to load information for that mine to deal with that complaint. Don't have a lot of equipment to deal with the underground mine. Nationally we may get better use out of the money by upgrading Pittsburgh. Miss having an FTP site.

Discussion

- Hamm: we have a website you can up-load and down-load but you need a password. It's a share point site, not a FTP.
- Meier: You said you had trouble with maps scanned in Pittsburgh?
- Wilson: We don't have a good way to read them. After they were blown up they weren't laid out flat enough. Scanned at a low resolution. Shared maps with Pittsburgh will probably be about \$60 thousand to archive maps.

Rick Koehler

- Comments from Bruce Buzby, Alaska Coal Regulatory Program Manager:
- The Alaska program appreciates the support that TIPS has given Alaska to implement mobile computing. They still want to "get things set up and running" and are hoping for continued support with mobile computing.
- Bruce thinks that the regional team (WRTT) and the regular meetings have been important and would like to see it/them continue. It is especially important to the Alaska program as they feel geographically isolated and can't easily visit other states. It is important to them to be able to ask questions, exchange information, and see what other western states are doing in their regulatory programs. The outreach and interaction is important and there needs to remain a mechanism in place to initiate this type of exchange. Bruce said that it is important that we "don't lose human contact just to gain technology."

Comments regarding TIPS and OTT

David Clark (NM)

- Top things that he liked about OTT:
- Allowance for more of a scientific than a regulatory perspective; thinking outside the box was not only inoffensive, it was encouraged.
- The ability to respond to hardware or developmental software needs in months, rather than years; kept staff engaged in project development.
- The sponsoring of regional interactive forums when new approaches or concerns need to be addressed.
- Availability of financial help to ensure that all regulatory agencies have the ability to attend out- of-state meetings and forums, and without going through Washington.
- The ability and willingness to network with the whole spectrum of regulators, tribes, industry, consultants, and academia.

Things that could be improved upon in the future:

- Coal-country citizen's groups and environmental groups could be included in the network.
- An OSM Indian lands regulatory/technical person could be included in the WRTT.

Angela McDannel (MT)

- An advanced SurvCADD class or integrating some of our PMT and bond calc reviews into class examples would be helpful--like volume calculations and distance to move material. The question remains re: how do we integrate what we learned in class with real life in the office?
- The courses I have been to show you how to work with projects already loaded and ready to go. They don't start from scratch, like we have to.

- A refresher on Arc would be good since it has been a while. Maybe something on how to integrate a ArcPad project from the GeoExplorer or Recon into ArcMap.
- I think that it would be helpful if we had someone available to help individuals with specific, on-the-job needs they encounter. This would be similar to the use of contractors/consultants made available to the states through WRTT in the past (e.g. Mike Price). I would like to see the "new TIPS" be responsive and nimble enough to help state programs--either with TIPS staff or consultants-- meet the technology needs that they might have. We might need database help or help with a specific GIS project, etc.--including help with software that TIPS hasn't historically supported. Maybe we could get some of this help locally and just have TIPS pay for it?

Dave Bickel (ND)

- There will be a couple of things which may be sadly missed in the new world order.
- There seems to be zero institutional memory within TIPS of what Joe and Linda did in OTT; he is concerned that when they retired, so much knowledge walked out the door with them concerning their activities and contacts. He feels there's been / or will be a paradigm shift in OTT service as things transition.
- Perhaps TIPS have done their job too well in some senses?:
- Now, some states are quite technologically advanced, with strong infrastructure in place in the state, and now have real needs relating more to having TIPS do major purchases of certain high-priced items where economies of scale are achieved (ESRI ACAD SURVCADD licenses served out). Other states have less training needs, less need for technical support, and actually in-house may have more expertise than TIPS.
- OTT provided a contingency fund available so when you had an advanced tech project but lacked funds for a piece of it, there was some funding to help the states. Although one tries to plan ahead and budget, sometimes a new product comes out that solves a problem, that didn't exist back when you budgeted, and OTT provided a flexible quick response funding to get those resources. Linda and Joe always managed to help provide that kind of support, they found a way. Dave doesn't see that continuing under new TIPS.
- We know there's diminishing resources, but it would be very helpful to set aside a certain percentage for contingencies, fulfilling the role that Linda and Joe did.
- OSM will be filling the positions, bringing in three people, perhaps moving people around, but bringing in credible folks with technical backgrounds, who will set up, hold forums and workshops, work with consultants/outside resources, and OSM expertise for tech transfer. But in the old OTT, Linda was an advocate for tech advancement in state programs, maybe even stepping outside her role with overall goal of pushing things ahead ... a cheerleader, backed with program resources, relying on Joe as technical advisor. she understood there was a need to have these things happen. Is OSM not going to have an advocate for state technological advancement? Will the chickens (the states) have to pick this up? Dave's concern is there will be an effort to put in place something that looks and feels like OTT, but underneath it won't be ... not from ulterior motives but from lack of knowledge or complete understanding.
- Also, the regions of the country **are** differentiated, so total standardization isn't a good idea. He feels that Western states getting pushed to the shallow end of the trough, and being penalized for doing everything right, or at least not having horrific problems. If no god-awful problem exists, one that cries out for money & resources, you'll get less money and attention - the smooth-functioning wheel doesn't get much grease. It's fine that everyone gets treated the same; it just that we want same treatment for resource

allocation, but we want a say in how the resources get specifically allocated in the west, put toward *our* activities of value.

