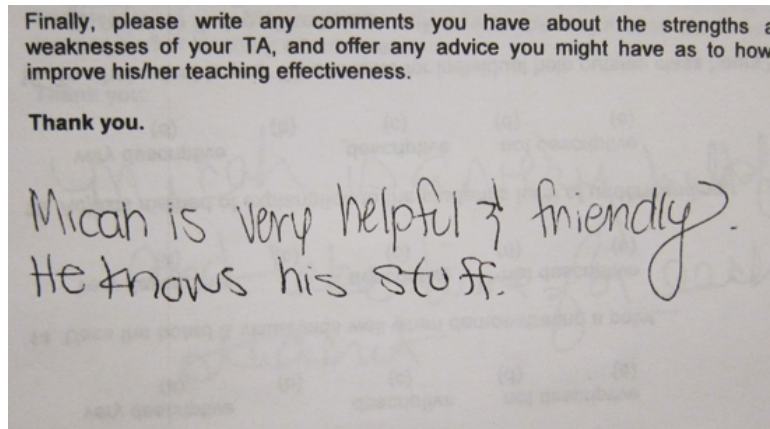


29 November 2018

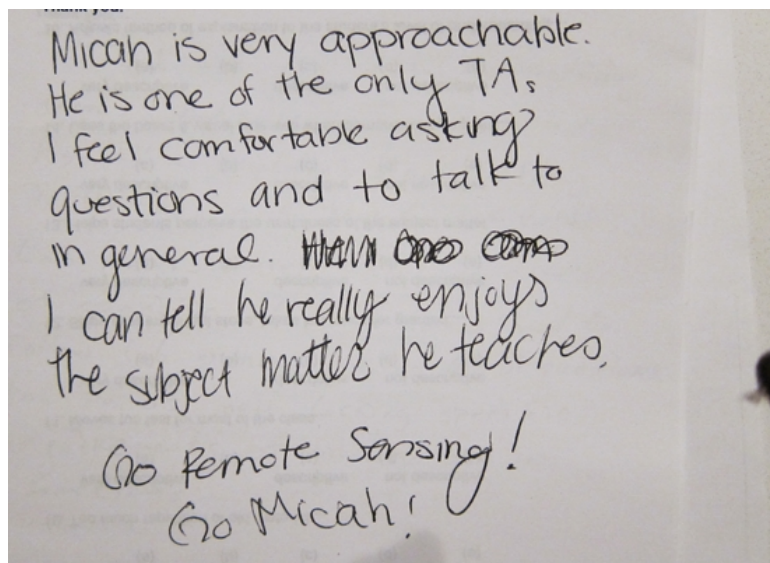
UCSB Department of Geography

Below is a sample of the teaching evaluations I received as an Instructor and Teaching Assistant in the Department of Geography at UCSB. I have also included some of my own thoughts and comments on these evaluations. I believe these comments are reflective of my teaching style and philosophy, and demonstrate how I have grown and evolved as a facilitator of learning.

Student Comments on my effectiveness as a Teaching Assistant



These are three qualities that I strive for, and likely would not be an effective teacher without.



I believe that too many students feel uncomfortable asking questions. Curiosity and inquiry are the foundations of learning.

Finally, please write any comments you have about the strengths and weaknesses of your TA, and offer any advice you might have as to how to improve his/her teaching effectiveness.

Thank you.

Micah does not seem to have enough knowledge to this specific subject matter at times. However he is extremely easy to talk, gives good advice and overall is an exceptional TA. I just think he is learning the material too as we go.

Students are often aware of both our teaching strengths and weaknesses, even if we may be reluctant to admit it. My first exposure to remote sensing was as a teaching assistant, and I was indeed still learning the material.

(a) A (b) B (c) C (d) D (e) F

Finally, please write any comments you have about the strengths and weaknesses of your TA, and offer any advice you might have as to how to improve his/her teaching effectiveness.

Thank you.

Micah is a great TA, I think if he continues to TA this class he will be exceptional due to the knowledge he has gained

Good teachers learn alongside their students.

ESCI SURVEY

End of Spring Qu

Abbrev: GEOG

Instructor: BRACHMAN M L

Rar

Dept: GEOGRAPHY

NOTICE: Please examine these evaluations upon receipt and immediately report any suspicious responses to the Director of Instructional Consultation at <http://www.esci.org>.

