Sample Fieldwork Risk Assessment

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1. General Information

Name of Person(s) nominated as Fieldwork Leader **and their position**	
Principal Investigator / Supervisor / Head of School or Unit ***(Person responsible for ensuring safety)***	xxxxxx
Name(s) of other staff members attending and their position	
Details of fieldwork participants i.e. undergraduate students; postgraduate researchers; etc.	Three Stage 4 undergraduate students, and 2 UCD staff.
Date of Assessment	
Duration and Frequency of fieldwork ***(Please provide date or range of dates of fieldwork)***	
Location of fieldwork	Almeria, SE Spain.

Please see Appendix 1 for Attendance sheet and Next-of-Kin details required for each participant, including fieldwork leader(s).

2. Title and Details of the Proposed Fieldwork - *Provide details of fieldwork objectives, activities, equipment used, location, transport arrangements, third party requirements, site owner details, etc. Attach additional information, drawings, maps, permits, etc. as required.*

3.

Title of Fieldwork: Level 4 geological field course in Almeira, SE Spain (GEOL40470)
Details: This is a capstone field course for Level 4 geology students coming to the end of their training. UCD Geology students have been travelling to the Almeria area annually since 1998 (with a recent two year interruption due to the Covid-19 pandemic). The area is a well-known training location with visits by many UK and European universities, and a number of field centres have been set up to provide accommodation specifically for visiting field scientists. The value of the area is that it is has relatively young geology (compared to much of Ireland) and it is still geologically active. It is also a place where the variety of rock units and structure allow major strands of the Earth Sciences to be brought together all in a relatively compact, safe and accessible area. The rocks are very well exposed as it is a very dry and the geology and how it is interpreted it is relevant to large swathes of the Mediterranean.

Almeria is easily reached via flights into Malaga (or Alicante). Given the ongoing Covid-19 issue, the small group of students (3 in this case and two staff) will stay in rental apartments in the small town of Caboneras (rather than a field centre) where the group will self-cater. The group will have minimal interaction with others and work as a pod for the duration of the trip, mostly outdoors. Transport will be by two rental cars allowing some flexibility in arrangements. The drivers will be the two staff members.

Spain has high levels of vaccination (>90%) and is in the vanguard of moving towards living with Covid-19. Although restrictions are easing, the trip will be run under tight Covid-19 controls (regular antigen testing, mask wearing, social distancing, limited contact with others) to minimize the likelihood of any infection. All participants will have their own bedrooms and staff and students will occupy separate apartments.

Level 4 students already have significant prior field experience, including independent mapping projects in which they operated in pairs or small groups independently in the field for five weeks. They are thus already well equipped to make safety judgements themselves and to assess conditions and risks and will be encouraged to do so. They will be provided with all the necessary safety equipment, including proper climbing helmets for head protection.

Mobile phone reception is generally good throughout the area, with poorer reception locally in ravines.

The risks vary from location to location and very much depend on the conditions, so individual safety briefings are given before leaving the vehicles at each stop. This will include the particular hazards, and the risk control measures in place, the time allocated to the stop, what the participants will be doing, and what to bring with them. The fieldwork leader has over 30 years field experience in the area (including research experience) and has led over 25 field courses there so has a good local appreciation of conditions and attendant risks.

Participants will be told that they should not undertake anything they are unhappy or unsure about, and that they should move at their own pace. The group will stay within line of sight and no more than 100 metres apart at all times. No independent working will be involved. During the fieldwork, students will measure stratigraphic sections, sketch features in their field notebooks, make geological maps, and trace features along river beds and the foreshore.

Most exposures are in dry river beds, roadside exposures set back from the road, low coastal or inland cliffs or vegetated hillsides. All stops are regularly visited by geoscientists and other field parties and feature in published field guides.

Provisional itinerary

Note actual itinerary will depend on the weather. Stop numbers are used in the hazard and risk assessment.

DAY 1 *Tuesday 8th March, 2022*

Travel to Malaga, leaving Dublin on flight **FR7044** at **09.50 am**, arriving Malaga at **13.45** local time. Pick up hire cars and drive to Caboneras where the group will stay, arriving at about 19.00 (it is about a three-hour drive). Settle in to the accommodation and visit local supermarket for food supplies.

DAY 2 *Wednesday 9th March, 2022*

Orientation traverse through basement and basins (Sorbas, Nijar and Tabernas basins). Focus on setting up problems to address in subsequent excursions, basic geography and geology of the area, and introduction to stratigraphic terminology.

Locality 2.1: Tabernas – El Cid viewing stop.

Locality 2.2: Rambla de Sierras, south of Tabernas. Early fill of the Tabernas Basin.

Locality 2.3: Penas Negras - basement and Lucainena Fault zone.

Locality 2.4: Mizala - Tortonian deposits close to the southern margin of the Sorbas basin.

