

LUQ LTER Field Safety Guidelines and Emergency Contacts

Emergency Procedures - **In case of a Medical Emergency:**

1. **Notify your professor/project leader/supervisor immediately.** If you cannot reach them, notify LUQ or El Verde Field Research Station staff in person or via phone.
2. **Call 911** and be as calm and specific as possible. If necessary, call Law Enforcement Officials.
3. In the case of serious injuries, don't try to move the injured person unless you are sure that moving him/her will not worsen the injury. In the case of a fracture or broken bone it's usually best to let the victim lay where he/she is until competent help arrives.
4. **If you are not trained in First Aid, DO NOT TRY TO PERFORM IT.** If you have First Aid, Cardiopulmonary resuscitation, automated external defibrillator and/or Heimlich maneuver training, and can do so safely, perform the appropriate action until competent help arrives.

Emergency Contacts and Phone Numbers

Unit	Phone Number
General Emergency	911
Rio Grande Fire Station	(787) 887-2330 or (787) 887-1170
Rio Grande State Police	(787) 887-2020 or (787) 887-3002
Rio Grande Municipal Police	(787) 887-5710
Emergency Management of Rio Grande	(787) 888-5590
El Yunque National Forest Headquarters	(787) 888-1880
Forest Service Law Enforcement & Investigation Tip Line (Observed law/rules violations)	(787) 888-5675

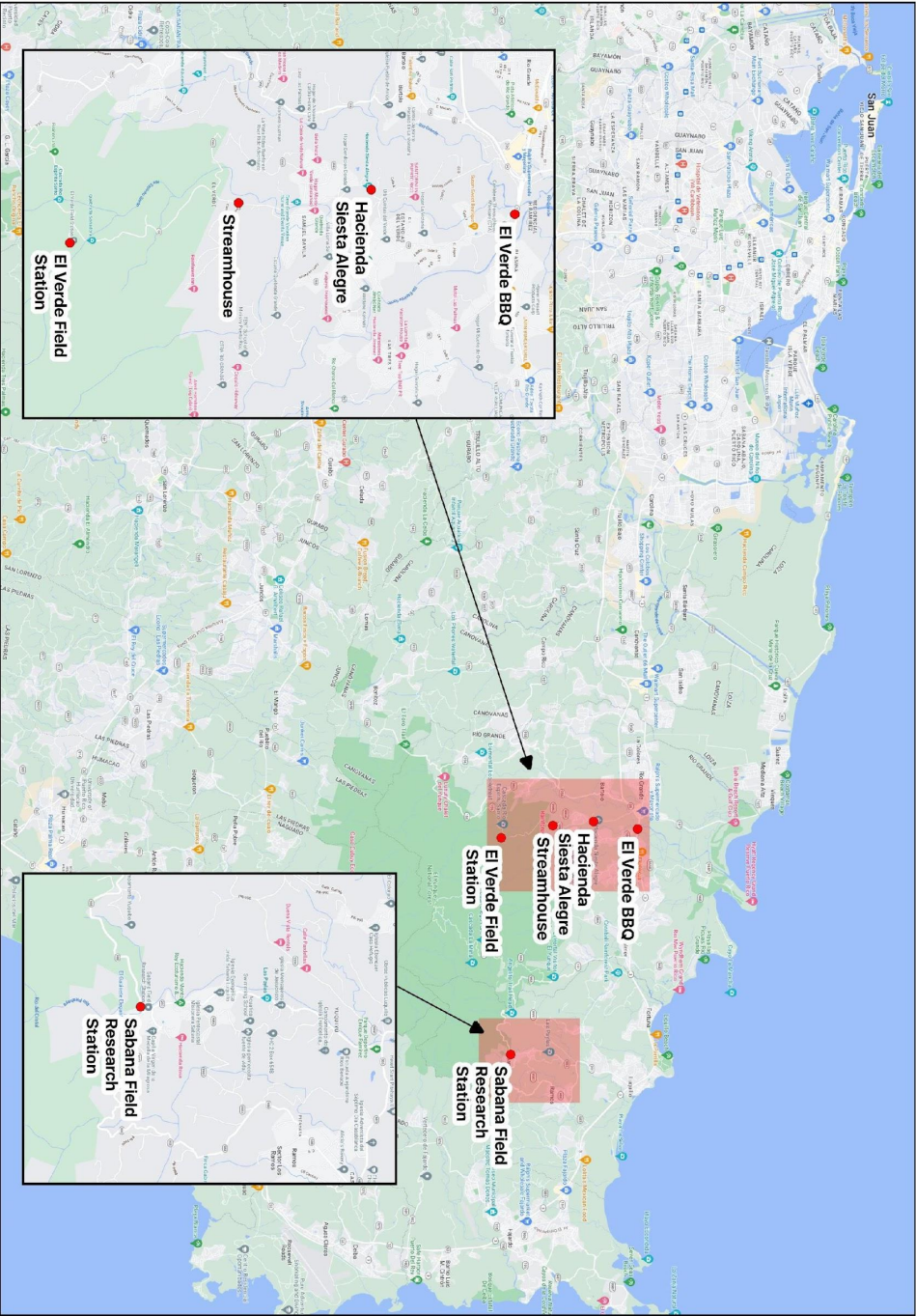
LUQ LTER Emergency Contacts and Phone Numbers:

For emergency use only outside of normal work hours please!

Name	Role	Email	Phone Number
Monique Picón	LUQ LTER Research Manager	mopicon@gmail.com	Mobile: (787) 981-4503
Chris Nytech	LUQ LTER Associate Director	chris.nytech@ites.upr.edu christopher.nytech1@upr.edu	Mobile: (202) 365-3395 Office: (787) 764-0000 ext 1-88202#
Jess Zimmerman	LUQ LTER Lead PI	jesskz@ites.upr.edu jess.zimmerman@upr.edu	Mobile: (787) 380-3311 Office: (787) 764-0000 ext 1-88227#

Nearby Medical Facilities and Clinics

Name	Address	Contact
Hospital UPR, Dr. Federico Trilla (best for UPR-affiliated health insurance coverage and close to Centro Médico)	Carretera 3 km. 8.3 Ave 65 de Infanteria Carolina , Puerto Rico 00984	(787) 757-1800 https://www.hospitalupr.org/
Centro Médico, UPR Medical Science Campus	1008 Ave. Américo Miranda Centro Comercial Rpto. Metropolitano Río Piedras , PR 00921	(787) 758-7908 (787) 758-7910 https://md.rcm.upr.edu/clinicapmi/
Río Grande Emergency Room / Centro Diagnóstico y Tratamiento	200 Calle Manuel Pimentel Y Castro Río Grande , PR 00745, PR	(787) 809-1020 or (787) 801-0081
Luquillo Emergency Room / Centro Diagnóstico y Tratamiento	159 Calle 14 de Julio, Luquillo , PR 00773	(787) 949-6554 or (787) 889-8801
Canovanas Emergency Room / Centro Diagnóstico y Tratamiento	Avenida Corchado Final, Canóvanas , PR 00729	(787) 876-5000
Caribbean Medical Center (Hospital)	151 Avenida Osvaldo Molina, Fajardo , PR 00738	(787) 801-0081 http://www.caribbeanmedicalcenter.com/
Hospital HIMA San Pablo	404 Avenida General Valero, Fajardo , PR 00738	(787) 655-0505 https://himasanpablo.com/



Physical Locations:

- El Verde Field Station:** *Carretera 186, KM 19.5 Rio Grande, PR 00745-9601* (Turn S off HWY-3 at El Verde BQ, pass Hacienda Sesta Alegre, cross bridge at Quebrada Sonadora)
- Nearest Medical Center to El Verde - Río Grande Emergency Room:** *200 Calle Manuel Pimentel Rio Grande, PR 00745 (B/r Econo and Advance Auto)*
- Sabana Field Research Station:** *Intersection Rts. 988 & 983 Barrio Sabana Km. 6.5*
- Luquillo, PR 00773** (Turn S off HWY-3 in Luquillo on HWY-991 then right at Parque Deportivo Enrique Ramírez on HWY-983)
- Nearest Medical Center to Sabana - Luquillo Emergency Room:** *159 Calle 14 de Julio, Luquillo, PR 00773 (Across from Post Office)*

General Field Station Information

El Verde Field Station and the Stream House facilities are managed by the Department of Environmental Sciences at the University of Puerto Rico - Río Piedras Campus. For more information about these facilities please visit the [LUQ LTER](#) and [El Verde](#) websites.