(843)	1.	The TA's interest and enthusiasm in the subject				
		(a) superior	(b) good	(c) average	(d) below average	(e) poor
		Response weighting: 1 2 3 4 5				
		(a)	(b)	(c)	(d)	(e)
		* WARNING: One Student Response = 7%				
		*--> This COURSE current quarter 80% 20%				
		Student-weighted Norms (UG students)				
		Dept GEOG TAs current qtr	47%	43%	8%	1%
		Dept GEOG TAs over time	44%	41%	11%	2%
		Campus TAs over time	44%	41%	11%	2%
(844)	2.	The TA's interest and enthusiasm for teaching.				
		(a) superior	(b) good	(c) average	(d) below average	(e) poor
		Response weighting: 1 2 3 4 5				
		(a)	(b)	(c)	(d)	(e)
		* WARNING: One Student Response = 7%				
		*--> This COURSE current quarter 73% 20% 7%				
		Student-weighted Norms (UG students)				
		Dept GEOG TAs current qtr	46%	40%	11%	2%
		Dept GEOG TAs over time	43%	39%	14%	3%
		Campus TAs over time	43%	39%	14%	3%
(686)	3.	The TA's preparation of materials and periods of				
		(a) Superior	(b) Good	(c) Average	(d) Below Average	(e) Poor
		Response weighting: 1 2 3 4 5				
		(a)	(b)	(c)	(d)	(e)
		* WARNING: One Student Response = 7%				
		*--> This COURSE current quarter 73% 27%				
		Student-weighted Norms (UG students)				
		Dept GEOG TAs current qtr	51%	38%	9%	1%
		Dept GEOG TAs over time	44%	36%	14%	4%
		Campus TAs over time	44%	36%	14%	4%

ESCI SURVEY STA
End of Spring Quarter 200

Abbrev: **GEOG** Instructor: **BRACHMAN M L** Rank: **Teachi**
Dept: **GEOGRAPHY**

*NOTICE: Please examine these evaluations upon receipt and immediately report any suspected errors to the instructor.
For more information on ESCI please visit the website of Instructional Consultation at <http://www.oic.idaho.edu>.*

(687) **4. The TA's clarity and precision of speech.**

(a) Superior (b) Good (c) Average (d) Fair

Response weighting: 1 2 3 4 5

* WARNING: One Student Response =7% (a) (b) (c) (d) (e)

***--> This COURSE current quarter 87% 13%**

Student-weighted Norms (UG students)

Dept GEOG TAs current qtr	52%	33%	10%	4%	1%
Dept GEOG TAs over time	49%	33%	12%	4%	2%
Campus TAs over time	49%	33%	12%	4%	2%

(189) **5. Your overall evaluation of the TA.**

(a) superior (b) good (c) average (d) fair

Response weighting: 1 2 3 4 5

* WARNING: One Student Response =7% (a) (b) (c) (d) (e)

***--> This COURSE current quarter 80% 20%**

Student-weighted Norms (UG students)

Dept GEOG TAs current qtr	51%	39%	8%	2%	1%
Dept GEOG TAs over time	46%	37%	11%	4%	2%
Campus TAs over time	46%	37%	11%	4%	2%

(190) **6. How well does your TA seem to know the subject matter of**

(a) truly exceptional knowledge
(b) thorough knowledge
(c) adequate knowledge
(d) inadequate knowledge

Response weighting: 1 2 3 4

* WARNING: One Student Response =7% (a) (b) (c) (d)

***--> This COURSE current quarter 53% 40% 7%**

Student-weighted Norms (UG students)