Locality 2.5: Los Molinos Mirador – viewing stop and Azagador Member and Abad Marl.

DAY 3 *Thursday 10th March, 2022*

Focus on structural and thermal evolution of the basement rocks and the nature of main Betic nappe complexes. Constraints on deformation and uplift trajectories.

Locality 3.1: Veleta Nappe, north of Tabernas

Locality 3.2: Polyphase deformation, Senes-Tahal road.

Locality 3.3: South of Lubrin. Amphibolites and marbles.

Locality 3.4: Road traverse between El Marchal and El Campico. Bédar granite gneiss.

DAY 4 Friday *11th March, 2022*

Alpujaride basement complex and Carboneras strike-slip fault zone. Palaeostress. Link to seismicity/palaeoseismicity. Detailed mapping and collection of kinematic data.

Locality 4.1: Viewing stop and traverse through basin margin - Mojacar town.

Locality 4.2: Macenas Tower, South of Mojacar – Palomares Fault Zone.

Locality 4.3: Sopalmo – Carboneras Fault Zone group mapping exercise.

DAY 5 *Saturday 12th March, 2022*

Neogene volcanism and reefs. Eruption styles and magma sources. Significance of the volcanic record for tectonic models.

Locality 6.1: Nijar reefs – overview.

Locality 6.2: El Joyazo reefs and volcanics.

Locality 6.3: Monsul Beach – subaqueous lava domes and breccias.

DAY 6 *Sunday 13th March, 2022*

The basement-basin interface. Basin-margin fault systems/basal and internal unconformities. Turbidites in tectonically-active basins. Untangling basin-forming and inversion structures.

Locality 5.1: Lucainena Fault Zone east of Lucainena.

Locality 5.2: Ponded turbidites, Rambla de la Higuerella.

Locality 5.3: Road traverse north of Lucainena. Basin inversion and reefs.

DAY 7 *Monday 14th March, 2022*

Deep water systems and evolution of Tabernas Basin. Catastrophic events in small basins. Inferring the tectonic setting of basins from their fill. Syndepositional faults.

Locality 7.1: Solitary channel system north of Las Salinas.

Locality 7.2 Solitary channel system, Rambla de Lanújar.

Locality 7.3: Confined sheets – Alfaro. Syn-sedimentary faulting and sliding.

Locality 7.4: Gordo megabed, Rambla de Tabernas.

DAY 8 *Tuesday 15th March, 2022*

Stratigraphic record of the Messinian salinity crisis – Sorbas Basin.

Locality 8.1: Ciaratiz – reefs on the northern margin of the Sorbas Basin.

Locality 8.2: Rambla de Gochar: reefs and terminal carbonate complex.

Locality 8.3: 'Smelly' gorge, Messinian gypsum.

Locality 8.4: Sorbas Member shoreface deposits.