Sabana Field Research Station (SFRS) is managed by the USDA for International Institute for Tropical Forestry (IITF) of the USDA Forest Service. Safety practices and a visitor welcome guide for researchers working at SFRS (<https://www.fs.usda.gov/detail/iitf/research/?cid=fseprd496010>). For more information about these facilities please visit the [IITF](#) and [SFRS](#) websites.

Station	Contact Name	Email	Phone
El Verde Field Station	Francisco Perez, Station Administrator	fjavier_ites@yahoo.com	(787) 764-0000 ext. 88290
Sabana Field Research Station	Miriam Salgado, Station Manager	msalgado@fs.fed.us	(787) 764-7949 (787) 889-5335

Summary of Facilities:

El Verde Field Station - LUQ LTER main study site, LFDP Access

- Location: (18.321054916, -65.819720273)
- Physical Address: Carretera 186, KM 19.5 Rio Grande, PR 00745-9601

Stream House - Housing and Office for LUQ LTER interns and staff

- Location: (18.341874, -65.824597)
- Physical Address: Carretera 186, KM 22.4 Rio Grande, PR 00745-9601

Sabana Field Research Station - Forest Service and TRACE headquarters

- Location: (18.325106, -65.729901)
- Physical Address: Intersection Rts. 988 & 983, Barrio Sabana, KM 6.5 Luquillo, PR 00773

Emergency Preparedness and PPE

Accidents that occur at field station facilities and associated research areas should be reported to the affiliated station administrator or manager (see contact names above).

Accidents occurring external to LUQ facilities may be reported to LUQ Staff

Always enter the field prepared for all conditions and with the following essential items and personal protective equipment (PPE):

- First Aid Kit
- Field appropriate clothing (rain jacket, layers, quick-dry synthetics)
- Sturdy hiking boots or mud boots that can get wet
- Water and snacks
- Flashlight or headlamp
- Cell phone or emergency contact device (InReach)
- Required medications or Epipens
- Navigation tools: map, compass, etc.
- Eye protection and sunscreen
- Hardhats where required (e.g., [Type I](#), Class C)

Physical and Environmental Safety Hazards Encountered around LUQ LTER Site

The [Luquillo \(LUQ\) Long-Term Ecological Research \(LTER\)](#) program is situated in the mountainous Luquillo area of north-eastern Puerto Rico. The area bears two official names: [El Bosque Nacional El Yunque](#) (formerly called the Luquillo National Forest and Caribbean National Forest) is named for the tallest peak in the range and refers to the site as part of the US National Forest System while Luquillo Experimental Forest (LEF), which occupies the same geographic area, refers to the forest's research component, the setting for LUQ. The Luquillo Forest Dynamics Plot (LFDP) is a longstanding research grid located near El Verde where ongoing forest monitoring occurs within LEF. The forest's lush diversity, harboring more than 1,000 plant species and over 160 vertebrate species, occurs in large part due to the forest's [tropical climate and hydrology](#) with warm temperatures and abundant rainfall across a topographic gradient spanning over 1000m in elevation. The forest is generally safe to work in, but several site-specific hazards are worth noting.

Working/Walking in the Forest

General Mitigation: Be aware of your surroundings, take your time when moving through the forest, and watch your step on uneven, wet, slippery, or muddy terrain.

- Getting lost
 - Do not enter the forest alone - always take a field partner and orienting tools (map, compass, cell phone).
 - Large portions of the LFDP and surrounding areas have marginal phone service. In the event that you are lost and cannot orient yourself within the LFDP grid, first contact LUQ staff for guidance. Text messages can function in areas where a phone call does not connect.
 - If you cannot contact anyone, remain calm. Search the local area for any flagging, grafting tape, or marked plots to orient yourself. Look for familiar landmarks or signs (footprints, broken vegetation) to indicate the direction you might have come from. The field station is located to the southwest of the LFDP.
 - In the event that you cannot orient yourself and you are near a stream, walk down the stream in a safe manner. The majority of streams on the eastern half of El Bosque Nacional El Yunque will lead you to the road, which can be followed back to the field station.
- Overhanging branches, vines, and falling trees
 - Watch your head, especially when wearing hats, and exercise caution when clearing branches from trees or trail. Be aware of surroundings, especially in high wind conditions, and look up when you hear shifting vegetation. Don't grab on to trees or palms for support without checking that they are stable; trees do fall in our forest!
- Slippery surfaces, holes, loose rocks, and roots and lianas on the ground

