



2012 Paleontology Field School
INFORMATION & APPLICATION PACKAGE





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INTRODUCTION

Dear friend,

Thank you for your interest in the New Jersey State Museum's annual Paleontology Field School. Our program offers an exciting opportunity to work alongside scientists in fossil-rich landscapes and we are glad that you are interested in joining us for this unforgettable experience!

Please read the information contained in this packet and feel free to contact me if you have any questions. If you would like to participate in the expedition, please complete all of the attached forms and return them to the address listed below. Completion of these forms is required before your participation can begin.

Once again, thank you for your interest, and we look forward to seeing you this summer!.

Sincerely,

Jason P. Schein
Assistant Curator of Natural History

New Jersey State Museum
PO Box 530
Trenton, NJ 08625

P: (609) 292-7660

F: (609) 292-7636

Jason.Schein@sos.state.nj.us

CONTACT INFORMATION

Mail for each of these individuals can be sent to their attention at the following address:

New Jersey State Museum
PO Box 530
Trenton, NJ 08625

David Parris

Curator of Natural History

P: (609) 984-3846

F: (609) 292-7636

David.Parris@sos.state.nj.us

Jason P. Schein

Assistant Curator of Natural History

P: (609) 292-7660

F: (609) 292-7636

Jason.Schein@sos.state.nj.us

Debra Budgick

Natural History Assistant

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F: (609) 292-7636

Debra.Budgick@sos.state.nj.us

GENERAL INFORMATION

Since 2001 the New Jersey State Museum has conducted field research in Montana and Wyoming in an area that was the site of many famed expeditions by Princeton University researchers. In addition to reviewing classic sites, new opportunities for research and collecting exhibition specimens have been identified. This year, survey and excavation work will continue by permit of the U.S. Department of the Interior, Bureau of Land Management. The New Jersey State Museum is partnering with the South Dakota School of Mines and Technology to offer a field course with college credit available.

The New Jersey State Museum's 2012 Paleontology Field School experience will consist of finding, collecting, and documenting fossils such as dinosaurs, crocodiles, turtles, fish, and mammals in continental rocks of both Cretaceous and Paleogene age. We expect to find fossil ammonites in rocks of marine origin and will continue to collect Eocene fossils of terrestrial animals near Tapman Mountain, in Wyoming. This year we are beginning a new field project which will focus largely on the Devonian marine sediments of Beartooth Butte, in northern Wyoming.

Keep in mind that this expedition is more than a simple field trip-- by participating you will gain knowledge of both geology and paleontology while helping the museum to continue decades-long research projects. However, you do not have to be a student of these sciences to participate in the trip – it is open to anyone!

REQUIREMENTS

Age: Anyone at least 14 year old or may attend, but those age 14 – 17 years of age must be accompanied by an adult.

Activities include both leisurely and strenuous tasks and participants should be in good physical condition.

INSTRUCTORS

David C. Parris, Curator of Natural History, New Jersey State Museum

David Parris has been conducting field work in this area since the 1960s and is intimately familiar with not only the geology and paleontology, but also the cultural and natural history of the region. There is no better guide for this trip than Dave.

Jason P. Schein, Assistant Curator of Natural History, New Jersey State Museum

Jason Schein will co-lead the expedition with David Parris. He has extensive field experience throughout much of North America and Argentina, and this will be his third season co-leading the New Jersey State Museum Paleontology Field School.

WHAT WILL WE BE LOOKING FOR?

The Paleontology Field School is not just a fossil collecting trip. Attendees will participate in a decades-long research project to fully document the region's ancient organisms, which allows us to better understand these paleoenvironments.

Our field expeditions will focus primarily on Late Cretaceous (~ 80 – 65 million year old) and Paleocene (65 – 50 million year old) rocks deposited near the edge of the retreating Western Interior Seaway. These rocks were deposited in continental environments, so the majority of the organisms we find are terrestrial or aquatic – dinosaurs, crocodiles, turtles, fish, and mammals. Occasionally we also collect marine animals, such as ammonites.

Expeditions are also made into Eocene Tapman Formation (56 – 34 million years old), near Tapman Mountain, in Wyoming, and the area typically yields fossils of many aquatic animals, but also rare and scientifically invaluable mammal (including primate) remains.

Finally, we will be collecting Devonian-age (416 – 360 million years ago) marine animals, such as primitive fish and arthropods, and the earliest land plants, at our newest, and perhaps most scenic field site – Beartooth Butte, in northern Wyoming.

CAN I TAKE FOSSILS HOME WITH ME?