DAY 9 *Wednesday 16th March, 2022*

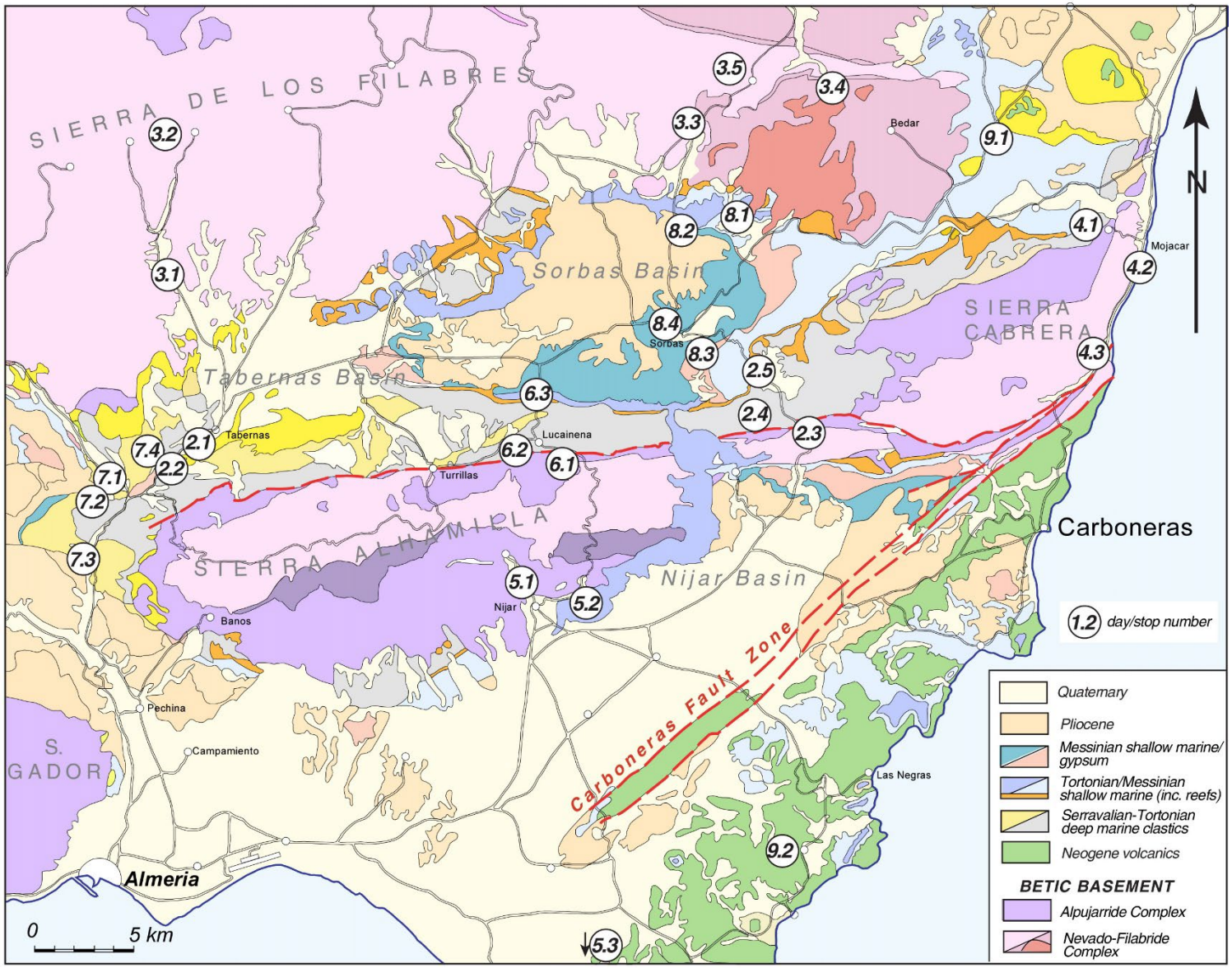
Lamproites and Au mineralisation.

Locality 9.1: Lamproites at Cabezo Maria.

Locality 9.2: Rodalquilar mining district -Au mineralisation in a caldera.

DAY 10 *Wednesday 17th March, 2022*

Leave accommodation at 9.30. Travel to Malaga via Gaudix and Sierra Nevada. Depart Malaga on flight **FR7045** at 17.05, arriving Dublin at 19.15.


SIERRA DE LOS FILABRES
Sorbas Basin
Tabernas Basin
SIERRA CABRERA
SIERRA ALHAMILLA
Nijar Basin
Carboneras Fault Zone
Bedar
Mojacar
Sorbas
Tabernas
Lucainena
Turrillas
Nijar
Banos
Pechina
Campamiento
S. GADOR
Las Negras
Carboneras
Almeria
0
5 km
N
1.2 day/stop number
Quaternary
Pliocene
Messinian shallow marine/ gypsum
Tortonian/Messinian shallow marine (inc. reefs)
Serravalian-Tortonian deep marine clastics
Neogene volcanics
BETIC BASEMENT
Alpujarride Complex
Nevado-Filabride Complex

4. Hazard Identification and Risk Assessment

Refer to the UCD Fieldwork Safety Manual for further detail

To complete the Risk Assessment Form below:

- Identify the hazards in undertaking this fieldwork
- Evaluate the associated risks and consider who might be harmed and how, including any persons with health problems or lacking experience who may be at greater risk.
- List control measures to reduce the risk - procedures, equipment, training etc.
- Establish the residual risk rating after the implementation of controls

Risk Rating = Likelihood of risk occurring x Severity of outcome

RISK RATING	*Severity Of Outcome Of Negative Event*		
Probability Of Negative Event	*Slightly Harmful*	*Harmful*	*Very Harmful*
Unlikely	*trivial risk*	*acceptable risk*	*moderate risk*
Likely	*acceptable risk*	*moderate risk*	*substantial risk*
Very Likely	*moderate risk*	*substantial risk*	*intolerable risk*

Assessment of Likelihood and Severity

	Severity of Outcome	Likelihood of Exposure
Low	Slightly Harmful	Unlikely
Medium	Harmful	Likely
High	Very Harmful	Very Likely

1. **Trivial Risk:** No further action needed
2. **Acceptable Risk:** No additional risk control measures required
3. **Moderate Risk:** Implement further risk control measures if possible
4. **Substantial Risk:** Further control measures must be implemented. If this is not possible then work must be strictly managed to ensure safety.
5. **Intolerable:** Work must be prohibited until further control measures are implemented.