- Be aware of your footing and move cautiously on surfaces that are wet, muddy, or slippery. Watch out for roots and lianas on the ground that you can trip over. When crossing streams or while on muddy hillsides, take your time to place each foot carefully. Keep an eye out for holes in the ground or surfaces that appear sturdy, but are rotten or unsupported underneath.

Environmental Hazards

General Mitigation: Be aware of weather conditions and check forecasts before going into the field. Always bring appropriate clothing (synthetic, quick-dry, rain jacket, layers that can be added or removed) and be prepared with waterproof options for personal items. A small collapsible umbrella can also be useful.

- Storms/Heavy Rain/Wind/Lightning
 - Storms can appear quickly and without warning - always bring a rain jacket, wear waterproof boots, and have a plan to leave the field if conditions worsen.
 - In the event of extreme storms, leave the field if possible, and take cover if not. Do not touch fences or metal objects if lightning is eminent.
- Flash Floods
 - Especially in streambeds, floods are a very real risk even when the current weather is sunny. Monitor water level when you arrive at a stream site and do not cross rivers if the water is rising or if the water appears turbulent/cloudy with suspended sediments.
- Heat Stress or Dehydration
 - Bring appropriate water and food into the field and take breaks as necessary, especially in hot or humid conditions, even when in the shade

Dangerous Plants and Animals

General Mitigation: Be aware of the flora and fauna in your immediate surroundings, don't touch or consume unknown plants, and respect wildlife. Species in the LTER area are generally safe to interact with and (barring allergy), no species of flora or fauna will cause immediate fatality or concern after contact. However, remaining aware is important to staying safe and healthy in the field.

- Bees and Wasps
 - Small wasp nests are often located on the undersides of leaves that hang down from canopy branches. Be aware of allergies in the group and ensure that individuals with allergies carry an EpiPen. Inform others in the group where the EPIPEN is stored in their packs and how to use it in the event of a sting.
 - If severe allergies exist or if field workers feel unsafe, skip the area with wasps and bees. Data can be collected later for that area when bees or wasps are gone. Make a note of this and inform someone.
- Wildlife
 - Mongeese are rarely seen or interacted with in the forest, but they may be carrying rabies. Mother mongeese can become aggressive if you cross between them and their litter. If you spot a mongoose at El Verde please note its behavior and report the sighting to a LUQ staff member. If you interact

with a mongoose and are bit, inform your supervisor and go to the hospital to begin rabies vaccines.

- Snakes in PR are non-venomous. The Puerto Rican Racer, *Culebra Corredora* (*Alsophis portoricensis*) has a mild inflammatory agent in its saliva that may irritate the skin, but it is not life threatening.
- Stinging/Dangerous Plants
 - Several plants in the LTER area are painful or irritating if contacted or consumed, see Appendix A below for a synopsis and click on photos for more information about each species. Further information about native flora can be found at [Flora Digital](#) or at [Plantas de la Isla de Puerto Rico](#).
 - For additional guidance on common tree species found in LUQ LTER and surrounding forest, refer to the LFDP species guide found [here](#).
- Termites, Scorpions, Centipedes, and other Stings
 - Termites can be found in rotten logs or trees, and can bite if disturbed. Be aware of where you sit and place your hands.
 - Centipedes and scorpions are often hiding under palm (PREMON) fronds and in leaf litter and can bite or sting if disturbed. The bite/sting is not life threatening, but may become irritated. Apply after-sting cream or Benadryl if inflammation persists.

External Human Threat

General mitigations: Remaining aware of other people moving around in the national forest, especially while coming in or out of the field station on HWY 186, can aid keeping everyone safe. If you see something strange or unusual, say something!

