

Michigan Geological Survey Report 3 from the K-12 Outreach Director, Peter Voice [11/8/13]

Old items: Michigan Geological Survey Report from the K-12 Outreach Director, Peter Voice 9/6/2013;
[Not presented in Sept. 6 Meeting, as I missed it due to teaching responsibilities]

1. Led a tour and module for 4 children, 2 adults (part of the Lego Robotics League Program). They were interested in Natural Hazards, so we discussed asteroid impacts and did a demonstration.
2. I am working on scheduling a visit to Upton Middle School, St. Joseph – waiting on reply from the teacher Kelly Kietzerow, who had initiated contact with Linda.
3. I have chatted with Bill Mitchell of the Kalamazoo Geological and Mineral Society about joint outreach events. We are going to meet in the near future after he returns from vacation. The hope is to continue having a booth at the Kalamazoo Rock and Mineral Shows.
4. Met with Steve Barone and Bill Harrison to discuss the Shale Gas and Fracking Module that Steve is working on. There are still a few minor corrections necessary before we make it available. John Fowler sent us a really good link for resources on fracking in Michigan: <http://www.fracky.org/> Steve had developed some hands-on activities for the module that weren't quite right – so we are still looking for ideas on how to model fracking for in class demonstrations.
5. I met with Bill Cobern and Heather Petcovic to start planning a workshop on the potential MGRRE Online Education Portal.

Old items: Michigan Geological Survey Report from the K-12 Outreach Director, Peter Voice 10/4/2013;
[Not presented in Oct. 4 Meeting, as I missed it due to attendance at MESTA Meeting]

1. Went to the Cranbrook Institute Rogue River Festival. Steve Barone covered all three days and interacted with 404 children (4th grade – mainly from the Detroit Area – see attached notes) and 30 adults. He presented the hydrogeology module.
2. Met with Bill Mitchell of the Kalamazoo Geological and Mineral Society on Sept. 16. Reiterated are desire to be part of their annual mineral show.
3. I exchanged emails with John Esch from the Michigan Basin Geological Society and he has given me contact information for their Outreach coordinator, Mark Nida.
4. I tentatively have scheduled a CoreKids event with St. Mary's Visitation School (Byron Center, MI) for the week of Oct. 21.
5. I generated announcements for both the MGRRE/Mallinson Institute Workshop and the CoreKids Program for the October MESTA News Bulletin (MESTA = Michigan Earth Sciences Teacher Association). I also received permission to have the MGRRE/Mallinson Institute Announcement sent out to the MSTA listserv (MSTA = Michigan Science Teachers Association).
 - a. The MSTA announcement generated 10 contacts with Michigan Science teachers and Curriculum development Administrators.

- b. The MSTA announcement also generated one contact for a potential CoreKids Event – with Okemos High School.
- 6. Steven Barone is working on brochures and other handouts for both the MESTA Conference as well as digital copies to send out to our current contacts database.
- 7. Sept. 25 – Met with Ann Gilchrist to discuss her possible employment with CoreKids. Her responsibilities would include leading CoreKids events, developing new modules and revamping the CoreKids website.
- 8. Sept. 25 – MGRRE/Mallinson Institute Workshop tentatively scheduled for Nov. 1.
- 9. Sept. 27 – Voice attended the NSF DR K-12 Program webinar to learn about the DR K-12 program which funds programs that “seeks to significantly enhance the learning and teaching of science, technology, engineering and mathematics (STEM) by preK-12 students and teachers, through research and development of innovative resources, models and tools (RMTs)”

New Items; Report from K-12 Outreach Director, Peter Voice; Re: MESTA/MAEOE Joint Conference, Oct. 4-6