Hazard		Risk(s)	Control Measure(s)
a. Physical hazards (e.g. extreme weather; mountains and cliffs, quarries, marshes; fresh or seawater)	(a) Sudden storms and heavy rainfall leading to flash flooding All stops, but particularly those involving river beds (ramblas).	Injury or drowning due to being caught in slot canyons/incised river valleys by sudden flash floods. Rainfall increases likelihood of landsliding on steep unstable slopes. Danger of loosing fooing on soft marl that becomes extremely slippery when wet.	Regular attention to weather forecast including rainfall radar and wind forecast during day (past experience indicates these are accurate several days out). Attention to sky and local weather conditions – the drainage basins are relatively small so it is obvious if rainfall is imminent. Return to field accommodation if heavy rainfall occurs and wait for conditions to improve. The normally dry river beds are generally dry again within 24 hours.
	(b) Waves on foreshore exposures – Stops 4.2 and 6.3	Danger of being knocked over or swept off rocky foreshore. Normally a danger of higher wave strike on a rising tide but tidal range is very low.	Avoid or reschedule visits for foreshore locations if a sigificant sea is running or waves are braking against the outcrop.
	(c) Strong winds All stops.	Danger of loosing footing or being blown over on rocks by strong winds. Potential hypothermia at high elevation if mountains are still snow covered. Hazard from blown dust given dry conditions – eye infections have occurred in the past and required visits to the medical centre.	Use proper climbing helmets at all times with secure chin straps. Wear adequate warm and waterproof clothing in the event of cold winds. Stay well back from cliff edges/steep drops. Wear eye protection if there is dust blowing.
	(d) Rockfalls Many of the stops, but particularly 2.2, 3.3, 3.4, 7.1, 7.2, 7.4, 8.3, 8.4, 9.1.	Injury from rocks dislodged from or falling from cliffs above party.	Minimise time at base of cliffs and indicate/rope off those parts of the cliff which it is unsafe to approach. Proper climbing helmets (not hard hats) to be worn at all times. No climbing on the cliffs or steep slopes allowed. Be especially careful following heavy rain and in strong winds. Participants warned to take care not to dislodge stones/rocks onto those operating below them.
	(e) Uneven ground boulder-strewn river beds and slopes. Most stops, but particularly 8.1.	Danger of tripping on walk in to some of outcrops or landing heavily when traversing rocky slopes with loose and abrasive rocks underfoot. Danger of falling into deep holes due to piping in unconsolidated marls (2.5)	Stress participants move at their own pace across the ground. Nothing will happen in terms of technical work until the group is assembled. Ensure everyone has adequate boots with good ankle suport. Warn of need for care on rubbly slopes and rock-strewn ground. Climbing helmets to be worn at all times (including on level ground) to prevent a head injury if falling onto rocks/boulders. Point out areas where piping may occur.
	(f) High and locally undercut cliff tops	Fall from cliffs (10-30 m) onto rocks.	Ensure all participants approach no closer than 4 m to cliff edges/tops of steep slopes at all times. Point out undercutting, if present
	(g) Cold weather All stops, but particularly in mountains (3.2-3.4).	Hypothermia. Slip and fall on ice	Take care if snow covers Sierra de los Filabres and if necessary forego visits to exposures there. Encourage participants to bring and wear warm clothes – it is not always sunny!
	(h) Lightning	Lightning strike.	Return to and remain in vehicle for at least 30 minutes after last lightning flash is observed. If caught out away from vehicles, stay away from high ground.
	(i) Hot weather	Risk of dehydration or sunstroke.	Carry plentiful spare water supply in vehicles. Encourage regular drinking. Comfort breaks will built in to itinerary so participants do not have to worry about hydration. Bring and wear suitable sun protection at all times.

