I. Welcome and Introductions
   a. Steve Bauman, Chairman
      Steve welcomed everyone to the meeting. Attendees provided introductions. Drew Phillips read the names of members that were not present.

   b. Don McKay, State Geologist
      Don welcomed and thanked everyone for coming to the IGMAC meeting. He talked about the history of the committee and its role in the funding process. Competition for funding has become tougher. The quality of the proposal has improved and the funding awards have been shrinking. There was discussion about new RFPs and that hydraulic fracturing (“fracking”) and water issues are being addressed by the RFPs. The Association of American State Geologists (AASG) put out a statement on fracking.

II. Old Business, Steve Bauman, Chair.
   a. Approval of Minutes from September 8, 2011
      A motion was made to approve the 2011 IGMAC minutes as presented. The motion was seconded and approved unanimously.

   b. A motion was made to change the agenda and have long range planning discussion moved to the same time as STATEMAP discussion. The motion was seconded and approved unanimously.

III. New Business
   a. New member’s names were read and a motion was made to accept them. The motion was seconded and approved unanimously.

   b. There was a call for nominees for the next Chairman and Vice-Chairman. Dave Malone and Steve Esling were self-nominated. There was a motion to accept them for the positions. The motion was seconded and approved unanimously.

   c. Long Range Planning – Drew Phillips, ISGS
      i. Review of FY 2011 – 7 quadrangles and the Lake Co. compilation were delivered to USGS. 3 quadrangles and one county map were published.

   ii. STATEMAP - $6.3 million was awarded to 45 Geological Surveys. The ISGS was the 3rd highest awardee with $204,968. The ISGS has received $3.45 million since 1993.

   iii. FY12 proposal was well received.

   iv. Coalition - $750,000 to the eight state coalition. $100,000 was given to the ISGS for Lake and McHenry Co. A map was shown of all available, although not necessarily published, quadrangle-base geologic maps in the state.
v. Development of mapping priorities is by:
   1. Institutional Review
   2. Input from mappers and IGMAC
   3. Strategic and collaborative opportunities

vi. Priorities – a map was shown with the planned, expected and priority areas highlighted.

vii. IGMAC has a web page to foster communication
(http://www.isgs.illinois.edu/about-isgs/igmac2012.shtml)

d. The committee commented on the 2011 program
   
i. Geographic
      1. Clinton - landfill
      2. Peoria - ecosystem, erosion, sedimentation
      3. Galena - groundwater quality
      4. I-55 to I-57 - connector in Will Co.

   ii. Targets
      1. Coal extent and chemistry
      2. I-57 corridor
      3. Geologic hazards (sink holes, karst) beyond the Metro St. Louis area
      4. Earthquake hazards
      5. Put surficial layers on ILOIL and ILWATER [ISGS web mapping services]

   iii. Objectives in priority areas
      1. Will and Kankakee Counties
      2. Buried Mahomet Valley – groundwater resources, geohistory
      3. Wabash Valley - sedimentation processes, seismic issues, geohistory
      4. Kaskaskia Valley - (starting work) groundwater, gravel and sand resources, geological history
      5. Illinois Valley - bedrock, shale, and petroleum resource issues, groundwater resource and protection issues, ice walled lakes, infrastructure

iv. EDMAP
   1. Stephen Flaherty (ISU) is mapping the Woodstock Quadrangle in McHenry County with Jason Thomason.
   2. ISU Professor Eric Peterson has a student mapping the Freeport Quad in Stephenson County.
   3. Wabash Island has been delayed due to seasonal flooding but will be completed in December

v. Discussion
   1. Time to complete a quad? 1-2 quads/year per mapper, 6-8 total per year.
   2. What’s NCGMP? National Cooperative Geologic Mapping Program, there are 3 components
      a. FedMap-$20 million, USGS
      b. STATEMAP - $6 million, state surveys
      c. EDMAP - $500,000, given to universities to train students.
         Proposals are down from 60 to 40 proposals
   3. Don McKay commented that the trend is that State Surveys are being cut and their budgets are reduced. This cuts into the matching dollars that can be provided by the State Surveys for proposals.

IV. FY 13 Program Proposal Presentations
   a. Bedrock Mapping (Brett Denny) - Three projects were presented: Daysville, Walsh-Baldwin, and the Repton Quadrangle-Hardin Co. compilation.
i. **Daysville** – issues include Ordovician-Cambrian stratigraphy; aggregate resources including limestone/dolostone, St. Peters Sandstone for fracking and other industrial uses; ground water resources.

ii. **Baldwin-Walsh** – issues include Pennsylvanian/Mississippian stratigraphy; oil and gas potential; coal resources (occurs on the edge of Pennsylvanian resources); ground water resources.

iii. **Repton-Hardin County** – issues include Pennsylvanian/Mississippian stratigraphy; aggregate resources; coal (small pod like resources); rare earth element potential; shale gas resources; fluorite mineralization (new mine in area); neotectonic studies.