- 1. Had 24 teachers, Nature Conservancy Staff, Curriculum developers etc. leave their contact information – most would like to organize events for their classrooms.
- 2. The booth had light traffic on Friday – with about 30 visitors during the day (Most Conference participants were at field trips or workshops – so not many people were in the conference center save for during lunch).
- 3. The booth had more traffic during the Saturday program – about 70 people visited the booth.
- 4. Sunday – after finding out that Sunday was going to be another field trip day – with only 1 workshop planned for the building – Steve and I decided to close the booth down Saturday evening.
- 5. Our booth was next to one of the lecture rooms and we were able to listen to two talks that had interesting ideas:
 - a. Engineering in Elementary Schools Workshop – discussed a series of modules put together by eie.org including some nice demonstrations on how students can build a model windmill and clean up an oil spill
 - b. A workshop on habitat restoration in Wayne County provided information about the Together Green Innovation Grant (through Toyota), www.togethergreen.org. Two of the themes are really relevant for CoreKids – energy conservation and water conservation. So this might be a future place to run a proposal (probably will need to be run in association with a nature conservancy like the Kalamazoo Nature Center, etc.)
- 6. Steven Szumko of MAEOE has asked me to write up a brief description of the CoreKids Program for the MAEOE Newsletter.
- 7. I attended a Silica Shale Fossil Collecting field trip while as part of the conference activities Friday – collected a number of fossils that will be used in a Michigan Fossils Module.
- 8. I met George Davis of the Detroit Salt Company at the meeting. He wants to talk during the Minerals Association meeting with me about joint outreach through our combined websites.

New Items; Report from K-12 Outreach Director, Peter Voice

1. Our MGRRE hosted Teachers Workshop has had 15 people respond (after advertising in the MESTA e-newsletter, through the MSTA listserv and through announcements at the MESTA/MAEOE Joint Conference
 - a. 7 of the contacts have confirmed that they plan on attending the workshop so far.
2. Updated and revised the CoreKids 2012-2013 Annual Report, the CoreKids program interacted with ~3,500 K-12 students between Sept. 2012 and July, 2013.
3. Scheduled an event Nov. 1 for Okemos High School, Dave Chapman's advanced earth sciences class (20 11-12 graders) at the MGRRE facility.
4. Met with Jennifer Callahan and Kyle Herm (WMU Foundation), Mohamed Sultan and Bill Harrison to discuss the CoreKids Program, the DTE Foundation's support and a white paper for possible funding.
 - a. Gave brief tour of facility and presented the core permeability activity
 - b. Briefly discussed history of MGRRE-DTE relationship
 - c. Briefly discussed CoreKids program – budget, coverage area, metrics and data collection, current demographics
 - d. Briefly discussed the MGRRE-Mallinson Institute joint project to try to fund an Online Education Portal for K-12
 - i. Model presented – Pilot study – 1 module developed through DTE Foundation funding – then submit to NSF for implementation funds to create a larger scale Portal.
 - ii. Virtual Expo website and Expedition Earth and Beyond examples described by Jennifer Callahan
 - iii. Jennifer Callahan is meeting with DTE Foundation board late October – will then meet with us.
5. Scheduled tour with the St. Mary Visitation School, Byron Center for Oct. 21 – two sessions in the afternoon. Ann Gilchrist will run the tours.
6. Sent out email announcement on CoreKids to 36 teachers, administrators, conservancies and other nonprofits, etc. Responded to Workshop email list and email list generated via MESTA.
7. Preparing newsletter item for the Michigan Alliance for Environmental and Outdoor Education (MAEOE) – due by Nov.
8. Prepared CoreKids write-up for the MGRRE report for the Dept. of Geosciences Newsletter
6. Scheduled tour with Kelly Kietzerow of Upton Middle School, St. Joseph – Nov. 11. All day event – multiple sections.
9. Bill Mitchell (Kalamazoo Geological and Mineral Society) will be borrowing the Permeability Model for an outreach event. He met with the gifted 3rd grade science class at Star Elementary in Plainwell (28 students).
10. Scheduled tour with Tim Neason of Hastings Middle School March 5.
11. Working on scheduling tour with Wendy Lemke of St. Francis Catholic School, Ann Arbor
12. Working on scheduling tour with Birmingham School District. Tentatively scheduled for Feb. 14.
13. Sent packet of geologic data for Michigan to Armando Carrizalez, Govalle Elementary School, Austin, Texas – who had requested data on Michigan Geology for his classroom.