	(j) Irrigation tunnels Stop 7.4	Tunnels (qanuts) hewn in rock by the Moors along river courses are tempting to climb in to but there is a danger of collapse.	Tell participants not to enter any of the irrigation tunnels.
Residual Risk Rating: Flash floods unlikely event but potentially very harmful but reduced to ACCEPTABLE RISK by careful attention to weather conditions. Risk from other weather-related incidents unlikely and outcomes slightly harmful: TRIVIAL RISK when properly equipped.			
b. Biological hazards (e.g. poisonous plants; aggressive animals; insects, soil or water micro organisms)	(a) Wild boar, dogs. Stops 2, 3, 4, 6, 7 & 10.	Danger of crush injury, being kicked or trampled, or bitten.	The wild boar are rare, generally timid and do not approach. Warn participants not to corner boar, particularly if with young offspring. Avoid entering fields/areas where animals are present and be wary of dogs should they appear.
	(b) Ticks All stops.	Only very rarely encountered in the area, and generally not in March. Tick bites can transmit Lyme disease.	Check body for ticks at end of day; follow HSE guidelines re: insect repellent and cleaning of affected areas; advise all field party of HSE quidelines on Lyme disease. https://www.hse.ie/eng/health/az/l/lyme-disease/
	(c) Snakes. All stops	Snake bite or fall reacting to the sudden appearance of a snake.	Encounters with snakes (both poisonous and non-poisonous) occur but are rare this early in year when they tend to be lethargic. Make noise when when approaching outcrops or walking through long grass and give them a wide berth. Do not reach up to rock ledges. If bitten, seek immediate assistance at medical centre or if serious reaction summon emergency services. Have a visual guide to different types of snake in order to try and identify the type involved.
	Scorpions All stops	Serious bite	Warn particpants to take care before sitting down, reaching up to a ledge, or overturning stones. Again very rarely encountered in springtime.
	Aggressive bees Most stops – particularly at 4.3	Sting or multiple stings and reaction.	Bee hives are relatively common and the bees are aggressive African varieties and likely to sting if you walk in their flightpath or approach their hives. Warn of hive locations and keep an eye out for bee flight lines and retreat/give them a wide berth.
	(d) Poisonous and abrasive plants. All stops	Vegetation mostly low and benign, but difficult to predict as it varies by plant and individual's susceptibility. Many of the plants are very abrasive and liable to scratch leading to an Infection risk.	Ensure long trousers are worn. Individuals differ in likelihood of a reaction to vegetation, and onus is on individuals to be aware of what they are likely to encounter.
	(e) Contaminated water bodies. Stop 8.3 .	Bacterial infections, of which leptospirosis is probably the most significant.	Minimise risk by avoiding contact with water bodies, particualrly downstream of Sorbas town in the Rio Aguas; ensure all field party are familiar with: https://www.hse.ie/eng/health/az/l/leptospirosis/causes-of-leptospirosis.html
Residual Risk Rating: Risk of personal injury from biological hazards are unlikely but potentially harmful: ACCEPTABLE RISK with control measures in place.			
c. Chemical hazards (e.g. pesticides; dusts;	(a) Dilute HCl used for mineral identification of carbonates	Skin irritation and potential allergenic reaction. Irritation to eyes.	Carry in appropriate plastic dropper bottle and place in sealed plastic bag. Use safety glasses. Use sparingly and not in high winds.
	Agricultural sprays	Allergic or other reaction.	Take care close to commercial olive and almond plantations.

contaminated soils; chemicals brought into site)	Fly tipping	Reaction to chemical waste	Waste material illegally dumped in river beds, particualrly close to towns. Less common that it used to be. Participants advised to stay clear and not to approach/handle abandoned/dumped material.
Residual Risk Rating:			
d. Man-made hazards (e.g. electrical equipment; vehicles, insecure buildings; slurry pits; power and pipelines)	Road traffic All stops.	Physical injury through collision with traffic.	Main issue is taking care when alighting from vehicles at roadside parking spots. Driver to alight first and be vigilent to traffic hazards as other participants get out of vehicles. Some roads are narrow, others very busy. Main thing to stress to participants is that traffic approaches from the opposite direction to that which they are used to so extra care is necessary when close to or crossing roads. At one location near Lucanina on a narrow and twisting road, staff to keep lookout and blow whistle when vehicle or cyclists approach. We also put out hazard warning triangles here.
	Driving Throughout trip.	Injury or death through traffic acccident.	Drivers to obey speed limits, drive safely and to be particularly wary of fatigue at the end of the daay having often been out in the sun. Ensure regular breaks are taken on longer drives to and from field area. Ensure everyone in the vehicle is wearing a seat belt at all times. Driver to remind participants about seat belts before pulling away. Check vehicle is roadworthy each morning and tyres in good condition. Passengers to pay attention to which side of road driver pulls away on and gently alert them if not on the right hand side
	Cyclists Stops 3.1, 3.3, 3.4, 5.1 and 5.3, and anywhere where parking close to roads.	Collision and injury with cyclist.	The area is extensively used for both recreational and professional cycling. Advise particpants to beware of cyclists when on the road as they can can approach silently and at speed.
	Rock hammering All stops.	Injury from rock chip or splinter.	Wear safety goggles and ensure no one is around you when hammering. Hammering is uneccessary at most localities and we will bring only a single hammer for sampling on the trip.
Residual Risk Rating: Mostly TRIVIAL RISK with control measures in place. Accidents when driving unlikely but potentially very harmful but an ACCEPTABLE RISK if UCD control measures for Driving/Vehicle Use adhered to (UCDA9).			
e. Personal safety (e.g. lone working, violence and aggression)	Personel safety in the field. All stops.	Injury due to failing to follow instructions and safety briefing.	Participants not allowed to use earplugs/headphones when outside the vehicle or when receiving instructions in the vehicle. All particpants to stay together and in sight of each other at each stop and to be vigilent to changing conditions and to one anothers saftey and and welfare. Leader(s) to monitor well being of participants at all times and to regularly check all are present and in good health. Ensure all are safely back in vehicle at the end of each site visit.
	Hunting and gunshots	Danger of stray shot	Like many areas of Spain, hunting of animals and wild birds is a popular pasttime. Listen for gunshots and the presence of hunters, particualrly on Sundays. Stay visible (wear fluorescent jackets at all times– even when temperature is high). Avoid areas if hunting is suspected to be in progress or approaching hides if hunters are present.
	Safety at night	Injury due to aggressive behaviour	Participants will be discouraged from socialising at night in order to reduce Covid risk.