Much of our field work will be conducted on public (Bureau of Land Management, or U.S. Forest Service) lands, and there are very strict rules governing the collection of fossils from these areas. For a review of fossils on public lands and the rules concerning their collection, click [HERE](#). These rules MUST be adhered to – revocation of our collecting permits may result if these rules are violated.

There will be plenty of opportunities to collect fossils for your personal collection. However, since this is primarily a research project, all collected materials must first be approved by the field school leaders.

ITINERARY

Day 1 (Sunday): Arrive in Billings/Red Lodge, MT. (If flying, a staff member will collect you as a group and drive you to the base camp – Yellowstone-Bighorn Research Association (YBRA) – in Red Lodge. An orientation giving a basic summary of regional geology, paleontology, and local history will follow dinner.

Day 2: Following breakfast, we will take a casual tour of several local historic sites, while orienting you to the local geology, paleontology, and geography throughout the Bighorn Basin. In the afternoon we will begin field work at one of our field sites.

Day 3 – 6: Participants continue field work. By the end of this week, you will be familiar with the landscape that existed in this area 70 – 50 million years ago, including its inhabitants, after personally collecting dinosaurs and other fossils for the NJSM's research, exhibition, and education programs. After dinner on Friday, you will have the opportunity to enjoy the famous pig races at the historic Bear Creek Saloon.

Day 7 (Saturday): After breakfast, we will transport you to the Billings airport, if needed. Please try to schedule your flight home for early to mid afternoon so that no one is rushed for time.

WHAT TO EXPECT

We will be conducting all manner of paleontological field activities in rugged and potentially hazardous terrain. Many of these activities involve long hikes over steep and loose hillsides and escarpments. Large excavations require heavy lifting and repetitive movements. All activities are conducted at high altitudes (over 5,000 feet).

Participants must be in good physical condition to participate in the NJSM Paleontology Field School. Potential participants should consult their physicians' advice before registering.

All participants must complete the Waiver of Liability Statement and submit it along with the completed Registration Form, Medical Release Form, proof of medical insurance, and a 10% registration deposit.

ACCOMMODATIONS

Paleontology Field School participants will stay at the Yellowstone-Bighorn Research Association (YBRA) in Red Lodge, Montana. Located on the edge of the front range of the Beartooth Mountains overlooking Red Lodge, the field station is a comfortable facility with cabins, home-style cooking, and spectacular views. Pets are not allowed.

There are no laundry facilities in camp. However, if time is available, trips to the Laundromat in Red Lodge can be arranged.

Detailed information about the field camp can be found here: <http://www.ybra.org/>.

Lodging and meals are covered by the tuition fees.

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WEATHER

Base camp is located at approximately 6,800 feet in elevation. As a result, weather conditions are often cool during the day and can be chilly or cold at night.

Most of our field sites are at approximately 5,000 feet elevation, and are significantly hotter and more arid than at the field camp. Conditions here are often hot, sunny, windy, and very dry.

Average high and low temperatures are presented below. Please note: daytime temperatures often approach 100° and snow is not unheard of in June.

	Powell, WY	Red Lodge, MT
Average High	84°	79°
Average Low	53°	49°

STUDENTS

Students can receive academic credits for the New Jersey State Museum's Paleontology Field School. The course is taught by David Parris, but administered by the South Dakota School of Mines and Technology.

Students may register for 1, 2, or 3 hours of undergraduate or graduate school hours. Each credit hour corresponds to 1 week of attendance at the field school.

TEACHERS

The New Jersey State Museum is a registered Professional Development Provider for the New Jersey Department of Education Professional Standards Board (#2241). Teachers Professional Development Courses fulfill the requirements for continued certification on a credit/hour basis.

We also offer professional development credits to teachers in Pennsylvania and Delaware.

FIELD GEAR & PACKING LIST

This list of required and recommended items is based on our own experiences, and is not intended to be comprehensive. You will have ample opportunities to pick up anything you need at local stores.

Weather conditions change quickly and unexpectedly throughout the field areas. Participants should be prepared for a range of weather conditions each day, regardless of the forecast.