14. Scheduled tour at MGRRE for the Reformed Heritage Christian School of Kalamazoo – 3 students and an adult.
15. Working on scheduling a CoreKids event with Kim Clancy, Gull Lake School [Note contact provided by Jeff Barney Oct. 20, 2013]
16. Developed a new survey form to give to teachers for evaluation of module as well as to gather metrics (contact information, grade level, student numbers, module performed etc.).
17. Sent a draft announcement to the Michigan Alliance for Environmental and Outdoor Education for their next maeogram newsletter on the CoreKids Program
18. Spent a great deal of time on the logistics of the MGRRE Education Portal Workshop with Heather Petcovic.
19. Ann Gilchrist led tour Oct. 21 to St. Mary's Visitation School, Byron Center. 31 students (3rd and 6th grade; Mi Geologic History Module) and 2 teachers.
20. Oct. 21 – worked on scheduling catering for the Nov. 1 workshop with Kathy Wright's assistance.
21. Oct. 22 – met with Ann Gilchrist to discuss upcoming events schedule; recap of St. Mary's visitation School, and logistics (now that Steve Barone has given notice).
22. Oct. 22 – contacted Lisa Appel (Cranbrook Institute) with regard to scheduling joint activities.
23. Oct. 24-25 – Lisa Appel and Michael Narlock replied – invited us to their Dec. 26 –Dec. 30 holiday break event. The theme for the event is Dinosaurs – we will provide a Michigan fossils module.
24. Scheduled events for Gull Lake Middle School (Nov. 12 and 14) and St. Francis School of Ann Arbor (Nov. 18).
25. Received a postcard from Armando Carrizalez, Govalle Elementary School, Austin, Texas, who was quite thrilled with our packet of Michigan Geology Resources.
26. Oct. 25 – Assisted Bill Harrison with activities for Martin Steinbis' Petroleum Geology class (16 students and an instructor). They used the CoreKids Permeability Activity as part of the day's event.
27. Scheduled MGRRE Tour for the WMU Geology Club for Nov. 20 at 6:00 pm.
28. Oct. 30 Met with Bill Harrison and Heather Petcovic to discuss the Nov. 1 workshop – finalize the agenda, etc.
29. Oct. 30 – led tour of 3 students and 1 teacher through MGRRE from Kalamazoo Reformed Heritage Christian School. Ann Gilchrist assisted with hands-on activities for mineral identification and permeability analysis.
30. Oct. 30 – Met with Ann Gilchrist and Nick Panyard to discuss a Michigan Fossils Module for development for the Cranbrook's Dec. break event (Dec. 26-30).
31. Oct. 31 - Contacted Lisa Anderson – person in charge of Illinois' Geological Survey Outreach Program. She had contacted Heather White (Mallinson Institute) at a regional conference and Heather forwarded her contact information to Heather Petcovic. Lisa is an alumna of WMU's Geosciences Department and would like to develop some collaboration with our program.
32. Oct. 31 - Finished up the workbook for the MGRRE Online Education Portal Planning Workshop.
33. Nov. 1 – MGRRE Online Education Portal Workshop was held – led by Heather Petcovic, Peter Voice and Bill Harrison. 10 teachers, administrators, curriculum developers, etc attended the event.