- Dave felt that OSM TIPS risks becoming unnecessary, in the sense that states can go out on the street to buy training, they have software in hand, but TIPS doesn't offer help in the specialized innovative areas that some states explore.

Rick Koehler (NM)

- New Mexico appreciates all that TIPS has done down through the years for the NM SMCRA programs. Although this is a time of transition for OSM TIPS and OTT, there are a few things to reflect upon as the situation shakes out. Don't forget your glorious past as TIPS; remain on the cutting edge and explore new technology. OTT was well respected, whatever structure is emplaced now doesn't have to look and feel exactly like it was. Take what was the best from it.
- The "Contingency Fund" was good. Another aspect was the frequent meetings occurring with the WRTT and the western SMCRA states. Those meetings were extremely helpful in that they rotated from state to state over the course of a few years, allowing many state staffers to attend, at least when the meeting rotated to their state. Usually, TIPS meetings allow for perhaps one person from each state to attend. The rotating meetings provided an opportunity for technical people to interact with their peers, to network, to share solutions to common problems.
- New Mexico is also appreciative of the fact that OSM management is here, engaged, and willing to receive input on these matters, even if it isn't always the happiest message. Thanks.

Greg Melton (AK, OK, AL)

- All five of the Mid-Continent state programs I represent; Alabama's Title IV and Title V, Oklahoma's Title IV and V, and Arkansas' combined program, report their needs being met by TIPS about as well as can be expected.
- Oklahoma's AML program has been doing a lot of mobile computing. Using sonar technology, they have, for example, been mapping flooded mine voids through a 6" borehole for a chat disposal project. They make good use of photogrammetry software, AutoCAD/SURVCADD and GeoFluv for both standard and emergency reclamation projects. As a sweetheart favor from TIPS, they report they do need a plotter replaced and could use funding for underground mine mapping and assistance with scanning lots of maps.
- Oklahoma's Title V program makes good use of SedCAD, SurvCADD, BLEP, Galena, earthVision, and ArcGIS. They state they have no special needs at this time and request only that TIPS continue to provide up-to-the-minute replacements of the latest versions of software as expeditiously as possible.
- The AML program in Alabama primarily uses the design trio of AutoCAD/SurvCADD, and SedCAD for their reclamation projects. Using AML funds they have purchased a scanner/copier/plotter combo to prepare AML construction plans. They are absolutely ecstatic about what TIPS provides though they still really could use a large-format scanner.
- On Alabama's regulatory side, mobile computing is heralded as TIPS biggest success. Their inspectors are equipped with laptops running ArcPAD and AutoCAD. They would like to see greater emphasis on remote sensing technology including thermal imaging to

help locate mine openings and up-to-date, high-resolution imaging of their coal fields. They could, of course, use new plotters, scanners, and digitizers.

- Arkansas continues to utilize the heck out of AutoCAD/SurvCADD and SedCAD to help design reclamation projects. SedCAD also is used to check hydrologic designs on revisions to any of the three active permits. In preparation for a promised move to a new, greener office complex with smaller, more efficient spaces, we have lately been scanning a veritable cornucopia of archival maps which will need, eventually, to be georeferenced to ensure any actual practicality other than viewing; a project for which we may be requesting TIPS assistance. Arkansas also would like to see TIPS provide more assistance and support in the area of remote sensing for reclamation and permitting applications. **We have heard rumors of this mobile computing initiative though we have yet, despite incessant mumbling on our part, to see fruit.**
- **In the opinion of the aforementioned esteemed states, TIPS training is, as always, top notch.** It would really be super, though, if TIPS could provide more hardware assistance to our worthy, struggling, cash-strapped, minimum program states. In that vein, and following on the heels of the inimitable, Mr. Hamm's proposition, I would like to request several seats on the emergency fund gravy train, however it may ultimately flesh out. We certainly agree that providing advanced, high-end software and licenses, and, for most, mobile computing technology are prime examples of TIPS' success. Finally, as a further exemplary measure, Oklahoma's AML program wanted to make special mention of and praise TIPS' ability to provide emergency medical services, but that, as they say, is another story.

Dave Berry (CO, UT, WY)

- Three delivery mechanisms that are very much appreciated, OTT, TIPS and NTPP
- We have a lot of faith that OTT functions will continue and everything will be fine, but some anxiety over the change. Stand ready to support any functions.
- We're getting what we need, but try to budget within our grant to get what we need if possible. Would rather TIPS stayed in the training arena. Encouraged to see Billie and Sarah working together. Bob Welsh has been great to work with has been a very informal and productive service manager and partnership. Expanding GIS capabilities. AML because they need to put their money towards projects. Staff went to advanced SurvCADD and underground mine mapping class and would have preferred more software use rather than the amount of background review that was in the class.
- WY – Georgia: TIPS classes are good. There have been a few problems with licenses.

Gerald Collins (VA, MD, OH)

- MD - Al Hooker: Ran into a recent problem when all Arc licenses were in use.
- OH - Lenny Erdos: Continue on-line and instructor courses. Suggests notification to the state when patches were available. Notification for known bugs and work "arounds" in software. Suggest for questionnaires to the states once a quarter.
- After the last 3-4 years we have seen the importance of TIPS and couldn't do without you. It makes us better as an agency. Commonwealth doesn't have a budget until then we will rely on you even more. Federal budgets will probably be taking a hit and obviously it will not be increased. ArcView 9.1, updating/upgrading in the final stages of implanting this into our system. We have a need for a new plotter.