Required

- Hat(s): to protect you from the *very strong* sun & to keep your head warm and dry in the event of rain or wind.
- Sun screen: preferably a high SPF and waterproof
- Sturdy and comfortable hiking or work boots
- Water bottle(s): there may not always be plenty of water available, so you need to carry at least 2 liters of water with you each day.
- Personal First Aid kit
- Backpack
- Sleeping bag and pillow: our cabins at the Yellowstone-Bighorn Research Association camp are dormitory style (*i.e.*, bunks w/ springs & mattresses, but you will need a sleeping bag or bed roll arrangement).
- Whistle (preferably one with a compass)
- Compass

Suggested

- Jacket or coat: it can get cool at night
- Rain gear
- Long work pants or jeans: at least two pairs
- T-shirts
- Work shirts/sweatshirts: enough to create layers
- Headband or bandanna
- Light & heavyweight socks
- Work gloves
- Chap stick (with spf)
- Insect repellent
- Eyeglasses (contact lenses are not recommended)
- Sunglasses
- Kneepads or cushion: a lot of sitting and/or crouching on the ground is possible
- Personal items: such as toiletries, towel, *etc.*

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- Flashlight & batteries: for reaching your cabin or the wash house at night
- Flip-flops / water shoes for the wash house.
- Camera/binoculars/notebook: This trip will provide some exciting moments that you will want to remember and share. In addition to dinosaurs, Montana has a variety of wildlife that may be found near our site – pronghorn antelope, mule deer, coyote, black bear, prairie rattlers, golden eagles, *etc.*, as well as spectacular mountain and desert scenery.

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**REGISTRATION FORM
(NON-STUDENTS)**

Full Name: _____
(Last) (First) (Middle)

Phone Number: _____
(Work) (Home)

Current Address: _____

E-mail Address: _____

I wish to participate in week(s) (please circle all that apply):

July 29 – August 4, 2012

August 5 – 11, 2012

***If there is sufficient demand, an extra week may be added prior to these weeks.

Fees: \$1,150/week Friends Members; Total: _____
\$1,250/week Non-Friends Members
Make checks payable to Friends of the New Jersey State Museum.

A 10% deposit (non-refundable) is enclosed. 10% \$ _____
50% of the balance is due May 15th, 2011.
Final Payment due June 15th, 2011.

Please note: The deposit is non-refundable, and NO refunds will be made after June 30th.

Signature _____

Date _____

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**REGISTRATION FORM
(STUDENTS)**

Only students seeking credit for this course should fill out this application.
1, 2, or 3 hours of credit are available (1 hour per week).

Full Name: _____
(Last) (First) (Full Middle)

Phone Number: _____
(Work) (Home)

Current Address: _____ E-mail Address: _____

Present or previous school attended: _____

Present status (circle one) Graduate Undergraduate Non-traditional

I wish to participate in week(s) (please circle all that apply):

July 29 – August 4, 2012

August 5 – 11, 2012

***If there is sufficient demand, an extra week may be added prior to these weeks.

Please note: if 3 credit hrs is requested, attendance at the Tapman Mountain site during the week of July 10 – 16 can be arranged.

Fees: \$1,500 per credit hour (week). Total: _____
Make checks payable to Friends of the New Jersey State Museum.

A 10% deposit (non-refundable) is enclosed. 10% \$ _____
50% of the balance is due May 15th, 2011.
Final Payment due June 15th, 2011.

Please note: The deposit is non-refundable, and NO refunds will be made after June 30th.

Signature _____ Date _____

TRAVEL INFORMATION & ITINERARY

Remember that *you* are responsible for your own transportation to Montana. A member of our staff will meet each week's crew to transport them from the airport to the camp. Please inform the NJSM Natural History Staff of your travel plans as soon as possible (use the enclosed form). Please don't forget to contact us with any last-minute changes.

Participants should plan to arrive early on Sunday afternoon. Departures should be scheduled for midday the following Saturday.

How to get to Red Lodge, Montana

By plane: There is no scheduled air service directly to Red Lodge. Arrange to fly into the Billings International Airport (BIL). Participants who arrive by plane will be met at Billings International Airport and transported as a group to the Yellowstone-Bighorn Research Association camp, which is just south of Red Lodge. At the end of the week's expedition, a similar return leg will be provided for those traveling by plane.

By car: Red Lodge is an interesting drive from Billings and takes about one hour. The Yellowstone-Bighorn Research Association camp is just south of Red Lodge on the Beartooth Highway (U.S. 212). The camp is high up on the hillside, above the tree line to the east (left) of the highway. As you leave town and enter the Rock Creek Valley, you will pass a large gray rock formation on the right. About 100 yards beyond this is Howell Gulch Road. Howell Gulch Road crosses Rock Creek over a small bridge and climbs steeply about a mile to the camp. The road to the camp is steep and very rough, but can be reached by regular automobile in good weather. If lost, call the camp lodge at (406) 446-9949 or (406) 446-1333. The latter number has an answering machine.