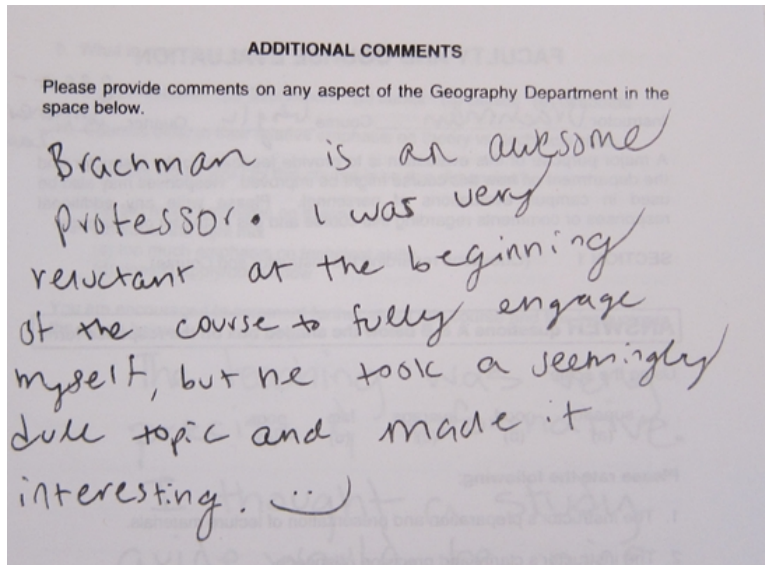
Dept GEOG TAs current qtr	44%	47%	9%	
Dept GEOG TAs over time	37%	49%	13%	1%
Campus TAs over time	39%	50%	10%	1%

BRACHMAN M L
GEOG 115CL0200

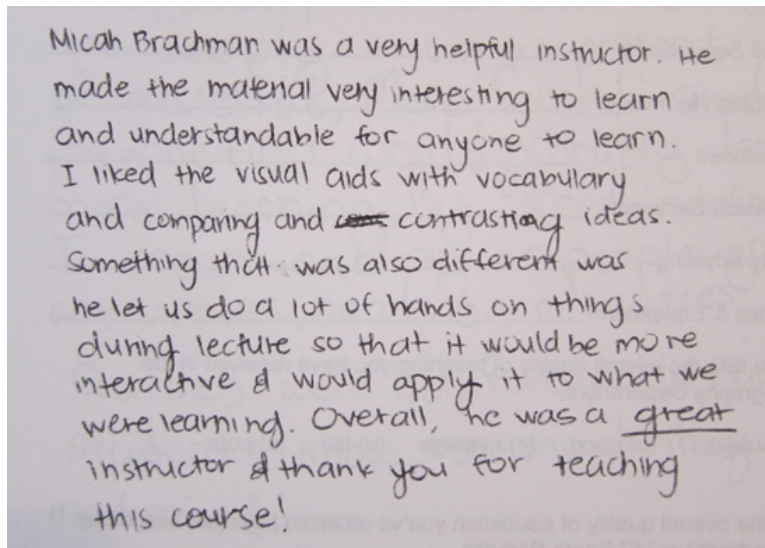
Survey Number: **200091**

These student evaluation scores show that I consistently achieved a superior rating, and that my scores far exceed the norm for current TAs in Geography and TAs over time.

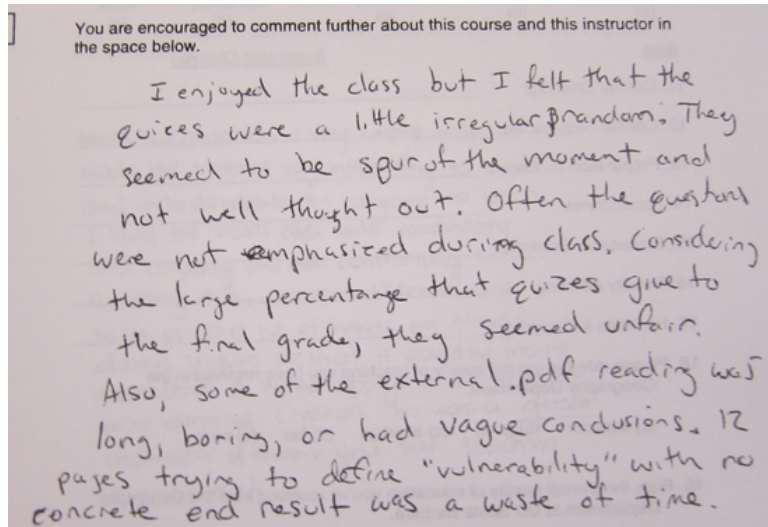
Student Comments on my effectiveness as an Instructor