Residual Risk Rating: An incident is unlikely but potentially harmful. Moderate risk reduced to ACCEPTABLE RISK if care is taken.			
f. Environmental impact (e.g. rubbish; pollution, extreme heat/ cold)	See above. Areas visited are generally unpolluted and unlittered, other than the possibility of fly-tipping in some of river beds.		
Residual Risk Rating: TRIVIAL RISK			
g. Other hazards (e.g. manual handling, fatigue, etc.)	Fire	Serious injury or death	Check fire escapes and fire control measures in the accommodation. Alert participants to be vigilant to fire risk and to identify where the escape routes and fire assembly point is. As the vegetation is extremely dry, there is always a background risk of wildfire. Stay alert to indications of fire and curtail/modify field activity as appropriate to stay safe. Smoking outdoors in the countryside is against the law.
	Excess alcohol	Impaired judgement or physical debilitation due to alcohol intoxication leading to seruious injury.	Participants made aware that over-consumption of alcohol may impair their ability to conduct field work the day after. If this is apparent or even suspected staff will exclude students from field work and penalties will be applied. Antisocial behaviour of any kind will not be tolerated – participants are expected not to endanger themselves or others by their behaviour. Out-of-hours activities (following evening seminars) are undertaken at the risk of the student and UCD accepts NO LIABILITY for any accident or injury sustained during the course of such. Students will be discoursed from socialising away from accommodation on account of Covid risk.
	Fatigue	Risk of physical injury due to judgement, co-ordination or physical strength impaired by tiredness.	Fieldwork will be paced so as to avoid fatigue and overexertion, particulaarly if weather is hot. Some longer walks (up to 5 km) during which welfare of participants will be monitored, and on estaff member will be delegated to act as sweeper. Adeqate stops to be taken on longer car journeys.
	Asthma or other potentially serious acute respiratory conditions.	Severe attacks can be fatal; mild attack can affect balance and result in increased risk of falling.	Remind affected students to carry medication. As on UCD campus, smoking is not permitted during classes, except during lunch and toilet stops. Expectation is that smoking will not occur in front of others if requested not to.
Residual Risk Rating: Unlikely but potentially harmful and moderate risk reduced to ACCEPTABLE RISK by being vigilent and following rules.			

5. Additional Risk Control Measures

	Select as appropriate		
	Yes	**No**	**N/A**
a. Has adequate insurance been obtained (Incl. PL, equipment or travel)? *Provide Details below*	**X**		
b. Have suitable travel arrangements been made (incl. licensed drivers)? *Provide Details below*	**X**		

c. Has permission been obtained from landowner to work onsite?	**X**		
d. Has adequate documented training and information been given to all participants?	**X**		
e. Have next of kin details been obtained for all participants, including fieldwork leader(s)? (See Appendix 1)	**X**		
f. Has adequate provision been made for persons with health problems or any special requirements? *Provide Details below*	**X**		
g. Have adequate first aid provisions been made? *Provide Details below*	**X**		

Appropriate first aid kits for minor injuries will be carried, several participants have basic first aid training and there is a means to access first aid professionals (see below).

h. Detail fieldwork emergency response plan, including emergency response contact numbers

Participants will be accompanied by fieldwork leaders at all times. In the event one leader is incapacitated, the other will take charge. Participants will carry a whistle* to attract attention. All participants will have the fieldwork leader's mobile phone number.

In the event of an emergency, one of the field course leaders will assess the situation, secure the area and may ask a pair of participants to move to a better location to alert the emergency services in the event there is poor phone signal. Otherwise phone 112 from site of emergency. The casualty(ies) will be monitored until the emergency services arrive and first aid provided as appropriate. Incidents resulting in serious injury or a possible fatality will be reported to the UCD Duty manager by calling the UCD 24 hour Emergency Line (01 716 7999) as soon as possible.

