Phil's remote sensing learning diary

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Preface

This is my portfolio for CASA0023 Remotely Sensing Cities and Environments.

To learn more about the module, visit https://andrewmaclachlan.github.io/CASA0023/00-course_info.html

1 week 1

Information about physical objects or areas are emitted in a form of electromagnetic radiation. However, these radiations are often influenced by Earth's surface and atmospheric conditions, which might distort the original information. In particular, each surface material has a unique 'Spectral Signature' that determines which radiation can be reflected for each wavelength. Each features' unique patterns of absorption and reflection of wavelength allow scientist to differentiate between different materials. In addition, it is important to choose a sensor which aligns with a research question. The factors that should be considered are cost and frequency of data, pixel size, and spectral resolution.

2 Application

Remote sensing is widely used in various fields of domain, such as forestry, urban planning and so on [Aggarwal (2004)]. In the context of climate change, monitoring forest degradation can be done using remote sensing. According to Lambin (1999), combining different types of resolution - spectral, spatial and temporal - enables a comprehensive forest monitoring. Rosenqvist et al. (2003) acknowledged the role of remote sensing in assisting with achieving the requirements of Kyoto Protocol by quantifying the land cover change and biomass stocks.

3 Personal reflection

As a person who is interested in urban green spaces, the spectral resolution was an interesting concept. Vegetation shows a huge spike in near infrared radiation. This questions me whether the health of urban parks in a city (bad and good) can result in a difference in reflectance rate. Little and Summy (2012) discovered that different reflectance was detected between healthy and stressed leaves. I reckon this can be a good indicator of monitoring urban green space's health apart from physical measuring. This will be more cost- and time-efficient.

4 week 2

URL:

References

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