34. Nov. 1 – CoreKids had a morning event from Dave Chapman’s Okemos High School at MGRRE. 16 students and 2 adults. Variety of hands-on activities designed around cores were given.
35. Nov. 3 – Sent out follow up email to Workshop participants
36. Nov. 4 – Sent out email to Jenn Callahan (WMU Foundation) providing her with an update on the CoreKids Program since our last meeting. Asked her about status of DTE Foundation meeting – she said that it had been postponed until Nov. 19.
37. Nov. 4 - Sent out email to Tom Occhipinti and Steve Wilson from the MI DEQ with regard to collaboration efforts – specifically bringing our Michigan Fossils Module to their Earth Day Outreach Event (which last year reached 3,200 people!). Steve Wilson sent reply hoping that Tom Occhipinti will approve our request. Tom responded that day thinking that would be an excellent addition to their Earth Day Event. He forwarded the CoreKids information that I had sent, to Eric Wildfang who coordinates displays at the Earth Day Event.
38. Nov. 4 – Sent out email to Bill Mitchell with regard to collaboration events – bringing a variety of activities including the Michigan Fossils, Groundwater, Natural Hazards, Michigan Geology to the Kalamazoo Geological and Mineral Society Annual show (May 2-4, 2014). We had already discussed the collaboration. He sent me Sheri Crum’s contact information as she is the coordinator of the School Kids Day events at the Show. I have emailed her.
39. Nov. 4 - Keith Agdanowski from the Kalamazoo Geological and Mineral Society contacted me to ask me to be a guest speaker at one of their Rock and Mineral Study Group meetings which focuses on Education in Geology.
40. Nov. 5 Co-led tour with Alan Kehew, Mohamed Sultan and John Yellich for the Saudi Arabia Geological Survey visit to the MGRRE Facility. 12 visitors were given a tour of the resources of the facility with discussion of hydrogeology, mineral exploration, oil and gas research, outreach activities. One theme was discussion of our mission to collect and acquire every bit of geologic data (digital, paper and actual samples) – with the idea that these datasets could potentially fuel new avenues of research.

Current Totals

Total K- 12 Student Interactions (As of July 2013)	503
Total Adult Interactions (As of July 2013: Chaperones and teachers at events)	46
WMU Hydrogeology Field Trip; CMU Petroleum Geology Class (College Students); Saudi Arabia Geological Survey Vist	59
Total Teacher Interactions (As of July 2013: MESTA, Other Contacts, Workshop)	120
Total:	<u>738</u>

Projected total for Nov. 31 – 716 + 626 kids + 6 teachers + 12 Saudi Arabia tour + 10 WMU Geology Club = ~1375

Second aside – Jeff Barney had ~1,000 interactions by the end of Dec. – we will have almost 1,400 interactions by the end of November! (first 5 months for each tenure)



9/12/13

Western Michigan University
Aquifers & Water Storage

Location: LLB

112
108
+184

404
kids
+30
adults

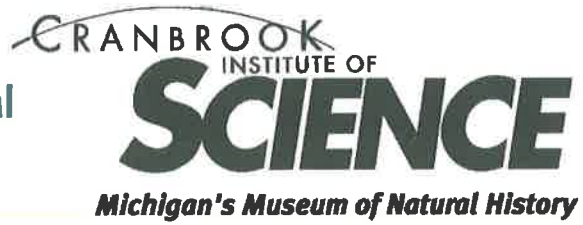
Time	School	No. of Students
9:40 am - 10:05	Highmeadow Common Campus 2 Farmington Hills	28
10:15-10:40	Eastover Elementary 4 Bloomfield Hills	28
10:50-11:15	St. Regis Catholic School 1 Bloomfield Hills	26
11:25-11:50 am	McIntyre Elementary 3 Southfield	26
LUNCH		
12:30 pm – 12:55	Mary Helen Guest 1 Walled Lake	28
1:05 – 1:30		
1:40 – 2:05	Our Shepherd Lutheran 1 Birmingham	28
2:15 – 2:40 pm	Brookside 1 Bloomfield Hills	20

Join us for a Box Lunch at Reflections Café during Lunch!

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9/13/13

Western Michigan University
Aquifers & Water Storage

Location: LLB

Time	School	Number of Students
9:40 am - 10:05	Commerce Elementary 1 Commerce	30
10:15-10:40	Our Lady of Sorrows 2 Farmington	25
10:50-11:15	Bingham Farms 4 Bingham Farms	28
11:25-11:50 am	Our Lady of Sorrows 6 Farmington	25

Join us for Lunch at Reflections Café after your last program!

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9/11/13

**Western Michigan University
Aquifers & Water Storage**

Location: LLB

Time	School	Number of Students
9:00 – 9:30 am		
9:40 am - 10:05	Bemis Elementary 1 Troy, MI	28
10:15-10:40	Costello Elementary 2 Troy, MI	28
10:50-11:15	Costello Elementary 6 Troy, MI	28
11:25-11:50 am		
12:00-12:25 pm	Costello Elementary 3 Troy, MI	28

Join us for a Box Lunch at Reflections Café after your last program!

