ILLINOIS GEOLOGIC MAPPING ADVISORY COMMITTEE (IGMAC)

September 11, 2014
Illinois State Geological Survey, Room 439

MEETING MINUTES


1. Welcome and Introductions
   a. Dave Malone, ISU and Committee Chairman
      i. Dave welcomed everyone to the meeting. Attendees introduced themselves and gave information about their affiliation and mapping interests.
   b. Dick Berg, ISGS
      i. Dick thanked everyone for coming to the meeting. He commented on the diversity and commitment of the group.
   c. Dave Malone, ISU
      i. The purpose of the Committee is to provide advice to the STATEMAP proposal and to help set short- and long-term mapping priorities.

2. Old Business, Dave Malone, Chair:
   a. Approval of Meeting Minutes from September 12, 2013
      i. A motion was made to approve the 2013 IGMAC minutes. The motion was seconded and approved.

3. New Business
   a. Approval of new members
      i. A motion was made to accept the three new members: Jodie Wollnik, Pam Brooks, and Shawn McKinney. The motion was seconded and approved.
   b. Long Range Planning – Dave Grimley, ISGS
      i. Review of FY 2013 - Delivered 6 quadrangles and the Hardin Co. compilation to the USGS. Five maps were published by the ISGS.
      ii. STATEMAP - $5.6 million was awarded to 44 state geological surveys; $10 million was requested. The ISGS was the 3rd highest awardee with $182,107. Funds are more evenly distributed this year because all states are submitting better proposals and maps. The ISGS submitted 6 quadrangles and one county map to accommodate the reduced award. A chart of the distribution of funds across states from 2009-2014 was shown.
      iii. Current mapping for FY 2014 include the Frankfort, Sag Bridge, Keyesport, Hardin, Harco, and Galatia Quadrangles.
iv. Great Lakes Geologic Mapping Coalition (GLGMC) - $750,000 was awarded to eight states; the ISGS received about $100,000 to continue 3-D mapping in Lake and McHenry Counties. Will County 3-D mapping started last year with a 5-year goal for completion.

v. A map of GLGMC long-range mapping priorities was shown.

vi. Bedrock mapping; 2-5 year plan
   1. Geographic
      a. Southern Illinois – coal belt
      b. Lower Illinois River Valley – moving northward
      c. Northern Illinois – St. Peter Sandstone (fracking sand; aquifer)

   2. Targets
      a. Energy resources
      b. Mineral and Rare Earth Element resources
      c. Groundwater
      d. Seismic hazards
      e. Research: geologic history and stratigraphy

vii. Surficial mapping; 2-5 yr plan
    1. Geographic
       a. Northeastern Illinois – Will Co. region
       b. Central Illinois – Mahomet Valley (Sangamon Valley CZO)
       c. Middle-lower Kaskaskia valley region
       d. Lower Wabash Valley region

    2. Targets
       a. Groundwater
       b. Land-use; waste siting
       c. Geologic hazards
       d. Aggregate resources
       e. Research: glacial history, geomorphology

c. Discussion on long- and short-range mapping plans
   i. James Curtis, IDOT: What is the aim of GLGMC mapping?
      1. Dick Berg: One aim is to complete 3-D mapping which supports the health department in preventing human disasters from groundwater contamination.

      1. Dick Berg and Drew Phillips, ISGS: Personnel are limited in that area.
      2. Dave Grimley, ISGS: We try to build off of previously mapped areas.

   iii. Dick Berg, ISGS: There is a desperate need for bedrock mapping in NE Illinois because of groundwater contamination in bedrock (e.g. Sauk Village Community at the Cook Co., Will Co., and Indiana border).

   iv. Steve Baumann, MIGE Consulting: Would like to see more mapping in NW Illinois (Jo Daviess Co.).
1. Dick Berg: NW Illinois lacks population base compared to Will Co.

v. Jonathan Remo, SIU-C: Suggests prioritizing Saline and Gallatin Co. to improve understanding of aquifers (in surficial deposits) related to hydraulic fracturing.
   1. Drew Phillips: Fracking experiments are already underway there.

vi. Rose Grant, State Farm Insurance: Seismic hazards maps of the U.S. have been recently updated and show an increased seismic risk in the New Madrid Seismic Zone. She would like to see more mapping done in the Carbondale area surficial deposits.
   1. Mapping of several quadrangles has been done in Carbondale and the surrounding area.

vii. Paul Schuch: The State Water Survey is looking at groundwater resources near the Sandwich Fault Zone. He hopes that we move eastward from the St. Peter outcrop area because it's a recharge area for Kane Co. aquifers.

viii. Have seismic data lines been compiled into a database showing where lines were run and what type of data was acquired? Commenter suggested that the ISGS initiate a permit process for acquiring seismic data so that it can be archived and utilized for understanding subsurface architecture for hydraulic fracturing.