Nearby Points of Interest

- Yellowstone National Park (about two hours west, if the Beartooth Highway is open, 2-3 hours southwest through Cody, WY).
- Little Bighorn Battlefield National Monument (two hours east).
- Pompey's Pillar National Monument (30 minutes east of Billings)
- Buffalo Bill Historical Center and Museum (one hour south in Cody, Wyoming).

TRAVEL ITINERARY

Please complete this form and return it (via mail, fax, or e-mail) to Debra Budgick or Jason Schein as soon as your plans are complete, **no less than two weeks before your arrival date**. Please call or email with any last minute changes or questions.

Name: _____

Names of others in your party, if traveling together: _____

Arrival:

By Air

Airline: _____

Flight Number: _____

Date: _____

Time: _____

Additional Details (e.g., connecting flights, local accommodations if arriving early, etc.): _____

By Car

Date and time you expect to arrive in camp: _____

Departure:

By Air

Airline: _____

Flight Number: _____

Date: _____

Time: _____

Note: If your flights departs before 10am (11 am for international flights) on the day of departure, you must reserve a hotel room in Billings, MT for the evening prior to departure.

PARTICIPANT WAIVER OF LIABILITY AND TERMS

(must be signed and returned as part of your registration)

I, _____ (print your name) accept and understand the following:

- 1) I/we have voluntarily applied to participate in the New Jersey State Museum (NJSM) Paleontology Field School. I acknowledge the risks and the potential risks of participation in this program. I am aware that there are inherent risks which occur as a result of physical activity. I/we understand the conditions in the field may at times be hazardous and that some of the following situations may exist or be encountered while participating in the field school:
 - a. The weather may be extremely hot and there is little shade, so be prepared for the hot sun. It may also be very cool.
 - b. Some work may be along steep slopes where there is a risk of slipping and falling.
 - c. Excavation work may at times be strenuous and difficult. All physical limitations will be taken into account.
 - d. Rattlesnakes, scorpions, and other types of hostile wildlife may be encountered.
 - e. There are large cacti, rocks, and extremely hard soils. Protective footwear and gloves should be worn.

- 2) I/we realize the nature of the conditions outlined and others not listed above may exist, but agree to accept full responsibility for any injuries or hazards encountered for any family members and myself. I/we agree not to hold the field school leadership, or their relatives, the Friends of the NJSM, the NJSM, or the State of New Jersey, the landowners, or any participating academic institution or museum and its personnel liable for any injuries that I or my family members may incur as a result of my/our participation in the scheduled activities of this field school.

- 3) I represent that I am in good health and suffer from no physical impairment, which would limit my participation in the NJSM Paleontology Field School. I/we agree to notify the field school leadership, prior to my arrival, of any pre-existing medical conditions which could be exacerbated by the rigors of the outdoor activities. These may include, but are not limited to, asthma, heart conditions, allergies, or other pre-existing conditions. I further understand that I/we should carry our own first aid supplies as the field school will not provide them for the attendees. Furthermore, all of the personal medical information provided in this document is accurate and complete.

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- 4) I represent that I carry full and complete medical insurance coverage. I acknowledge that the Friends of the NJSM, the NJSM, or the State of New Jersey, has not and will not render any medical services including medical diagnosis of my physical condition. I understand the field school does not provide any type of medical or liability insurance to cover any possible injuries and accidents while I, (and/or my family members), are participating in this field school and/or the scheduled activities. I/we agree to be responsible for carrying my/our own medical and liability insurance for myself and my family members participating in these activities. I agree to provide my/our own liability and medical insurance. I will provide proof of my/our self-insurance to the leadership of the field school if required.

- 5) I/we understand the field school does not provide any insurance for my/our vehicle. In the event of any vehicle trouble or accident, I/we agree to assume all responsibility and will not hold the field school leadership, or their relatives, the Friends of the NJSM, the NJSM, or the State of New Jersey, the landowners, or any participating academic institution or museum and its personnel liable for any injuries that I (or my family members) may incur as a result of travels to and from this field school activity or for anything that may happen to my/our vehicle.

- 6) I/we understand that the pre-registration deposit is not refundable and that the tuition fees are not refundable after June 30. I/we understand the registration will cover the costs of the meals and lodging, course materials, necessary equipment needed for the scheduled activities, and transportation to/from the airport and to all field sites. I/we understand that these fees do not cover the costs of transportation from your home to the Billings airport or vice versa.

