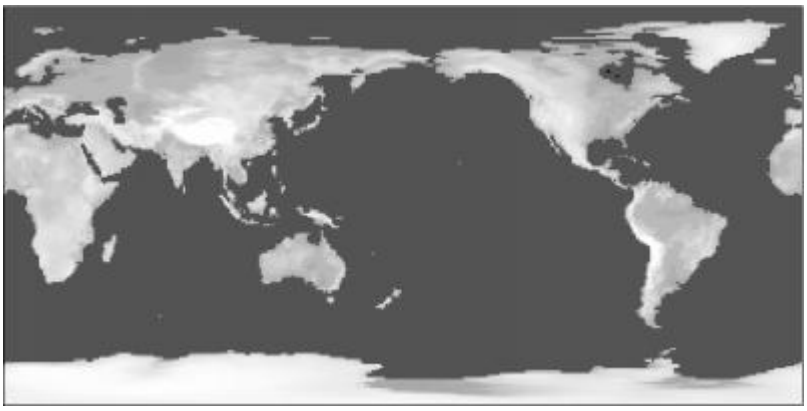
Remote Sensing and Geographic Information Systems (EESC03)

Winter 2017



Mike Doughty

Email: doughty@utsc.utoronto.ca
Office: EV568
Office Hours: Thursday 2-4p

Slawomir Kowal (TA)

Email: eesc03.2017@gmail.com
Office: TBA
Office Hours: TBA
Submission: eesc03.2017@gmail.com

This course focuses on the use of Geographic Information Systems (GIS) and Remote Sensing (RS) for solving a range of scientific problems in the environmental sciences and describing their relationship with and applicability to other fields of study (e.g. geography, computer science, engineering, geology, ecology and biology). Topics include (but are not limited to): spatial data types, formats and organization; geo-referencing and coordinate systems; remotely sensed image manipulation and analysis; map production.

Lecture Topics

- What is a GIS?
- Maps, Raster GIS
- Coordinates & Sampling Procedures
- Data Input and GIS
- Vector GIS, Vector/Raster Debate
- Spatial Interpolation; Remote Sensing In GIS
- Interaction of EM with the Earth's surface
- Aerial Photography Data Collection
- Satellites and Image Processing

Reference Material:

Concepts and Techniques of Geographic Information Systems (2nd Edition)
Lo, C.P. and Yeung, A.K.W. (2002) Prentice Hall, Upper Saddle River, New Jersey. (Multiple copies available in library under short-term loan.)

Grading

- Labs (3 Total - Late assignments are penalized 10% per day):
  January - 15% (due January 30)
  February - 10% (due February 27)
  March - 15% (due March 31)
- Midterm Test: 15% (February 13)
- Final Exam: 45%

Lecture Time (MW160)
Monday 12-2pm

Tutorial Time (BV469/471)
Monday 2-4pm