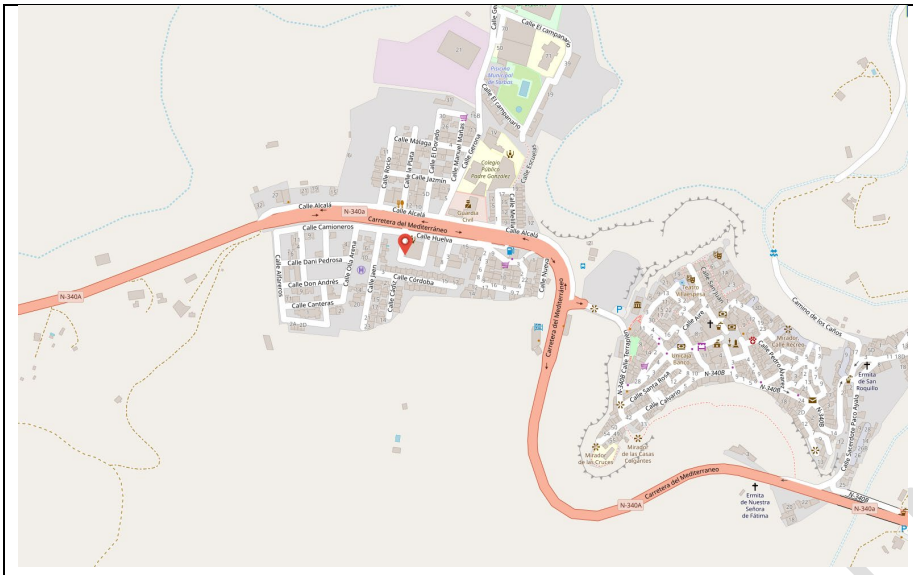
*Three blasts of the whistle is an international distress call, which is loosely translated to "Help me!" Two blasts of the whistle is a call-back signal which means "Come here." One blast can mean "Where are you?" or it can be a call-back signal if you hear anything that sounds like a code. (Outdoorlife.com).

Useful phone numbers

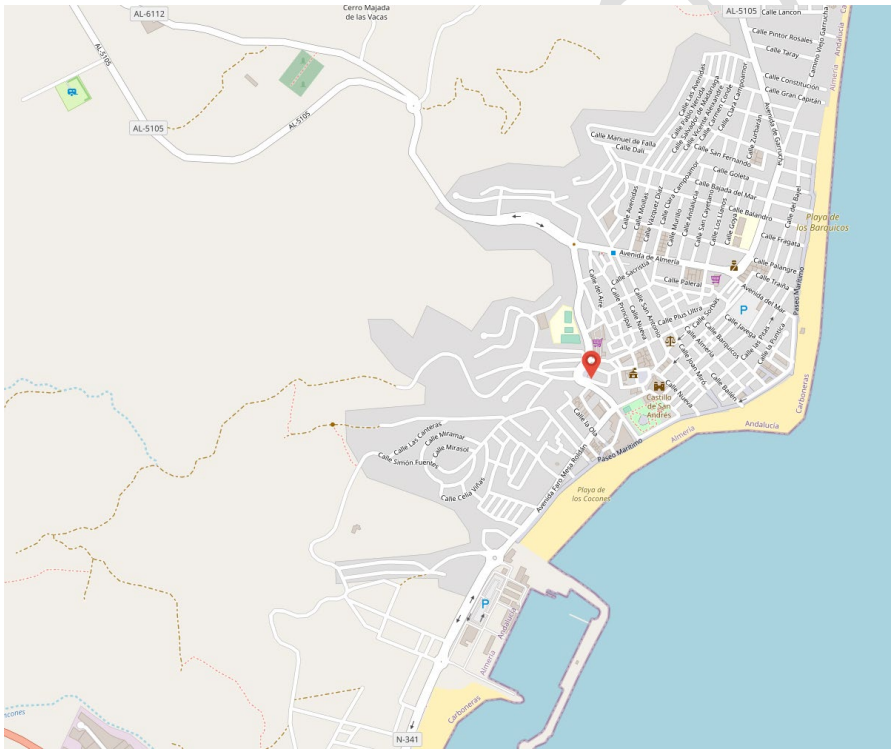
Police, Coastguard, Ambulance, Fire, etc. **112**

Public Health Sorbas (Centro de Salud) UR Urbanizacion San Javier, s/n 04270 SORBAS

Sorbas, Almería. Open 08.00-15.00. Phone number: 950 17 53 06



Centro de salud Carboneras El Lometico AV 28 DE FEBRERO Urb El Lometico, s/n, 04140 CARBONERAS, Carboneras, Almería. Telephone: 955 54 50 60, Emergencies: 950 17 53 06



UCD 24 hour Emergency Line **01 716 7999**.

i. Detail all necessary safety and other equipment that must be carried by the expedition as a whole and by every individual, include clothing requirements

(1) Clothing should be appropriate for March in SE Spain and reflect the possibility of very variable weather. Mostly is it is dry and warm/hot, but here can be cold spells with sub-zero temperatures, particularly at higher elevation. Waterproof coat and trousers are essential. Spare clothing can be left in the vehicles which will be made available for changing in private if required.

(2) Stout footwear with ankle support and good soles essential.

(4) Hi-viz jacket and proper climbing helmet with strap to be worn whenever away from the vehicles.