Larry Evans (WV)

DEP has had immeasurable benefits from TIPS. Is the only program that has had a positive effect at the state level.

- Huge interest for special data that has allowed horse trading between agencies. They have a sincere interest in letting us know where their wells are now. They have always had good information where wells and pipelines are. As a result of TIPS we have the extent of accurate mining permits. We have reached a mile stone - 2 ft pixel imagery. Communication - this is sort of good and bad. Good, because we are deployed in a fashion that we own some of our own Arc software so when there is an Arc upgrade, we have to upgrade our licenses. When version 9.2 rolls around we will be using it on TIPS license. This past year since the Indian tribes shut down we have had some problems getting licenses. Someone upgraded code on a firewall. Began to have small issues after the 1st of the year we got locked out. After reaching the correct guy the Denver licensing issue was solved in 15 minutes. When we experience an outage like that we need to be able to reach the contractor expeditiously.
- Underground mine mapping is an immensely important issue. Mining deaths and in relation to actual mine mapping remain a mystery to the state government. Cannot ignore the accuracy issue you need to know where they are under ground. We are still receiving maps that are not accurate.

Mark Schlingen (TX, MS)

- MS wants mobile GIS training
- Texas 3rd largest user of TIPS software. Not so much special projects but day to day use. In our budget we would be lost without it. We should take a look at what we rely on day to day use of TIPS software. Have received GeoExplorer software. Took state program over two years it wasn't broken, but you couldn't use it any more. Couldn't replace the old software because it wasn't broken. We receive a "Toughbook" and bridged the gap. Opportunity to take the second or additional computer into the field to compare what is approved on a plan and what you see on the ground.

Willis Gainer (Indian Tribes, Field Offices, Crow, Hopi, and Navajo)

- **Ralph Lamson:** TIPS has been a very positive program providing technical training, software applications, and equipment support to the Hopi Tribes Title V program.
- At this time there has been a limited use of the GPS/GIS application by the Hopi Office of Mining & Mineral Resources (OMMR) Title V program, due to a small Hopi surface mining and reclamation jurisdiction. A pre-mapping of coal reserve areas is being planned where data gathered will be used to analyze for future mining and reclamation.
- Training Needs: More GPS/GIS and other software training is needed for both the Title IV & V personnel.
- Equipment Needs: Desktop Computer with 24 inch flat screen, 42" color scanner, ArcPAD.
- **Navajo AML Melvin Yazzie** – Software and licensing has been working well. Equipment wish list small desk jet printer and digital cameras and laptops. Collecting GPS units.
- **Title V John Stucker:** Training locations closer to the student locations such as Albuquerque, Flagstaff, and Farmington. Would like some onsite assistance to determine what is compatible. Electronic information has not been reaching them. Needs to be notified when his staff as students are going to a class.
- **Crow Tribe Marvin Stewart:** Helping the Casper field office in collecting GPS data.

- **Casper Field Office Alan Beohms:** CFO utilizes AutoCAD and ArcGIS software to integrate mine annual report maps and aerial imagery into the CFO GIS. CFO continues to track stages of reclamation as it occurs in the field by recording field data with GeoXT GPS units. Mine inspectors are trained on GeoXT and use ArcPAD licenses.
- **Albuquerque Field Office Angie Lucero:** Creating common symbols for each mine. Re-establishing reclamation data. Topsoil samples and doing analysis. Mine companies to import data in GIS. Testing of two different tablets, putting Imagery in inspector's hand quicker.

Scott Roberts (PA, KY, IN, IL)

- PA – Safety needs to be the first thing. Support data standards. Oil and gas, holes from the surface are not always straight. Deviations are important. Continue to scan mine maps. Need to do it now because the map may not be here next year, they are that fragile. Previously reported we had a couple of the tablets and it was the more technical functions that seemed to be more appreciated. We have 5 blasting inspectors that cover 2/3 of the state. Took mobile computer equipped them with e-cards and they liked that capability. Reviewed application on the road. The problem was Cingular versus Verizon.
- Title IV side one of the AutoCAD class the course work went too fast for someone just being introduced to the subject.
- 1927 book published on slate quarries trying to get a handle on this data.

Bob McKenzie (OSM-AR)

- Instructor involved in 60% of classes in FY 2005 179 students taught. Acquired a tablet computer last year which is being used constantly. Use TIPS tools everyday. Modeling mine pools to see how much water can be mined from them.
- Comments: Like to see page on website where user could report any problems such as outages and maybe track trends. Regarding Service managers, we would like a real clear definition of what is expected. What does TIPS expect from them? There is a definition on the website in the Charter. Need to help people understand how to interact and how to work with what is in the charter.
- This is the time to have a “how to” meeting when the three new hires come on board.
- More input as to when the classes will be taught when and how many students. Lead instructor form may need to keep with OSMer's and not give to the state instructors. Navigational website awkward and unfriendly. Need interactive mode on website
- AMD Treat: Instructors needed.