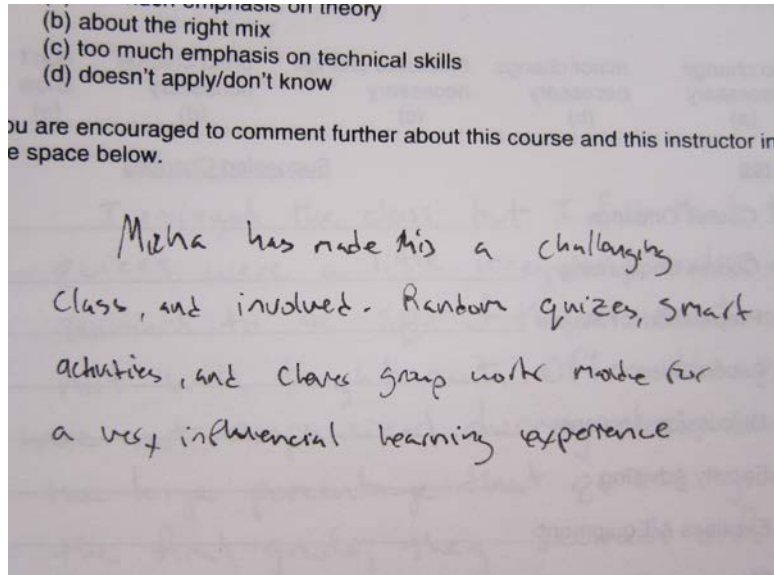
Many students have the preconception that Geography involves tedious memorization of capital cities, rivers, and mountain ranges. I hope they come away from my classes realizing that it is so much more.



I frequently incorporate hands-on group activities into my lectures. I get bored hearing *myself* talk for an hour and a half straight, and can only imagine what a student feels!



Not many students like unannounced quizzes, but I firmly believe that they are an effective assessment and motivational tool. This comment also highlights the challenge of making abstract theories relevant to students who are more concerned with learning skills that will get them a job.



Dedicated students appreciate being challenged, and I think creating a "very influential learning experience" is the best possible outcome when designing and teaching a course.

VIU Advanced Diploma in GIS Applications Program

I was a temporary Instructor in the Advanced Diploma in GIS Applications program at Vancouver Island University (VIU) thus I didn't receive a formal teaching evaluation. However, two months after moving to the Washington DC area to begin my career as a Geospatial Scientist I was contacted by VIU and offered a full-time permanent Instructor position. More than a year after that I was contacted by a former student at VIU and asked to write a letter of recommendation for his grad school application:

Dear Admissions Committee:

I am writing on behalf of XXX XXXX's application to the online Masters of GIS Applications program offered at Vancouver Island University. XXXX was my student in Geography 501: Foundations of GIS and Geography 521: General Spatial Analysis in the ADGISA program at VIU in Fall 2013.

Foundations of GIS is a fast-paced course that has daily lectures and lab assignments over a 3 week period. The course objective is to give students the opportunity to master standard GIS operations, and students are expected to have some previous experience in GIS. XXXX came into the course with very little previous GIS experience, but was able to quickly pick up the basic principles of GIS and to become familiarized with the ESRI software used for lab assignments. In Geography 521: General Spatial Analysis, XXXX displayed a strong aptitude for understanding the underlying algorithms behind spatial analytics and developed the ability to apply them successfully to GIS data to produce meaningful results. I remember XXXX as a dedicated and hard-working student who put great effort towards solving problems on his own but also knew when to ask for help from his fellow students or me. He earned an A in Foundations of GIS and an A- in General Spatial Analysis, and successfully completed the ADGISA program on the Dean's honor list.

XXXX is currently working as GIS Analyst/Developer for Strategic Natural Resource Consultants, developing a web-based multifunctional mapping application to create oil spill response plans for the Georgia Strait. This position builds on his previous professional experience in software development while incorporating the GIS skills he acquired in the ADGISA program. As web-enabled thin client GIS use continues to grow and evolve, it is critical to build a common understanding of the underlying principles and techniques of quantitative Geography within the technology sector. One possible Master's topic that XXXX has mentioned is developing a GIS-based oil spill trajectory model that could be integrated within a web-based mapping system. I believe this project would not only serve an important practical purpose, but also help strengthen the bond between technology and quantitative Geography.