- Unknown People at Field Sites
 - El Verde Research Area is on federal land and is technically open to the public. However, given the nature of the research activities and associated safety and security concerns, visiting the station and surrounding forest is not encouraged without prior communication with El Verde and LUQ-LTER staff.
 - The gate to El Verde should remain closed outside of business hours, or if no one is actively working at the station. This is important for preventing safety issues and protecting equipment. If the gate is open and you see strangers that seem suspicious on the road, in the field station, or in the field, please inform a staff member. Disengage from any situation involving angry or confrontational strangers and inform a staff member if you need help or feel uncomfortable in the field.
- LUQ LTER Code of Conduct
 - Every person present at a LUQ-LTER field site or meeting space is expected to adhere to the LUQ LTER Code of Conduct:
<https://luquillo.lter.network/luquillo-lter-code-of-conduct/>
 - If you are the subject of unacceptable behavior or have witnessed any such behavior, please report your concerns as outlined in the code of conduct
- DEIJ Resources

- Promoting DEIJ principles in ecological fieldwork settings continues to be important for promoting a welcoming and nondiscriminatory environment for people of all backgrounds. Please see the resources below for learning more on this topic and for information about how LUQ LTER is addressing these challenges.
 - LUQ LTER Diversity and Inclusion Statement - <https://luquillo.lter.network/diversity-and-inclusion-declaration/>
 - LTER Network DEIJ Resources - [https://lternet.edu/network-organization/diversity-resources/ - in-the-field](https://lternet.edu/network-organization/diversity-resources/-in-the-field)
 - DEIJ and Mental Health in Fieldwork Resources - [Folder](#) with several articles and an extensive reading list.

Appendix A

Stinging/Dangerous Plants

Several plants in the LTER area are painful or irritating if contacted or consumed, click on photos for more information about each species.



Carrasco, *Comocladia glabra*

An evergreen understory shrub with unbranched trunk and clusters of tiny dark red flowers and fruits. The sap from the leaves and bark can cause skin irritation and rash if contacted.



Razorgrass, *Scleria secans*

Tall riparian grass-like plant in the Sedge family with long thin blades and serrated edges. Leaves can easily cut skin if contacted.



Ortiga Brava, *Urera braccifera*

An evergreen shrub with broad green leaves with serrated edges and spikes, and smooth gray bark with projecting warty lenticels. Stinging hairs on the bottom of leaves and twigs will itch for several hours and cause skin irritation and rash if contacted.



Palo Bronco, *Malpighia fucata*

Medium sized evergreen shrub, defined by opposite blunt-pointed leaves and white/pink flowers. Needle-like stinging hairs on the lower surface of leaves can cause skin irritation and rash if contacted.



Tabakaiba, *Sapium laurocerasus*

Large evergreen tree with oblong, shiny, dark green leaves. The milky white sap can cause skin irritation and rash if contacted.



Moca/Angelin tree, *Andira inermis*

Medium deciduous tree with opposite elliptical leaves, rough green bark that smells of cabbage, and distinct pink to purple pea-shaped flowers. Bark and seeds are poisonous if consumed.



Dumbcane, *Dieffenbachia seguine*

A creeping vine-like plant with a thick stem and yellow floral spike. Leaves contain needle-like structures that can cause skin irritation or temporary vision loss if in contact with eyes



Cow Itch, *Mucuna pruriens*

A climbing vine with alternate lanceolate leaves on a hairy stem with thick leathery seed pods and large white flowers. Seed pods covered in stinging needle-like hairs that cause skin irritation and rash if contacted.



Frangipani, *Plumeria rubra*

Large shrub with lanceolate leaves up to 20 inches long and fragrant white to pink waxy flowers. All parts of the plant can cause skin irritation and rash if contacted.



Guinea Grass, *Homolepis glutinosa*

Perennial grass that grows in large clusters up to 9ft tall with bright green, long and skinny leaves. All parts of the plant can cause skin irritation and rash if contacted.



Elephant Ear, *Xanthosoma caracu*

Herbaceous perennial with very large leaves (3-6 feet) and thick leaf stalks. The roots and young leaves are edible ONLY IF COOKED. Consuming this plant uncooked can cause severe irritation of the lips, mouth, and stomach.



Giant Philodendron, *Philodendron giganteum*

Large shrub or small tree with alternate, deeply lobed large leaves. All parts of the plant can cause severe irritation of the lips, mouth, and stomach if consumed.