Erv Barchenger (OSM)

- Highlights - Feb 1st transferred MO back to MO. The process was very good because of the tools we could access through TIPS. Provide extensive support to TIPS either by instructing or helping staff. Staff is also involved with NTTP programs. All technical people provide support. Have integrated the complete staff in some way or another.
- Kevin Garnett has resigned. We'd cover all the resource area but unfortunately we were only one deep. Bill Joseph and Len Meier had to step in. CAD team meeting is coming up. Where are we going with TIPS and where are we spending our resources?
- Outreach program: Go out and ask what OSM can do for customers. Talked to about 60 people in offices. Opportunity for state people to interact with technical peers. Very well

received using that as a recruiting tool for TIPS and NTTP. Have accomplished two this year. Will do more next year.

- Updated training center this year and can seat 17 students. Working on audio system. Minor complaint this year had the same amount of classes in a much closer amount of time.
- Have position just don't have the funding for a course manager in Alton, IL.

Doug Siddell (OSM Tennessee office)

- Charleston, WV Roger Calhoun, OSM in joint project involving remote sensing technology to determine the extent of mining water. Request that TIPS provide in house training with ArcPAD this fall. Purchase of equipment by some offices or states and should be purchased by them and TIPS should concentrate on high-end equipment for testing.
- Knoxville field office: Long standing relationship that TIPS and Knoxville has had over the years. This year has been a turning point with mobile computing and GIS. Mobile computing - TIPS has given 7 PDA's to the office. Has provided training on the units and were instructed to use them - and not for paper weights.
- Training GIS in addition to the assistance that TIPS has provided a number of training courses the field office director has enable Doug to hire two more people on board and are getting training.
- Remote sensing project initiated because Tennessee Department of Environment and Conservation requested satellite imagery of the coal fields. Since TIPS has been so good we have tried to reciprocate. We have five TIPS instructors and a service manager.

John Craynon (OSM-Headquarters)

- Departure of Steve Parsons has had an adverse impact. However, he has moved on and we wish him well. Steve was the primary user, developer and instructor. Need to bring on someone who has the desire to use the TIPS software and to implement. Need an HQ service manager to help get staff setup to use TIPS programs.

Wednesday May, 10, 2006, Opening Remarks and Summary: Louis Hamm

- TIPS is not in the hardware business – yet there is a need for emergency equipment.
- There is a need for an OSM High Tech Scanning facility.
- There is a need for a TIPS website link showing patches bugs and “work around” link to share hardware and software feedback
- Automated monitoring of the licensed servers is needed.

Strategic Plan Update: Bill Winters

TIPS goals (1)

- TIPS has 27 Software packages for training.
- Mission Statement: Provide practical, advanced tools and techniques that improve the efficiency and effectiveness of SMCRA implementation.
- TIPS accomplishes its mission through the use of software, hardware, and support with software training, technical assistance.
- Proposed Strategic Plan: Implement TIPS mission, identify goals, objectives and strategies to accomplish stated mission, align TIPS to support overall OSM strategic plan, Ensure compliance with Department EGIM, NCMGC and blueprint initiatives.

TIPS goals (2)

- Promote and support use of scientific and engineering tools.
- Improve software distribution
- Provide e-tools to States, Tribes and OSM offices
- Prototype emerging technologies
- Geospatial Coordination
- Develop evaluation criteria
- Promote TIPS assistance
- Leverage internal expertise
- Improve technical transfer
- Increase web-based support

TIPS goals (3)

- Provide effective training program to support software and it's use.
- Provide instructor led classes for TIPS tools.
- Revise student registration policy
- Consider 6 month training metric
- Maintain training facilities
- Conduct on-site training (OJT)
- Coordinate TIPS and NTTP training efforts
- Develop succession plan for training program
- Incorporate state of the art techniques and materials into training program
- Maintain updated course schedule
- Offer career path course schedule
- Partner with NTTP to offer continuing education credits (CEU's)
- Fulfill advanced training requests
- Add full time training Coordinators
- Implement Team Concept for all TIPS software disciplines

Future Direction, Focus Groups, TIPS and Technology Transfer

Discussion

- Evans: Our strategic plan does not include data structures. To have 10 fold increase you will need to get to the level of the least capable user and inform/train them.
- Winters: IT issue is security.
- Hamm: We should add or subtract to the strategic plan.
- Meier: Custom tools, we made a plea to state programs to create, but it takes man power this is the only way. Need to work on this. If you want the inspectors to use software in the field you need to build them custom menus and make it easier for them.
- Craynon: Overall to me it seem more like a tactical plan the altitude is a little low and has to deal with the near future we need to have a longer view for a strategic plan. We are concerned with what do we do next and are not looking over the horizon. We have research constraints that we are all going to be dealing with such as turn over. Figure out where we are, which we do at these meeting and get a tactical plan for the upcoming years, but need to look at the long run instead of the next few budget cycles. All of us need to look at a broader view of where we need to go.
- Joseph: It is more of a short view strategy. The 5-10 years is not there right now.
- Craynon: Top end approach, let's fix them from the bottom.
- Clark: The plan was to answer two things – current things right now. Here's what we are doing right. May need to do another piece to the document. Here is what we need to be doing. Basically a master check list.

Steering Sessions (Three Focus Groups)

- The focus groups set out to answer the following questions for each category, Training, Technical Assistance, Hardware and Software.
 - What do you want the future of TIPS to be?
 - What challenges need to be overcome, if any?
 - What criteria should be used to determine priorities (i.e. limited resources)?
 - How can we quantify TIPS value in order to keep TIPS operating?
 - What can you do to help TIPS expand in these areas?