As XXXX's former instructor in the ADGISA program, I can attest to his ability to excel in the online Masters of GIS Applications program at VIU. If you have any questions, please feel free to contact me at (612) 889-1431 or micahbrachman@gmail.com.

Sincerely,




Micah Brachman, PhD


Geospatial Scientist

During my three years as a Geospatial Scientist, my job duties having were increasingly focused on teaching and mentorship. One of my job duties at Reinventing Geospatial was to develop a monthly lecture series to bridge the knowledge gap between the computer scientists that our company employed and the GEOINT professionals that we supported at the Army Geospatial Center and the National Geospatial Intelligence Agency. Some of the slides that I used for a lecture on the appropriate use of Coordinate Reference Systems (CRSs) within the National System for Geospatial Intelligence are below.

RGi lunch n' learn:
NGA, Web Mercator, and you!



Micah Brachman
5 June 2015

 **CHAIRMAN OF THE JOINT
CHIEFS OF STAFF
INSTRUCTION**

4-3 CJCIS 3906.01D

h. All geospatial display software shall simultaneously display geographic and MGRS coordinates in accordance with subparagraph 4a above - except where display size renders this impractical.

i. "Web Mercator" shall not be used. Many popular commercial visualization applications use systems that appear to be WGS 84 in name but, in fact, do not comply with the definition of WGS 84. Some examples are "Web Mercator," "WGS 84 Web Mercator," "WGS 1984 Web Mercator (Auxiliary Sphere)," and "EPSG 3857." The use of these systems and data from these systems may result in errors up to 40,000 meters.

5. Definitions. See Glossary.

6. Responsibilities

a. The Director of NGA (D/NGA), will establish specifications and procedures for applying position (point and area) reference systems to geospatial intelligence. NGA will assist its allied co-producers in using this system. When WGS 84 cannot be used, NGA will assist the Combatant Commanders in determining an appropriate alternative positional reference system. NGA will provide standard algorithms and parameters to perform datum transformation and coordinate operations (i.e., Mensuration Services Program Geographic Translator (MSP GEOTRANS)). For existing products (e.g., maps/charts,

Web Mercator

- Projected coordinate reference system invented by Google to display maps over the internet
 - **coordinate system:** set of mathematical rules for specifying how coordinates are to be assigned to points
 - **coordinate reference system (CRS):** relates a coordinate system to the Earth through a datum
 - **datum:** origin point from which locations are referenced
 - **projected coordinate reference system:** the result of the application of a map projection to a geographic coordinate reference system

...and you!

- Nearly every online map service that you've ever used is based on Web Mercator map tiles
- Online map services that don't use Web Mercator usually use WGS 84 lat/long
- Web Mercator is increasingly used even within the GIS realm, including ESRI ArcGIS

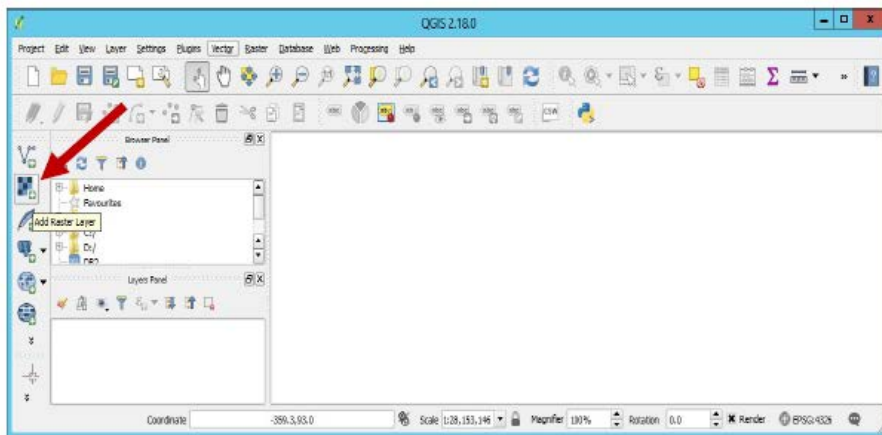
NGA is mandating that all DoD mapping systems stop using Web Mercator and WGS 84 lat/long

In my job with Strategic Alliance Consulting I developed several custom training programs for a diverse group of full-time government employees and Pathways student interns. These programs are designed to build a common GEOINT knowledge base and provide the foundation for each student to become a subject matter expert in a specific GEOINT sub-domain. Below is part of a user's guide that I developed to give students hands-on experience with NSG and OGC geospatial data standards.