**Discussion:**

- Why was Daysville proposed instead of the Franklin Grove as shown in the 2011 plan? [Response from Dennis Kolata (mapper): Original motivation for identifying Franklin Grove is uncertain. Daysville was selected because of previous field notes the Sandwich Fault Zone and the desire to resolve some questions about the geology in the NE corner of the recently completed Grand Detour quad.]

- Repton-Hardin County: Is there an igneous dike? Yes, related to fluorite mineralization. It is difficult to find since it is easily weathered. The last Hardin County compilation was done in 1920 and they have been a lot of discoveries since then including neotectonic features and fluorite resources. Users of this map include mining companies and educational users.

- General discussion about shale gas, fracking and its geologic implications, and how the ISGS can support this resource. Should areas be mapped for fracking potential and be included in the long range plans? Areas that might be included are: the St. Petersburg Basin, the Fairfield Basin, and the Du Quoin Monocline. Future bedrock mapping will include focus on characteristics of the New Albany Shale, and important source rock. The discussion included water use and contamination, and possible increased seismicity. Don McKay commented that there were no fracking experts at the meeting, but that the ISGS is working with the Lt. Governor, Attorney General, and other State agencies on this issue. The ISGS is looking at both sides of this big issue with big environmental concerns.

- Doug Yeskis asked that there be more proactive outreach to let other governmental agencies know that this research is going on, then there can be collaboration to provide best available information to answer questions. McKay noted that ISGS mostly maps near the surface and questions of deep geology are more difficult to answer. Further, the mapping team is small relative to the problems. Most education and information dissemination is done elsewhere in the ISGS. However, a new Outreach staffer will address this issue.

- Question to the IGMAC: should bedrock mapping be extended up the Illinois River valley to pursue these targets. The IGMAC was in consensus that it should.

b. **Surficial Geology** (Dave Grimley) – Three projects were presented, Illiana Heights, Rantoul, and Maunie/Solitude/New Harmony. The societal and scientific issues addressed by mapping these areas are: the Kankakee River-paleotorrents and sand/gravel, the buried Mahomet Valley-aquifer, and the Wabash Valley-meandering history.

i. **Illiana Heights** (Brandon Curry) – issues include ground water concerns; sand and gravel resources; geological context of wetland areas and ecosystems along the Kankakee River; construction and development; and glacial chronology.

ii. **Rantoul** (Andy Stumpf) – issues include the Mahomet aquifer; reclamation of the former Chanute Air Force Base; infrastructure development; questions about
buried valley records and Pleistocene chronology. Detailed mapping is limited in the region.

iii. Maunie/Solitude/New Harmony (Drew Phillips) – issues include earthquake hazards; sand, gravel, coal, oil and groundwater resources; aspects of river ecology including meander erosion rates and formation of backwater lakes; and meandering process studies in collaboration with UI professors. The project will complement current and future EDMAP projects in the Wabash Valley

Discussion:

- Illiana Heights area: includes part of the Illiana Expressway corridor being considered by IDOT. The State Archeologist has asked about the area. There are groundwater concerns in the area. Water resources are from surface waters or bedrock aquifers, but surficial sediment provides protective layer.
- Mahomet/Clinton landfill: Why is it not a short term priority? It is an important issue, but ISGS has momentum near Rantoul and there has been no direct request. Further, STATEMAP products are oriented towards surficial mapping, and the 3D model that would be needed there is beyond that capability. The mapping of several quadrangles would be needed.
- The Rantoul area is tied in with Illinois American Water Co. project and funding.
- The northwest part of Illinois with the exception of the Galena area is not in the long term plans for bedrock study, in part because of lack of personnel. [N.B. Recent county-scale maps are available]
- Suggested areas for future study include: Will County - proximity to the Illiana Expressway, Winnebago/Boone County-opportunities to partner with students, and McHenry/Lake County- aquifer draw down and possible contamination issues.
- ISGS should concentrate on outreach efforts (new outreach coordinator starts on 09/17/12).
- Tom Huber, Map Librarian at the State Museum, has had requests for information on floodplains, the Quad City area, and river valleys and suggests that these be priorities for future work. [N.B. Surficial maps of the Quad Cities area were constructed by Dick Anderson, and are available but not yet published.]
- The Illinois Department of Public Health (IDPH) was asked to make a statement on fracking. Industry has not made any requests for work in a specific area, although there is fracking in Illinois. Scott Elrick (ISGS) stated that there have been small fracking projects over the last 50 years. Brett Denny knows of 2 small fracking projects in southern Illinois. Water use for fracking was discussed with the differences in the amount used for vertical vs. horizontal explained. A project in Saline County severely strained local water supplies. Reoccupation of old workings is expected.
- Liquefaction from seismicity is a concern to the insurance industry.

