Things to do before the InSAR course

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A couple of things you can do to get started before the course:

1. Install WSL2 and the Ubuntu interface

WSL2 (Windows Subsystem for Linuz, version 2) is a Linux emulator that is part of Windows 10 and 11. Since the software we will be using runs under Linux, we can make use of this to run the packages we need on a Windows PC.

This Microsoft web page describes the basics of installation:

https://learn.microsoft.com/en-us/windows/wsl/install

The default installation option (Ubuntu) is good for our purposes. Do not change it!

NOTE there may be some issues with default BIOS settings on your computer preventing installation. If you run into this, let me know!

OPTIONAL: To install X-Windows, which is useful for applications that produce graphical output, including some of the time series viewing scripts, there are some additional steps. We will go over this during the course, but anyone who is comfortable with the Linux command line and text editors and wants to skip ahead, can follow the suggestions here:

http://www.geniusinaction.com/2023/01/wsl2-in-minutes.html

2. Sign up for a NASA Earthdata account

In the course, we will make use of the data archive, data search and processing tools offered by the Alaska Satellite Facility (ASF), a NASA-funded facility which specializes in SAR and InSAR data. In order to order and download data, registration is required – specifically, you will need to set up a NASA Earthdata account.

ASF have a helpful webpage to walk you through the process, here:

https://asf.alaska.edu/how-to/data-basics/get-started-with-an-earthdata-login-account/

Please note down your username and password as you will need them in the training.

3. Register with Copernicus Dataspace

Copernicus is the umbrella name of the various space missions and projects funded by the European Union. The data collected by Copernicus satellites, such as Sentinel-1A, is freely available, but registration is required to access the data from their platform. Another data product that is of potential interest is the Copernicus DEM, a global InSAR-based digital elevation model that is the current state of the art, that we might want to use.

To register for an account with Copernicus, go here: https://dataspace.copernicus.eu/ and follow the links for registration. You may need to activate your account via an email they will send you.

Again, please note down your username and password as you will need them in the training.

4. Set up conda and the processing environment

Follow these instructions, described in another Google Document:

https://docs.google.com/document/d/1Frjo_r5scfy7v7T9p5daIYGLXhhNjGVOF4zMQIbw1Xc/edit?usp=sharing