User Guide for creating NSG Profile GeoPackages

This guide provides the complete steps to create NSG Profile EPSG::4326 raster tile pyramid GeoPackages using open-source software.

1. Download the latest version of QGIS from <http://www.qgis.org/en/site/forusers/download.html>
2. Open QGIS and select the "Add Raster Layer" button on the left side of the screen. A new window will open for you to select the map or image file that you want to convert to a GeoPackage.



3. Click "Raster" on the top menu and select "Conversion -> Translate (Convert Format)".
4. Select your input file and then create a new output file of type "GeoPackage (.gpkg)". Name your file using the naming convention below. Do not include any spaces in your file name or any characters besides letters, numbers, and underscores.

{Producer}_{Data Product}_{Geo Coverage Area}_{Zoom Levels}_{Version}_{Date}

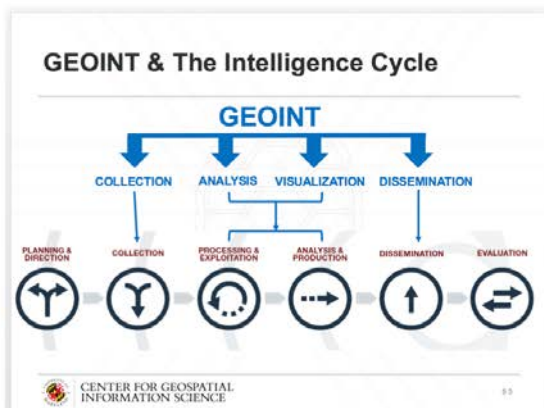
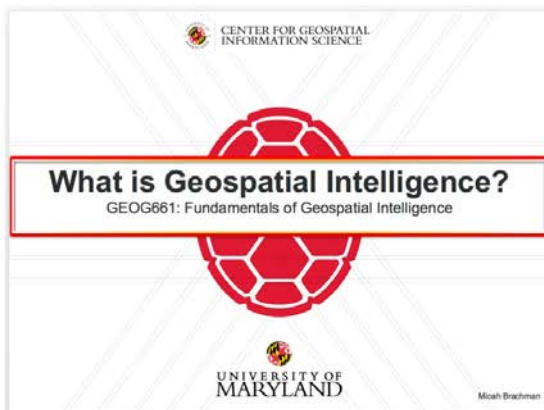
The example below provides further guidance on file names for NSG GeoPackages:

- GeoPackage Producer: Army Geospatial Center (AGC)
- Data Product(s): Buckeye
- Geographic Coverage Area: Fort Bliss, Texas, USA

University of Maryland Department of Geographical Sciences

A significant portion of my job duties as a Lecturer in the Department of Geographical Sciences have been dedicated to building our brand new graduate-level Geospatial Intelligence (GEOINT) Program. I have developed five entirely new courses covering a breadth of topics related to GEOINT including GIS, remote sensing, spatial analysis, spatial data models and data quality, network flow modeling and transportation, hazards and emergency management and professional development. I've also been heavily involved with efforts to recruit new students and promote the program, and have worked closely with the United States Geospatial Intelligence Foundation (USGIF) to get our program accredited. In addition to my graduate-level teaching duties, I have also taught our flagship undergraduate introductory GIS course. Below is a sample of course material and teaching evaluations from my Lecturer position at UMD.