- 7) I/we will be responsible for bringing (as an attendee) my own gear such as: a canteen or water bottle, backpack, personal first aid kit, proper clothing, and anything deemed necessary for the harsh environmental conditions that may be encountered. Each individual must transport all of these items during the scheduled activities. **THESE ITEMS ARE MANDATORY FOR ALL ATTENDEES.**

- 8) I/we understand that the activities of this field school and its leadership, are important scientific studies and my participation is a privilege. There will be no collecting of fossil specimens for my personal use unless otherwise authorized by the field school instructors. Camera equipment may be brought to the field activities and used by the attendees if they wish. As such, I/we agree that the locations, scientific information, and other data that is gathered are the

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proprietary property of the Friends of the NJSM and the field school leadership. I/we will not disclose any information pertaining to the sites without expressed written consent of the field school leadership or the landowner of the property upon which we are working. I/we agree not to write any press releases or articles about the activities of the field school without written consent and approval by the Friends of the NJSM, the NJSM, or the State of New Jersey. I/we fully understand and agree not to utilize any information obtained by my/our participation in the field school for personal monetary gain.

- 9) I/we agree that as parent(s) or guardian of children under the age of 18 years of age participating in this field school, that I/we will be required, at all times, to supervise my child and insure that the child will not disrupt the activities of the field school.
- 10) I/we will allow the Friends of the New Jersey State Museum to utilize any picture or video containing my/our image as a promotional product for present or future paleontological activities sponsored by the museum.
- 11) I/we agree not to litter or deface the area in which we are working or staying.
- 12) The overall leadership role for the field school lies with the instructors; Mr. David Parris and Mr. Jason Schein are the individual's assigned decision making authority for the field school. Should they determine that the removal of certain individual(s) is warranted for the best interest of the field school, they may do so at any time with just cause. Should this action occur, these individual(s) will be asked to leave and will subsequently not receive any reimbursement for the unused portion of their registration fees.
- 13) I/we agree and fully understand the terms of this agreement and liability waiver in my/our attendance in the Friends of the New Jersey State Museum Paleontology Field School. By signing below, I/we fully accept these terms for both myself and my family members in attendance.
- 14) I acknowledge that In consideration of being permitted by the Friends of the NJSM to participate in its Paleontology Field School, I hereby, intending to be legally bound for myself, my heirs, and assigns, executors or administrators and/or guardian of my son/my daughter/my ward specially agree that the Friends of the NJSM, the NJSM, or the State of New Jersey, shall not be liable for any claim, demand, cause of action of any kind whatsoever for, or on account of death, in any activity associated with the Paleontology Field School, and I agree

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to hold the above-mentioned parties harmless from same. I hereby waive any and all claims for any and all injuries I may suffer under any circumstances, including but not limited to those claims arising from the negligence of the Friends of the NJSM, the NJSM, or the State of New Jersey, its employees, agents, servants, invitees, co-members, contractors, or sub-contractors, employees or otherwise.

Participants Signature: _____

Date: _____

Parent/Guardian's Signature: _____

Date: _____

THE ENTIRE SIGNED AND COMPLETED WAIVER OF LIABILITY AND TERMS AGREEMENT MUST BE RETURNED IN ITS ENTIRETY ALONG WITH THE COMPLETED REGISTRATION FORM.

MEDICAL RELEASE

(must be signed and returned as part of your registration)

Note: All medical information will be confidential.

IMPORTANT: Daily activities involved with the NJSM Paleontology Field School can be strenuous and undertaken in harsh conditions. Extended hiking on steep and loose mountainsides and heavy lifting are common, as well as 90+ degree temperatures. You **must** be able to complete these and similar tasks regularly to participate, and you **must** have full medical insurance to participate.

Potential participants should consult their physicians' advice before registering for this experience.

Name: _____
(Last) (First) (Middle)

Age: _____ Sex: _____

Date of Birth: _____ Height: _____

Weight: _____

Emergency Contact Information

Name: _____
(Last) (First)

Relationship: _____

Phone Number: _____
(Daytime) (Evening)

Medical History

List any allergies you have and the medications (if any) you take for them.

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List any conditions for which you are currently, or have been recently treated for.

List any medications (prescriptions and over-the counter) that you are currently taking and the condition for which it is intended.

Medication	Condition
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

Medical Insurance

Insurance Company: _____
Policy #: _____
Group #: _____

I certify that all of the personal medical information provided in this document is accurate and complete.

Participants Signature: _____

Date: _____

Parent/Guardian's Signature: _____

Date: _____