ix. Alison Anders, UIUC Geology Dept.: Would it make sense to combine bedrock and surficial map proposals together?
   1. Dave Grimley and Joe Devera, ISGS: No, because funding was reduced when that was done in the past.

x. Jason Thomason, ISGS: Stated that Kendall and Kane Co. with the Sandwich Fault Zone was almost complete.

xi. Dave Malone, ISU: Requested continued mapping in McClain Co.

xii. James Curtis: Why are population centers like Effingham and Bloomington-Normal not priority areas?
   1. Dave Grimley and Drew Phillips: Population is only one factor determining priority areas; population has to be balanced with available personnel resources, land-use planning needs, and outcrop exposures.

d. FY 2014 results and FY 2015 STATEMAP proposal presentations
   i. Bedrock Mapping (Brett Denny, ISGS)
      1. FY 2015 maps being proposed: Franklin Grove, Hamburg, Eldorado, and Ridgeway quadrangles; Pope County compilation.
         a. Franklin Grove – continuation of multi-year project in northern Illinois, aggregate resources, St. Peter Sandstone (frack sand, groundwater), refine Ordovician stratigraphy, Sandwich Fault Zone.
         b. Hamburg – continuation of multi-year project in IL river valley, aggregate resources, New Albany Shale oil and gas resources, Devonian-Mississippian stratigraphy, collaboration with SIU faculty and student researchers.
c. Eldorado/Ridgeway – continuation from previously mapped quadrangles (Harco/Galatia), coal mine planning, oil and gas exploration, locating ultramafic dikes and sills. Variation in oil and gas production may be related to locations of igneous intrusions. John Sexton (SIU-C) has a large seismic dataset that will help locate dikes and sills. These quads will help complete Saline County.

d. Pope County compilation – continuation from Hardin County compilation (FY 2013), in-depth study of igneous intrusions, fluorite resources, Cretaceous units, neotectonics.

ii. Surficial Mapping (Drew Phillips, ISGS)

1. FY 2015 maps being proposed: Mokena, Manhattan, Mahomet, Mt. Carmel, and Keensburg quadrangles
   a. Mokena/Manhattan: connects previous mapping, rapid urbanization in Will County, near proposed Illiana Expressway and 3rd airport, economic resources (groundwater, sand and gravel, and dolomite), protect wetlands and stream ecosystems. Research questions include last glacial chronology, Chicago outlet history, and till characterization.
   b. Mahomet: builds on Mahomet Aquifer studies, supports Critical Zone Observatory (CZO) in upper Sangamon watershed. Aims: understand Wisconsin episode landscape and chronology; Mahomet Aquifer supply, protection, and connectivity; aggregate resources (in terrace deposits and active pits); geologic framework for CZO, moraine-till correlations. Outcrops exist along Sangamon.
   c. Mt. Carmel/Keensburg: groundwater in Wabash Valley fill, flooding, river meander cutoff timing and process relating to aggregate resources and ecosystems, seismic hazard and paleoliquefaction due to Wabash Valley Seismic Zone, slackwater lake chronology and ecology, Wisconsin-Holocene transition.

2. Discussion of surficial mapping proposal:
   a. Pam Brooks: Is there a statewide fault map?
      i. Brett Denny: Yes, see ISGS Bulletin 100.

iii. Approval of FY 2015 mapping program

1. A motion was made stating, "IGMAC endorses in entirety the proposed nine quadrangles and one county compilation for FY15." The motion was seconded and approved.

4. Lunch at 11:58 am.

5. EDMAP (Dave Malone)
a. Alison Anders (UIUC)/ Art Bettis (University of Iowa) plan to propose a quadrangle in the Mahomet Aquifer region.

6. Great Lakes Geological Mapping Coalition (GLCMC) (Olivier Caron, ISGS)
   a. Will County 3-D mapping is a five-year project and is in its 2nd year. Strong communication is being established with stakeholders and community.
   b. Current work includes drilling new boreholes and presenting constituents with monthly progress reports.
   c. Many examples of 3-D mapping products were shown including 3-D boreholes, fence diagrams, and complex visualizations.

   d. Approval of GLCMC mapping in Will County
      i. A motion was made stating, "IGMAC supports the Great Lakes Geologic Mapping Coalition's Will County mapping project as proposed." The motion was seconded and approved.

7. Topical Presentations
   a. Giant cephalopod find in the Menard Limestone, southern Illinois (Joe Devera, ISGS)
   b. Coal resources and mapping in Illinois (Scott Elrick, ISGS)
   c. Critical Zone Observatory (CZO) in Sangamon Valley (Laura Keefer, ISWS)

8. Meeting adjourned at 2:46 pm.

Respectfully submitted,
Mary J. Seid

[Signature]

[Date: 10/30/14]