One shared goal of all of my courses is to facilitate student acquisition of new technical skills and domain knowledge to help them become well-rounded professionals:



This is one of the labs I wrote for my Fundamentals of Geospatial Intelligence course to teach students about map projections and coordinate reference systems:

Geog 661: Fundamentals of Geospatial Intelligence

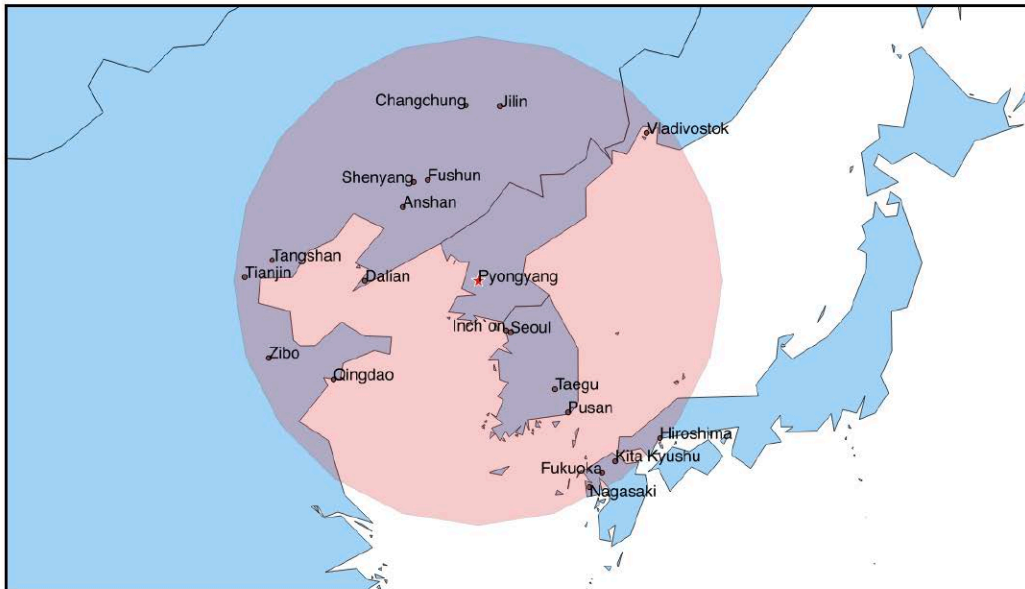
Lab 4: Map Projections and Missile Ranges

Total Points: 10

Due: 1 April 23:59 EST

On May 14, 2017 the Democratic People's Republic of Korea successfully tested the land-based Hwasong-12 ballistic missile. During the test the Hwasong-12 traveled approximately 700km, and subsequent analysis has estimated the maximum range of approximately 3,700km. You have been tasked with analyzing the threat that this missile may pose to major cities, and creating a slide that can clearly communicate this threat to decision makers.

Others analysts have worked on understanding the threat posed by the Hwasong-7, which has an estimated maximum range of 1000km. As part of their analysis they produced the following map, which uses a Euclidian Buffer centered on Pyongyang to display the range of the Hwasong-7 using the World Mercator CRS (EPSG::3395):