Training Summary - Bill Winters

- Teach higher end/advanced classes and have a separate set of intro classes. It is going to be up to the instructors to offer an advanced class. Dovetail basic/intro classes with higher end classes. Move toward mining related problem oriented training
- Develop a way of instituting course pre-requisites. Develop survey with background, education, experience. Have reverse feedback mechanism – instructors evaluate students meeting pre-requisites.
- Establish career track course sequence
- Evaluate instructor/student succession plan. Mentoring/legacy program
- Tailor TIPS classes to users on the ground. Customized tools for field apps.
- TIPS become more involved in Applied Research
- Formalize and/or memorialize best training practices. Formalize what we do well. BMP of training practices.
- E-training tracking system. E-mail notifications of time laps between sessions
- TIPS traveling road show concept explaining what TIPS software packages are capable of or mini videos

Technical Assistance/Technology Transfer Summary: Lois Uranowski

- **What do you want the future of TIPS to be?**
- Summary: Get together for forums on a national level. Travel funds are limited and we are only allowed to send a couple of people. Develop a network with SMCRA and OSM. Bring TIPS to the state or region with road shows. What TIPS does in the community such as standardize and regulate. Integrate TIPS to specific business lines.
- **What challenges need to be overcome, if any?**
- Summary: Limited resources – human resources make it a remote sensing group and deepen the communication process using our current means and processes currently in place.
- **What criteria should be used to determine priorities (i.e. limited resources)?**
- Summary: To do performance measures developed from SMCRA identified activities on the ground.
- **How can we quantify TIPS value in order to keep TIPS operating?**
- Summary: Offer Awards, best TIPS award, TIPS newsletter, publications, success stories-how have we saved you money, certifications how many have gained their certification this year using TIPS classes
- **What can you do to help TIPS expand in these areas?**
- Summary: Bring TIPS to staff level, improve cascading, and better communications to OSM and field offices.

Software/Hardware Summary: Bill Joseph

What do you want the future of TIPS to be?

- Summary: Cutting edge, staying abreast of what is going on in the hardware and software arena, buying the equipment, testing and reviewing, seeding and training. We need to create standards in both software and hardware.
- Reviewing existing software do we need to subtract or add? Look at usage and what is the applicability to staff functions and let that set priorities. Be willing to let go of software.
- Software justification – we need case studies and information on how we can use software and how to make it's use more efficient and effective. We need to find out what packages work well and do a need/cost analysis so that everyone understands the importance of TIPS. We need better environmental decisions and what is the risk base analysis. Need to educate state and budget people
- IT issues – security requirements and standard issues (blocking ports) purchasing requirements. We have a problem in procuring cutting edge hardware and software. Need to educate IT people. Trend of sucking IT out of the main stream TIPS people they are now in some IT group so we have lost that group and local control. New trend GIS resources being pulled out and they are not going to be at the local TIPS level and we need to figure out how to deal with it. Local decisions, are decision being made for you? How can we simplify and monitor license.
- Communication – Software newsletter for success stories need to get back into more examples has to get out to the people using the software. Software analysis, we need to be talking to people when we are looking at new software. Have a team concept at looking at other things besides putting classes together. Need to move into other categories.
- Hardware – Need a pool of equipment so that the states can look/use different kinds of equipment for what works best for them. May even include software. Set up an

emergency fund for hardware and software that the state just really needs. Hold back money for contingency.

- Service manager duties – Contact service managers. This is a responsibility for everyone, and they need direct contact with licensing people. Hardware and software trouble shooting. Get them out talking and visiting at the staff level so that they can understand their needs and what they want.
- Software selection – look into the future to have people and resources to compare the new products and attending conferences and see what is going to work. Need to make decisions about software and not continue to review it. Dedicate staff to work directly with the Software and test it and then tell TIPS what you think about it. Fitting it in does not always work out well.

Steering Session

The Interface of CAD and GIS in the Real World

Doug Mullins, Virginia Dept of Mines, Minerals, and Energy

- Mapping professionals maintain an outdated view of CAD and GIS. In today's world we need to use the best tools and sometimes it is using both CAD and GIS. Why has there been a disconnect? Limitations and the important need for immigration.
- CAD data is at a larger precision. You need the right tool for the job.
- Autodesk founded in 1982, 6 million users, 2005 revenues of 1.2 billion, 30% revenue increase due to 3D, and GIS product developments. Always been a design tool.
- ESRI – founded in 1969, 2 million users, 2005 revenues of 560 million, world leader in the GIS software industry, +35% market share.
- Integration Limitations – lack of data connectivity and topology, file-based storage of data, single-user access to data and associated information, crude methods for attaching attributes to features.

Remote Sensing Case Study, ERDAS 9.0: Dianne Osborne

- Current case studies new & improved ERDAS Imagine 9.0 in the 7 southwest counties.
- Virginia – DMME, Tennessee – DEC, Pennsylvania - DEP
- Using high resolution satellite imagery to inventory abandoned mine lands. Site visit to VA DMME – March 2006 focused on needs assessment for mapping requirements for an AML inventory. Objectives: Can the current technology of high resolution images be used to determine the status of AML features and locate previously unknown features? Can the technology be used to quantify the extent to which re-mining has eliminated, i.e. reclaimed, AML features? Can image be used to evaluate the impact of forested lands?
- Ann McDanniel, reclamation specialist, toured mining areas with Dianne. Tasked satellite over area Norton city county and Wise county.
- Focus on re-mined areas and identify new AML sites, portals, subsidence, vegetation communities and water Quality – AMD Trends and historical information.
- Site visit to Knoxville identified goals, new and existing AML sites, Vegetation Communities and Land use, Water Quality – AMD
- Project site locations in Tennessee are still being discussed for imagery.
- Pennsylvania DEP
- Provide pre-mining baseline to monitor, identify existing AML sites, Quarry Inventory, Long wall Identification and AMD inventory.