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1 teacher

Class Demographic: _____ Date: Oct. 21, 2013

School: St. Mary's Visitation Grade Level: 3rd-6th

District: Diocese of Kalamazoo # of Students: 31 14

Teacher: Schonhard/Nickels Office Phone: (616) 681-9919

Email: ~~schonhard@smvschool.org~~ aschonhard@smvschool.org

Presenter: Ann Gilchrist Module: Mineral Identification and Porosity/Permeability

Please circle one for each question:

1. Overall, this module was: Awesome Pretty good OK Not so good

2. This activity:	<u>Very much</u>	Somewhat	Not so much	Not at all
Was Enjoyable	<u>Very much</u>	Somewhat	Not so much	Not at all
Was Educational	<u>Very much</u>	Somewhat	Not so much	Not at all
Met Expectations	<u>Very much</u>	Somewhat	<u>Not so much</u>	Not at all
Was Too Difficult for Students	<u>Very much</u>	<u>Somewhat</u>	<u>Not so much</u>	Not at all
Had Clear Instructions	<u>Very much</u>	Somewhat	Not so much	Not at all
Had Clear Purpose	<u>Very much</u>	Somewhat	Not so much	Not at all
Improved Understanding	<u>Very much</u>	Somewhat	Not so much	Not at all
Presenter Was Knowledgeable	<u>Very much</u>	Somewhat	Not so much	Not at all
Presenter Was Organized	<u>Very much</u>	Somewhat	Not so much	Not at all

some words were hard but she did a great job explaining it in simpler terms.

3. What part of this activity was most effective to help students explore this topic?
Identifying the minerals by shape, texture, taste, reaction to acid, etc.

4. What was the least favorite part of this activity?
We couldn't think of one!

5. How could this activity be improved?
—

6. Do you feel this module meets Michigan State Science Standards?
Yes!

Thank you so much!
We really enjoyed having you here! :)

1 teacher

Class Demographic: _____ Date: 10/21/13
 School: St. Mary's Visitation Grade Level: 5/6
 District: Diocese of Kalamazoo # of Students: 17
 Teacher: Mrs. Nickels Office Phone: 616-681-9701
 Email: anickels@smvschool.org
 Presenter: Ann Gilchrist Module: Mineral Identification and Porosity/Permeability

Please circle one for each question:

1. Overall, this module was: Awesome Pretty good OK Not so good
2. This activity:
- | | | | | |
|--------------------------------|------------------|----------|-------------|-------------------|
| Was Enjoyable | <u>Very much</u> | Somewhat | Not so much | Not at all |
| Was Educational | <u>Very much</u> | Somewhat | Not so much | Not at all |
| Met Expectations | <u>Very much</u> | Somewhat | Not so much | Not at all |
| Was Too Difficult for Students | Very much | Somewhat | Not so much | <u>Not at all</u> |
| Had Clear Instructions | <u>Very much</u> | Somewhat | Not so much | Not at all |
| Had Clear Purpose | <u>Very much</u> | Somewhat | Not so much | Not at all |
| Improved Understanding | <u>Very much</u> | Somewhat | Not so much | Not at all |
| Presenter Was Knowledgeable | <u>Very much</u> | Somewhat | Not so much | Not at all |
| Presenter Was Organized | <u>Very much</u> | Somewhat | Not so much | Not at all |

3. What part of this activity was most effective to help students explore this topic?

Students were given a hands-on activity and able to discover mineral traits with the tools given.

4. What was the least favorite part of this activity?

Students were engaged and learning the entire time!

5. How could this activity be improved?

—

6. Do you feel this module meets Michigan State Science Standards?

Definitely!

Thank you for coming today! It was great and the students loved it!