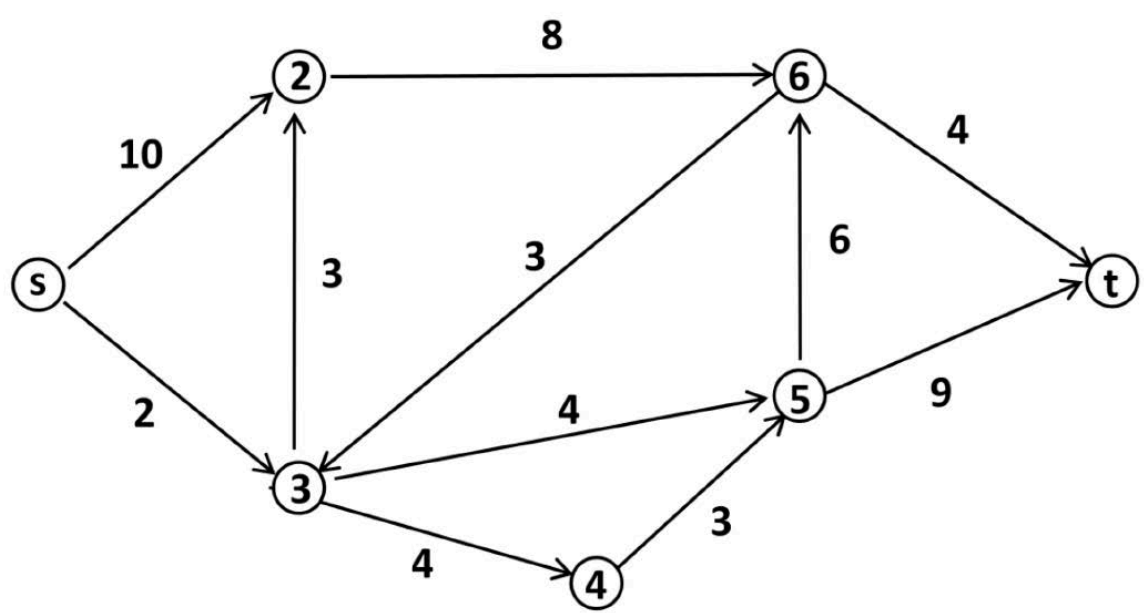


My Fundamentals of GEOINT course serves as a prerequisite for the more technically challenges course in our program, including my Networks course. A sample lab for this course is below:

Geog 680: GEOINT Networks
Lab 4: Shortest Path

Total Points: 10
Due: 25 July 23:59 EST

Review the shortest path algorithm specified for “Problem 2” in Dijkstra’s famous 1959 paper “A Note on Two Problems in Connexion with Graphs”. Translate this algorithm into R code and use it to calculate the shortest path from node *s* to node *t* on the weighted, directed network below:



```
graph LR; s((s)) -- 10 --> 2((2)); s((s)) -- 2 --> 3((3)); 2((2)) -- 8 --> 6((6)); 3((3)) -- 3 --> 2((2)); 3((3)) -- 3 --> 6((6)); 3((3)) -- 4 --> 4((4)); 4((4)) -- 3 --> 5((5)); 5((5)) -- 6 --> 6((6)); 5((5)) -- 9 --> t((t)); 6((6)) -- 4 --> t((t))
```

Your R script should meet the following requirements:

- Include the name of the assignment, your name, and the date
- Use the variables *P*, *Q*, *R*, the node sets [A], [B], [C], and the arc sets [I], [II], [III] as specified by Dijkstra. You can use different variable and set names if you like but be sure that they are clearly identified using a comment.
- Contain detailed comments that explain exactly what each line of code does
- Run without any errors and print the node order of the shortest path on screen

Below is a sample of the rankings and comments I have received on my teaching evaluations as a Lecturer at the University of Maryland.

Rankings

Scale is Strongly Disagree (0) to Strongly Agree (4) with a Neutral mid-point

Question	Course	Department (BSOS- Geography)	College (BSOS)	Course Level (BSOS_600)
	Mean	Mean	Mean	Mean
The course was intellectually challenging.	3.50	3.07	3.20	3.45
I learned a lot from this course.	4.00	3.00	3.26	3.43
Overall	3.75	3.04	3.23	3.44

Scale is Strongly Disagree (0) to Strongly Agree (4) with a Neutral mid-point

Competency	Course
The course was intellectually challenging	3.67
I learned a lot from this course	3.67
The instructor treated students with respect	4.00
The instructor was well-prepared for class	4.00
Overall, this instructor was an effective teacher	4.00
Total Score	3.87

Comments

The course was technical challenge. One aspect was good because I was able to work and learn from a new software. At the same time, it did challenge me since the pre-courses software familiarization used different software systems. Classes were good and lecture were very engaging. Labs at my level of proficiency took a lot effort. My only thing maybe more step to step detail before working the lab in order to have a general idea but overall great course.

For my graduate courses I rarely provide step-by-step instructions describing how to complete an analysis. Rather, I specify a problem and ask my students to develop and describe a method to solve it. This avoids the ‘buttonology’ approach to technical learning that characterizes many traditional GIS and Remote Sensing courses.

I really enjoyed this course as the "intelligence" aspect of this program is what I was most excited to focus on. As I have some prior experience with GEOINT but have had no formal instruction on the subject until now, it was interesting to learn the basics and background of work I was already doing. I thought the textbook was interesting and was a good supplement to the lectures. I liked your idea of doing more discussions for next time you teach this class; maybe at the end of each lecture you could present some GEOINT discussion question that each student could do a bit of their own research on over the week to prepare to discuss it during the next lecture.

Overall, I really enjoyed this course and am looking forward to continuing this program.

I'm a strong believer that students learn best from each other, so I often try to encourage group activities and facilitate class discussions.