- Remote sensing working group will be developing a team to complete a remote sensing working strategy, a direct support of SMCRA Title IV & V, and a working group meeting September, 2006. Goals are for national representation, develop a charter, complete a work plan and implement a working strategy.
- Training Opportunities: Course development in Image Analysis for ArcGIS 9.1 and Stereo Analyst for ArcGIS 9.1 will be available in August and will be conducting a course in October.
- Leica Geosystems provided training with location in Atlanta, Denver and D.C. There are 11 advanced ERDAS Imagine 9.0 courses offered.
- Potential remote sensing course a lot of basic information out there that can be developed.
- Will be distributing ERDAS 9.0 next week. Benefits: Pyramid layers and Viewer improvements.
- Imagine Auto sync. Takes two or more images of potentially dissimilar type, such as IKONOS and SPOT5 and automatically generates thousands of tie points between the images, producing a geometric model which ties the images together with high accuracy.

What's New in ArcGIS 9.2: Al Wilhelm (Live Meeting)

Software Licenses

- ArcInfo 60
- Network Analyst 60
- 3D Analyst 60
- Survey Analyst 60
- ArcScan 60
- Spatial Analyst 60
- Geostatistical Analyst 60
- Publisher 60
- Latest information release in late summer early fall could actually slip into late fall or early winter. TIPS will be shipping out the software late fall to early winter. After we receive software we like to use 4-6 weeks and nail down the installation procedures before we ship to customers. Product is becoming so large it is reaching around 20 CD's or more. For 100 sites it will take a lot of CD's.
- Two new database server products. Personal ArcSDE & Workgroup ArcSDE
- Personal ArcSDE will be a full featured database management system up to 10 users simultaneously. The user will be able to create and manage GIS data. User also has access to advanced features such as version in, archival history, multi-generational replication.
- Both Personal ArcSDE and Workgroup use Microsoft SQL Server Express 2005 to store and serve multi-user Geodatabase. Each SQL can store up to 4 GB of data. The Workgroup GIS data server – is a low cost solution for small to medium sized organizations and will support up to 10 simultaneous editors.
- File based geodatabase format
- New single-user geodatabase referred to as the file geodatabase. Stores datasets as a folder of files on the user's file system. Individual datasets can be as large as 1 terabyte and there is no overall database size limit. Compared to personal geodatabases, file geodatabases improve performance, store vector data more efficiently, and improve multi-user access over a network.

- More for project driven GIS.
- Geoprocessing – improved CAD usability and documentation, in model builder the framework will include list and series processing, iteration control (looping) and batch processing, native Python support for the geoprocessor object will be exposed.
- New Core Tools – New tools for data comparison, random value generation tool for sensitivity analysis and simulation, new fishnet tool, new vector to raster conversion tools, new multidimensional toolbox
- Better navigation support for keyboard and mouse. New concept for cartographic Editing and finishing. Can now store symbology with features in the geodatabase, and to edit the appearance of individual features on maps.
- Improved Measure tool – ArcMap 9.2 features a new measure tool with its own compact popup dialog that lets you draw on the map to measure lines and areas. An option in the dialog lets you snap to features as you draw. Another feature lets you click directly on features to get their length, perimeter an area. User will be able to choose the units of measure and turn on a running total.
- Calculate Geometry command will be easier to calculate fields such as area, length, and perimeter, etc.
- Raster and Animation Tools – New animation tool bar will add the capability to animate through time, improved raster transformation and georeferencing tool, added enhancements with regard to raster formats without the need for plug-in, added value attribute table (VAT) support any raster which is single band will be able to have an attribute table associated with it.
- Graphs – New functionality, appearance & color – set transparency, customized color palettes, render between graph & layer, predefined themes.
- Terrain dataset – Terrains are a new way of storing elevation or other surface data in the geodatabase – always created inside feature datasets. Terrains are created in 3D Analyst extension – this extension is not required to view terrains. Terrains are defined on the fly as the user displays and queries the data.
- Geotatabase Replication – Basic replication relationship is between two replicas. A child replica is created from a parent replica or you can replicate a specific version, specific dataset or a subset of features.

Underground Mapping Initiative: John Craynon

Issues of concern

- Getting maps into digital format
- Managing data and data standards
- Geo-referencing and GIS issues
- Availability of maps and liability for use

Summary of OSM Initiative

- Goals: Making as many accurate UG mine maps available to as many customers as possible
- 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
- Serves AML, regulatory, and health and safety goals

Detail of the Initiative

- Identification of best practices and creation of voluntary standards
- Establishment of underground mine mapping centers of expertise (including NMMR)
- Acquisition of underground mine maps
- Development of distributed structure to provide maps over the internet

Current Status

- 2005 Benchmarking workshop related to best practices/standards leading to 2006 regional workshops for States
- Working with Leases/States on liability issues, those who provide maps should not be responsible for how they are ultimately used
- Development of geo-referencing class (TIPS)
- FY '06 Budget, funding for building of State capability and additional resources for NMMR
- Rakings coming in now
- Money to be distributed ASAP
- Will only be able to fund \$300,000 in FY '06
- Perhaps an additional \$300,000 in FY '07
- New budget proposals
- Developing FY '08 budget requests now
- Proposals demonstrate “pent up Need”
- Overall FY '08 looks bleak