Current schedule of Core Kids Events

Month	Day	School/Event	Module	Times/Sessions	WMU Personnel	Contact Info	# of Students	# of Sessions
November	1	Okemos HS	MI Fossils/Core	9am-1pm	Steve/Ann	Dave Chapman: <Dave.Chapman@okemoschools.net>	16	1
November	11	Upton Middle 6th	MI Geologic History	7:56:00am- 3pm	Ann/Nick	Kelly Kietzerow <kkietzerow@sjschools.org>	240	4
November	12	Gull Lake Middle 6th	MI Geologic History	8:04 am -2:30pm	Ann	Kimberly Clancy <kclancy@gulllakecs.org> 269-488-5040 ext. 2122	165	6
November	14	Gull Lake Middle 6th	MI Geologic History	8:04 am -2:30pm	Ann	Kimberly Clancy <kclancy@gulllakecs.org> 269-488-5040 ext. 2122	165	6
November	18	St. Francis 6th	Earthquake module	11:50am	Ann	Wendy Lemke <LDLETAL@yahoo.com>	54	2
November	20	WMU Geology Club					n/a	
December	26	Cranbrook Institute	MI Fossils	1pm-4pm	Nick	Lisa Appel <LAppel@cranbrook.edu>; Michael Narlock <MNarlock@cranbrook.edu>	tbd	1
December	27	Cranbrook Institute	MI Fossils	1pm-4pm	Nick	Lisa Appel <LAppel@cranbrook.edu>; Michael Narlock <MNarlock@cranbrook.edu>	tbd	1

December 28	Cranbrook Institute	MI Fossils	1pm-4pm	Nick	Lisa Appel <LAppel@cranbrook.edu>; Michael Narlock <MNarlock@cranbrook.edu>	tbd	1
December 29	Cranbrook Institute	MI Fossils	1pm-4pm	Nick	Lisa Appel <LAppel@cranbrook.edu>; Michael Narlock <MNarlock@cranbrook.edu>	tbd	1
February 14	Berkshire Middle 6th	MI Geologic History	9:14am-3:08pm	Ann	Mark Phillips <mp06bps@birmingham.k12.mi.us>; Lori Lachowicz <ll02bps@birmingham.k12.mi.us>; phone 248-203-4706	300	5
March 5	Hastings Middle 8th	MI Geologic History	8-3pm	Ann	Tim Neason <Tneason@hassk12.org>; 269-948-4404	210	2 w/60, 3 w/30
April 22	MI DEQ Earth Day Event	MI Fossils	tbd	tbd	Eric Wildfang (WILDFANGE@michigan.gov); Steve Wilson (WILSONS15@michigan.gov); Tom Occhipinti (Occhipintit@michigan.gov); Elizabeth Siwek (SiwekE@michigan.gov)	tbd	tbd

MGRRE Education Portal Workshop Agenda

10:00 -10:15 am: Introductions; Snacks

10:15-10:30 am: Overview of MGRRE Education Portal (Heather-Bill C.)

10:30-10:50 am: Overview of Michigan Geology and Hydrology (Bill H. -Peter)

10:50-11:30 am: Tour of MGRRE facility and Brief Introduction to a core (Bill H. and Peter)

11:30-12:00 am: Discussion of alignment between the Education Portal and state/national Standards (GLCE, HSCE, and NGSS)

12:00-1:00 pm: Lunch

1:00-1:10 pm: Reimbursement and Travel Authorization Forms (Kathy Wright)

1:10-2:30 pm: Directed Brainstorming

2:30-3:00 pm: Wrap-up, NSF grant proposal, pilot study volunteers, etc. (Heather - Bill C.)

The MGRRE Education Portal: Engaging K-12 Students in Online Authentic Geologic Investigations

What is MGRRE?

The Michigan Geological Repository for Research and Education (MGRRE) is part of the Michigan Geological Survey within the Department of Geosciences at Western Michigan University. As part of its mission, MGRRE maintains an extensive collection of Michigan geological information in the form of rock and sediment samples, chemical and physical datasets, fossil collections, and information about wells drilled for water, mineral and hydrocarbon resources. This collection is mainly used for research and industry, however, MGRRE also has a mission to improve the earth science literacy of Michigan residents through classroom visits, teacher professional development, online education, and informal outreach.

What is the MGRRE Education Portal?

The long-term goal for this project is to develop a web-based Education Portal that would have geologic data from MGRRE available in a format that classroom teachers could use for inquiry-based investigations. As part of classroom investigations, K-12 students would be able to access MGRRE datasets. Through this interactive online format, K-12 students could investigate real-world problems like climate change, groundwater contamination, natural resource identification and production, or conservation of water, energy, and mineral resources. Note that we do not plan to develop online courses or teaching modules – instead, we want to focus on how the digital (or digitized) datasets at MGRRE can be used to facilitate inquiry investigations of earth science phenomena in your classrooms.