Conclusion:

Motion: “IGMAC supports the ISGS Long Term Plan, with the extension of bedrock mapping priority area further up the Illinois River valley.” The motion was seconded and approved unanimously by acclamation.

Motion: “IGMAC supports the proposed plans for surficial and bedrock mapping for FY13, with emphasis on the societal inputs for decision-making. The IGMAC supports the prioritization of the mappers”. The motion was seconded and approved unanimously by acclamation.
V. Break for lunch at 12:05 pm.
VI. Great Lakes Geological Mapping Coalition (Steve Brown) – An overview of how the GLGMC works and is funded was presented. The GLGMC is comprised of eight states and the USGS. The funding is distributed through a collaborative proposal process. A 3D model of Lake County is almost completed, McHenry County should be finished is a few years and preliminary work is now being done in the Lake Calumet area.

a. McHenry Co. -- A map of the focus areas and a 3D model were shown. Jason Thomason constructed the model from cross sections created with GLGMC, local, and EDMAP funding.

b. Lake Co. – Surface maps and sections derived from the 3D model were shown. Work in this area was funded by STATemap, GLGMC, and local funds.

c. Lake Calumet - 3D mapping will be done for development issues.

d. Plans include expanding the existing map area into a corridor including northeast Chicago, and mapping in Will County after that.

Discussion: A status map with completed, in progress, proposed, and priority areas was displayed. Lake Michigan is used by many areas for water and usage is an issue of interest.

- The IGMAC Chair was asked write a letter in support of the program to be included with the next GLGMC proposal.
- Why is the city of Chicago being avoided? The quadrangles have been listed as “priority” for many years. ISGS has not been avoiding Chicago, although there are several problems involved with working there. Increased costs and time-consuming work will result from logistical problems and the need to compile large amounts of existing data from consultants and other sources. Groundwater is less of an issue in the City than it is elsewhere. Maps made by Bretz are old but still of high quality. Are they sufficient?
- Are quantitative analyses being done on water? Water testing wells are being put in. ISGS is working with Illinois State Water Survey (ISWS), USGS and local committees on water quality testing. Qualitative analysis is being looked at as well as the quantitative numbers. Mapping is being used to determine the water container first, and then the water itself will be looked at. Paul Schuch commented that there are sufficient water resources until 2050; changes in green infrastructure and water withdrawals will impact that projection. He suggested that ISGS should talk to local planners and communities to work on green efforts and initiatives, including reuse, storm water reinfiltration, and integrated water use. The Chicago Metropolitan Agency for Planning would be a good connection.
- It was suggested that parts of Will County should be worked on, since they are going to have groundwater issues in the future. Yeskis suggested that eastern Will has more societal needs than the northern Cook County corridor. The ISWS’s priority area in Will Co. is near Joliet. Based on the discussion, Steve Brown suggested that Will County become the next focus of GLGMC activity rather than migrating into Cook County.
- Is there closed loop well data and water well construction information available? Is there critical data the IDPH should require since they are writing new codes for closed loop well data and water wells.

Conclusion:

Motion: IGMAC supports the long term plans of the GLGMC for geologic mapping in the Chicago area in Kankakee, Cook, DuPage, and Will Counties, with the recommendation that Illinois start in southeast Will County near the I-57 Corridor and continue discussions with local planners. The motion was seconded and approved unanimously by acclamation.

Motion: Continue work on McHenry County over the next 2 years and to complete Lake County. The motion was seconded and approved unanimously by acclamation.
VII. Illinois Height Modernization Program (Sheena Beaverson) - History and brief explanation of the program and LiDAR.

   a. Project Goals - Acquire data or data sharing agreement for LiDAR or derivative data, share standards and specifications, QA/QC on new data, create derivatives on county scale.

   b. Specifications - Set by agency acquiring data. IDOT, ILHMP, FEMA, USACE, USGS all have different deliverables. Deliverables contingent on vendor expertise. Point density about 1 point/m², higher for archeological acquisition, some ILHMP 4 point/ m² for special study.

   c. Map of data status in Illinois display. 23 areas are available, 28 are in QA/QC, 19 counties have been acquired but not delivered, 32 counties not planned except for special projects (areas, rivers, corridors, etc.)

   d. Coverage of 70% of the state.

VIII. Adjournment-at 2:50 pm

Respectfully submitted,

Kathleen M. Henry