Key Points to Consider

- Cooperation and coordination is necessary
- Understanding the current status and best practices are key to identifying future needs
- Funding to improve map availability and quality is necessary
- Benefits outweigh costs...working to quantify

Potential Potholes

- Available funding and resources may limit scope
- Current resources a “drop in the bucket” compared to total need of \$30 –40 million or more
- Bad timing for new initiative within the Federal government
- Other priorities within OSM (e.g., AML reauthorization)
- Window of opportunity may be closing, but recent mining accidents have
- Re-awakened awareness

Future efforts

- Continued cooperation with the States and others to use/develop the best available tools
- Rallying continued support and new funding resources
- Capability building among States and NMMR
- Addressing existing mine maps and availability of those maps
- Development of a coordinated plan

What can you do?

- Continue working within OSM and States to provide maps and expertise

- Continue working to get scanning, storage, georeferencing issues solved
- Support additional resource requests and look for ways to advocate for underground mapping

Contact Information

John R. Craynon, P.E.
 Chief, Division of Regulatory Support
 Office of Surface Mining
 1951 Constitution Ave., NW MS-202
 Washington, DC 20240
 (202) 208-2866 or jcraynon@osmre.gov

TIPS Recognition Award

- Lois Uranowski and Louis Hamm
- Outstanding TIPS Contributor Award - Douglas Mullins

Closing and Announcements: Louis Hamm

- Acting director will be here and we will present our remarks.
- Will need a response on the hardware and software priority list in the morning. Tomorrow morning before we start we will take about 30 minutes to discuss number one priorities on equipment and will sit down with TIPS budget people to decide priority of need. Done in context with what each state already has. Need general guidelines.

Hardware Software: Mark Schlimgen

- Testing hardware and software on the cutting edge technology and distributing information to customers. Have a software and hardware pool that can be evaluated by the customer. Emergency fund monies available.
- Increase Service Manager's involvement. Standardized job descriptions for the Service Managers. Have the Service Manager more informed on the new software and hardware available.

Training: Richard Koehler

- Provide career path course system. Spanning the range from introductory classes to advanced classes tied to pre-requisite classes. Clear sequence of courses.
- Serving an underserved community which would be the field inspectors. Develop training that allows for train the trainer, courses for out in the field.

Tech Transfer: Larry Evans

- Develop a bottom to top network for communication of TIPS problems and opportunities
- TIPS road show
- More robust Service Manager role
- Better communication of success stories
- Increase communication in industry
- Improve TIPS communication within the SMCRA community
- Increase awareness of TIPS usage, values and implications within the mining and reclamation community
- Pros: Increased utilization of TIPS tools

- More appropriate usage of TIPS tools.
- Improved the quality of submittals by industry coming our way
- Reduced process time for review of submittals
- Iterative identification of cutting edge ideas and technologies

CONS

- Greater demand on TIPS resources
- Recommended completion date Ongoing – with schedules developed for subcomponents and an annual progress report to the Steering Committee
- Ongoing with schedules developed

Thursday, May, 11, 2006

Opening Remarks and Summary of Steering Committee Comments

Louis Hamm

- Themes: As Service Managers we want about 12 people that have the technical skills of Greg Morlock and the salesmanship of Joe Galetovic. We need full-time software evaluators that are looking at new technologies. Greater demand on TIPS resources and as far as who is to run all of this. Because of Jeff Jarrett's efforts we have a few new positions. What you have laid out requires more staff resources and we will be bringing some new people on and address the issues the best that we can with the resources that we have.
- Clark: Thank you for participating. We took a risk but it turned out all right. We have a lot of ideas and will be reporting back to you in a year.
- Klein: We'll see what we can change and how we will change.

Steering Session Solution Summary

Committee Representatives: Larry Evans, Rick Koehler, and Mark Schlimgen

Power Point Presentations

Director's Remarks: Brent Wahlquist, OSM Acting Director

- The world looks different depending on where you sit.
- We are getting a new secretary Gov. Dick Kempthorne from Idaho. There were 205 written questions submitted for answers. These focused mostly on Forest Service and BLM.
- Gov. Kempthorne has strong concerns for the environment and is very committed to states rights/prerogatives and interests. AML – fee is set to expire June 30th 50 days from AML extinction. Top priority is funding state regulatory grants. Second priority would be things that improve the quality of state programs. Third priority would be everything we need to do to keep the doors open. Fourth Priority is AML construction grants.
- IT investments how do we deal with the amount of monies we use. Increase limits to expenditures. A portion of TIPS falls within this. We have to recognize that our budget falls within these guidelines. Capital planning process and then a budget process. Five kinds of IT expenditures:
 - Things that we do that serve the outside world like AML inventory
 - How we communicate with the outside world (desktop computers and telephones)
 - Financial systems that track the monies that we get through congress and AML fees.

- Serious of administrative systems on the inside that no one else will really see such as quick hire
- Cost of doing business, security issues, certification
- How much of our IT budget is being spent on these five things?
- Strategic Plan: Some indicators...it would be nice to figure out what TIPS is accomplishing more than just customer satisfaction. How much it changed their AML design costs if all of a sudden they were doing them in house and it saved them costs. Look for examples of how TIPS has helped you do your business better. We need to be able to demonstrate how TIPS helps AML and the states become more efficient.
- What did we get done in '06 that we didn't get done in '05 and what was the impact of this in the real world. What can we show and include in the "Green book". Because of that increase this is what we were able to accomplish.

