**SCHOOL OF GEOSCIENCES ECOLOGICAL AND ENVIRONMENTAL SCIENCES PROJECT SAFETY FORM**

Please complete and return this form to the Course Secretary, Room 215, Crew Building**, AFTER** it has been signed by your supervisor, for consideration and approval by the School Safety Adviser (**SA**). The form must be signed by the SA **BEFORE** any project work (including pilot studies) is undertaken. Once the SA has approved your form, you will receive back a signed copy, which you should use as a guide for your project work.

Please attach a copy of your one-page outline and any additional health and safety forms required for your project work (Risk Assessment, COSHH, etc.). Please see the School Health and Safety for more information and guidance on Safe Practice and to download other forms: https:/[/www.geos.ed.ac.uk/internal/safety/](http://www.geos.ed.ac.uk/internal/safety/)

**Supervisor**: Dr Isla Myers-Smith

**Student**: Isabelle Rich **Student Matric. No**: s1501956

**Project Title**: Can land intensification and abandonment in Latvia be linked to key socio-political events?

**Form, duration, and probable start date of project**: I will be conducting a computer based project that will last roughly 5 months, starting on the 21st of January.

**Brief description of all techniques and methods**: I will be using Google Earth Engine, which is an online GIS platform. Here, I will be conducting my analyses regarding land use change. Specifically, I will be creating a classification of land use types in Latvia to see whether key socio-political events can be detected. Using satellite data, I will first define land use types into several categories: extensive, intensive and abandoned. I will then create a classification for each year, allowing me to plot the

overall trend in land use change. Having a yearly classification will also permit me to consider time

lags and differences between the two key socio-political events: the collapse of the Soviet Union and Latvia’s entrance into the EU. I will test and train the classification with training datasets and assess

the accuracy through estimating error with validation data. To detect and assess change, I will overlay

each year and compute gain, loss and change on a pixel scale. Statistical analyses including mixed-effects models and figure production will be conducted in the programing language R.

**Potential Hazards**: (Tick ALL relevant topics)

Hazardous substances Accessing trees above shoulder height

Lone working\* Working over or in water Difficult terrain Working near water Working with animals Non-powered hand tools Electrical/Mechanical Equipment Other hazard (specify)

(other than computers) Working with computers

X

\*Undergraduate students are not permitted to work alone in the labs; please speak with your supervisor about how to arrange your time in the lab to ensure staff are also present.

Please complete reverse side

**Precautions to be taken to minimise risks**: (For each of the hazards you have ticked above, you must explain the nature of the hazard and state how you will minimise the risk of injury.) If you are handling hazardous substances, you will need to complete a COSHH assessment or make sure

one is in place and signed by your supervisor. If Lone Working, please state what procedures are in place if you do not return at the designated time or do not contact those that you have designated

to check in with.

The one key hazard is working with computers, where long periods of use can result in injury and/or cause muscle pain and eyestrain. Bad posture and sitting for long periods of time can enhance such muscle problems and reduce blood circulation. To avoid this, I will adjust my chair so that my feet rest flat on the floor and take frequent short breaks where I stand, look away from the computer and stretch. I will remove my hands from the keyboard when not actively typing. When typing, I will type lightly and gently to prevent hand or arm injuries. To avoid eyestrain, I will keep my screen further from my face and frequently concentrate on faraway objects. I will tilt my screen to avoid reflections and/or glare. I will also employ a brightness regulator that mimics natural light.

The majority of the time, I will be using a laptop. Laptops have additional hazards, as the monitor and keyboard are close together. This causes difficulty when trying to position the monitor at the right height for your back and neck, as well as your keyboard at the best height for your arms and shoulders. To prevent these impacts, I will take frequent breaks and will use a desktop computer whenever possible.

If I experience any harmful impacts, I will seek guidance from my GP.

**Above precautions understood and acknowledged**

**Student:** Isabelle Rich **Date:** 13/01/2019 **Supervisor:** Isla Myers-Smith **Date:** 18 Jan. 2019

**SA: Date:**

Signed copies are to be retained by the student, supervisor and secretary.