(5) Each student carries a compass and whistle.

(6) First aid kit carried by staff. Students to carry basic supplies.

(7) Participants are required to carry a rucksack to keep hands free of equipment when walking a significant distance over uneven surfaces, storm beaches and rocky foreshores.

(8) Water bottle to carry in field.

(10) Safety goggles for use of dilute acid to identify limestone or rock hammering.

(11) Hand sanitiser, disposal face masks and supply of antigen tests.

6. Covid 19 Person to Person / Environmental Risks and Controls

This section only relates to risks from other persons and the environment, not from handling Covid 19 material. Handling Covid 19 material must be assessed via a Biological Agents Risk Assessment.	
a) Risk Level of work (as per *UCD High Level Covid 19 Risk Assessment*)	☐ Low Risk ☒ Acceptable Risk

	☐ Requires Task Specific Covid 19 Risk Assessment[1]
b) Controls in place	☒ Only attending work when well ☒ Physical distancing maintained at all times ***except as noted below*** ☒ Good hand, respiratory and general hygiene measures ☒ Adherence to HSE guidance on self-isolation in specified circumstances ☒ Use of Work Pod model as appropriate ☒ UCD Covid 19 Induction Training completed
c) Travel arrangements	☐ Public Transport ☐ Own Vehicle ☐ UCD Vehicle and hired coach Transport will be scheduled flight Dublin to Malaga and thereafter in hired cars, 3 people in one, 2 in the other.
d) Physical distancing measures in place *(Outline how physical distancing will be maintained at all times)*	Outside: Work is within a pod and there is plenty of space at the field stops to ensure 2 m distancing. Transport: All participants with medical grade masks for flights. Transport in Spain for 3 students in 2 large cars (Opel Zafiras or equivalent). Transport in cars will not be distanced but vehicles ventilated as far as possible. Masks to be worn at all times in vehicles. Accommodation: Individual bedrooms for all participants; masks to be worn at all times in communal spaces. Students in one three-bedroom apartment, staff in another two-bedroom

[1] task(s) with a potential for exposure to known or suspected sources of Covid 19 or where persons are required to engage in Higher Risk Contact

	apartment. Where possible all should maintain 2 m distance spaces in common areas in accommodation. Staff and students will self cater separately in the two apartments. Evening summary sessions with staff will be kept short and with distancing always greater than 1 m with masks worn by all.
e) Details of work pod in place	The 3 students and 2 staff are being treated as a workpod and will be considered to be in sustained contact. Risk is mitigated further by reducing contact inside this pod and maintaining social distancing as much as possible, and minimising the interaction with others.
f) PPE in use	Lab Coat: ☐ Safety Glasses: ☐ Safety Goggles: ☒ required for hammering rock Face Shield: ☒ Mask: ☒ Surgical mask Gloves: ☒ non sterile disposable available to students should they wish Apron / Gown / Coverall ☐ (indicate type) _____ Other: ☐ (give details) _____
g) Engineering controls	None
h) Waste disposal procedures	No waste with significant risk of Covid contamination
i) Hygiene Practices	☐ No eating or drinking in work area **– students will prepare and eat own packed lunches in the field** ☒ Hand washing Facilities Available (except when in field when sanitiser will be available) ☒ Hand sanitiser Available ☒ No insertion of objects into mouth ☒ Do not touch your face with gloved hands or if hands not clean

	☒ Avoid shared equipment Other: _____(Give details)
j) Cleaning and disinfection Protocols in place (give details)	- Antiseptic wipes available in communal area of each apartment and in two vehicles. - Work areas to be cleaned before and after use. - Alcohol-based hand-sanitiser to be carried by everyone and used at all times.

Response plan in the event of a Covid-19 case abroad

Antigen tests will be used both before departure and at regular intervals during the trip by all participants. Should either a member of staff or one of the students test positive for Covid during the trip, they will immediately self-isolate in their bedroom. Their colleague(s) with whom they share the apartment will ensure they have sufficient food, fluids and medication, and local medical attention will be sought if required. Infection control measures will be stepped up. As we have two vehicles, if a staff member tests positive, the other staff member may continue to run the field course using one of the vehicles, calling in by mobile to check on the infected person. If there is a case towards the end of the trip, we will notify our field trip manager in Dublin who will organise hotel or apartment accommodation and a new return flight for the incumbent, and if necessary, a colleague to remain with them until they test negative and can travel back to Dublin.

7. Sign off by Fieldwork Leader and Head of School/ Principal Investigator

Is the risk rating acceptable: Yes☒ No ☐

If yes sign and date below and ensure all risk control measures have been implemented.

If no identify further control measures and reassess risk. If the risk cannot be reduced to an acceptable level then the process cannot be carried out.

Is this work suitable for lone working: Yes ☐ No ☒

Signed: **Date:** **Position:**

_____ _____ _____