What will we do today?

Today's workshop has several goals. First, we want you to become familiar with the resources available at MGRRE. We will spend most of the morning touring the facility and working with the cores and other datasets available. Next, we want to know how these resources might be incorporated into your classes so that they align with your curriculum and state/national standards. We also want to consider the technological, practical, and logistical aspects of an online portal. To address these goals, we will spend most of the afternoon in break-out sessions considering these questions.

What do we need from you?

The proposed project has two main challenges: building the interactive online portal, and developing inquiry-based materials that align with your classroom lessons, state standards (GLCEs and HSCEs), and national standards (NGSS). As you work with us today, we'd like you to consider the following:

- What should the online portal look like? What technology do you have available in your classroom? How would you access the portal, and what type of interface would best accommodate your students?
- What lessons do you currently teach that would be enhanced by the use of MGRRE datasets? How could you incorporate authentic Michigan geological data into your existing science curriculum? What specific types of MGRRE data align well with your curriculum needs and state standards?
- What lessons do you plan to develop to align with Next Generation (NGSS) standards? How might MGRRE datasets be incorporated into future classroom lessons? What specific types of MGRRE data align with your future classroom plans?

MGRRE Online Education Portal Parties & Attendees - list of interested

Name	location	contact	phone #
Tammy Coleman		icoleman@lowell.k12.mi.us	
✓ Mark Reed	Jackson Public Schools	mreed@jpsmail.org	517-745-0219
Kathleen O'Connor	University Prep Science and Math Middle School	koconnor@uprepsm.com	313-550-5585
Teresa Tucker	Great Lakes K12 Virtual High School	ttucker@greatlakesk12.com	231-649-1747
✓ Lisa Winger	Plainwell Middle School	lwinger@gmail.com	
✓ Bill Dinkleman	Ottawa Area ISD	bdinkelm@oaisd.org	877.702.8600 ext. 4075
✓ Jason Hunter	Grand Haven High School	hunterj@ghaps.org	616.836.5256
Kristine Vigier	Sashabaw Middle School	kmvigier@clarkston.k12.mi.us	
Michelle Laing	Sashabaw Middle School	kmvigier@clarkston.k12.mi.us	
Dave Chapman	Okemos High School	chapmad@comcast	
✓ Ardis Herrold	Grosse Pointe North High School	Ardis.Herrold@gpschools.org	734-718-8546
✓ Dawn McCotter	Grand Haven High School	mccotted@ghaps.org	616.850.6246
Julie Young	Kalamazoo Public Schools Loy Norrix High School	youngjl@kalamazoo.k12.mi.us	337 0220 ext 2305
JoAnn Webb	Grand Rapids Public Schools	Webb-Franklinj@grps.org	(616) 819-5879
Robert V. Brady	Central Michigan University Geosciences	brady1rv@cmich.edu	231-250-4099
✓ Andrea Bair	Delta College	andreaabair@delta.edu	
✓ Mark Klawiter	MITEMP (Michigan Tech)	mflawit@mtu.edu	608.347.8813
✓ Debbie Zolynsky	Lake Shore High School	dzolynsky@lsps.org	
✓ Brian Horvitz	WMU - Department of Education Leadership, Research and Technology	brian.horvitz@wmich.edu	269-387-3457
✓ Heather Petcovic	WMU - Joint Mallinson Institute and Department of Geosciences	heather.petcovic@wmich.edu	269-387-5380/269-387-5488
William Cobern	WMU - Mallinson Institute and Dept. of Biological Sciences	bill.cobern@wmich.edu	269-387-5407
✓ Peter Voice	WMU MGRRE/Dept. of Geosciences	peter.voice@wmich.edu	269-387-5446/269-387-8696
✓ William Harrison	WMU MGRRE/Dept. of Geosciences	william.harrison_iii@wmich.edu	269-387-8691

✓ - Workshop & Attendees