Committee Briefing National Coal Mining Geospatial Committee Status Report: Bill Card/Larry Evans/Rick Koehler

- Topics: Introduction, National Meeting of SMCRA, Sharing Coal Mining Geospatial Data among SMCRA
- Purpose: Promote development of geospatial technology.
- Benefits: Provide sound scientific information, Meet requirements with available personnel
- Meeting: Denver, CO June 2006

GeoFluv: Louis Hamm

After a vote of the Steering Committee with no dissent, we will proceed with the 5 seats for Carlson's Natural Regrade (Fluvial Geomorphic Reclamation Design)

Mobile Computing Update: Len Meier

Reviewed field equipment: Trimble, Garmin, HP iPAQ, Fujitsu Tablet, Xplore Tablet, Trimble Recon

Software: ArcPad v. 7.0, SurvCAD Field Module, Trimble Terra Sync, Near Future –

ArcGIS 9.2 Mobile Licensing

Training: Trimble, GeoExplorer 3, ArcPAD 6

Website: Technology Transfer Portals

Workshops: Indian Surface mining and Reclamation, ASMR, NAAML P Conference, Billings Symposium, AutoDesk University, State specific workshops, Professional Journals

AMD Treat 4.0 Major revisions to the program: Bob McKenzie

- Powerful – flexible tool for modeling cost for AMD treatment. You will see design aspects. But it's all about the money: capital costs, annual costs, short-term modeling, long-term analysis.
- Objectives: To provide a detailed from work for calculating site specific cost estimates. To provide a flexible tool for estimating cost where the user has full control over how and

what elements are considered in estimating the cost. To provide an estimating technology capable of generating real-world costs.

Closing, Announcements, Final Comments: Billie Clark

Discussion

- Clark: Thank you Lois and we wish you the best in your new endeavors. Will do this again in one year.
- Schlimgen: Resources are going to continue to be challenges in some of the things that we have outlined here.
- Siddell: Realize that TIPS brought OSM and state regs a long way.
- Collins: Thought-provoking meeting and kept us moving a lot better some great ideas and hope they come to fruition.
- Koehler: Nice to be here, **thanks to the OSM management folks for being here and being engaged.**
- Wilson: Welcomed new format, allowed for more group interaction.
- Melton: We weathered the touching and feeling all right. **The importance of the Service manager and making sure they are well aware of our needs cannot be overlooked.**
- L. Evans: Same challenges still are an issue today, information issued quickly for decision making. This year we have had problems with people dying in underground mines. Facilitate the idea of working together.
- McKenzie: May need to dedicate more time to the breakout session.
- Klein: Thank you for donating your time and sharing what is on your mind. There is not a purpose for TIPS without you being here.
- Meier: Tremendous meeting and the most productive meeting. Participation in training and testing we want more, but we appreciate it.
- Berry: Thanks for working so hard, amazed at the courage for bringing in the director not knowing what is going to be said. When we make comments is just a tremendous amount of respect.
- Mullins: Great meeting getting better all the time. Excited about the new staff, keep up the new work
- Winters: Thanks, always show up smarter than when I got here. Good segway into TIPS national team meeting in July. Agenda is not yet finalized please call the sooner the better. Remember when you call you will get volunteered.
- Joseph: Product meeting and seeing the new transition the future looks bright for TIPS.
- Craynon: Exciting to see the opportunities and challenges and to see what we talked about last year going on this year. We are making progress and it's exciting to see where we have gone. So many connections and these meeting give us the opportunity to not drop the ball. Opportunity to apply.
- Barchenger: Value is the open and honest communication and interactions. The challenges are going to be the resources.
- Roberts: Interesting, intuition tells me that we are moving from cooperative to a collaborative. Reaching a point where 2+2 is equaling 5 or 6. Interesting to see a merging of both efforts.
- Osborne: Heard more this session and will learn more the next one. Appreciate the sessions and agree with everyone on that. Conversations outside the meeting talking

about remote sensing have been very productive. Have written down things to do from everyone's guidance.

- Card: TIPS is an extraordinary institution synergistic had a lot of positive benefits to share and plan for the future. Have tried to give as good as he has got. Very thankful for what he has receive. Geospatial committee and a lot of work to put on a meeting and has a new appreciation.
- K. Evans: Appreciated the opportunity to be here.
- Hamm: Very proud of where TIPS has taken our agencies and has sent the tools this week to make it happen. Team meeting in July, it will be important to include your input at this meeting and apply it to future goals. We plan to educate them even better as to what you need from them. If you see an area where you could contribute please let us know.
- Uranowski: Thank you for your love and desire to have this program,
- May 8th – 10th, 2007, meeting will be out West next year.
- CD's together with everyone's presentation or post on the website could add the PDF
- May 13-15th 2008 Mid-Continent.

Next Steering Committee Meeting Dates

TIPS 2007 Annual Steering Committee Meeting-West

Begin: 5/8/2007

End: 5/10/2007

Location: West-City TBD

TIPS 2008 Annual Steering Committee Meeting-Mid-Cont

Begin: 5/13/2008

End: 5/15/2008

Location: Mid-Continent--City TBD