Exploring Biology Careers through a Fictional Case Study: Investigating a Virus Outbreak in the Philippines

Goals and Outcomes:

- Students will gain an understanding of the variety of careers that one can pursue with a biology degree by taking on the persona of one of five investigators of a viral outbreak in Southeast Asia
- Students will practice skills in critical reading comprehension and communication through group discussion of the available facts of the case study
- Given the facts of the case, students will synthesize hypotheses regarding the causative agent of the outbreak and the means by which it is spreading.
- Students will develop an action plan to treat currently sick patients and prevent further spread of the outbreak and present this action plan to the class.

Activity Plan:

TIME	ACTIVITY	DESCRIPTION
One week before class	Review assigned character and facts of the case	Students will read character's dossier and relevant facts of the case for their character. Students will answer questions geared to help them think about the case and provide definitions for terms that they may not understand
In class (30-35 minutes)	Group discussion	Students will break into pre-assigned groups of 5. Each member will discuss what they know about the case. The group will answer questions on the group worksheet
		Each group will develop an action plan as outlined in the group worksheet
In class (10-15 minutes)	Presentation	One or two representatives of each group will present their action plans to the class

Beloit College, Gilbert Jose, PhD. gilbert.g.jose@gmail.com

Summary of Virus Outbreak

Location
Subic (pron."Sue-bick") Bay Region, The Philippines (see map)

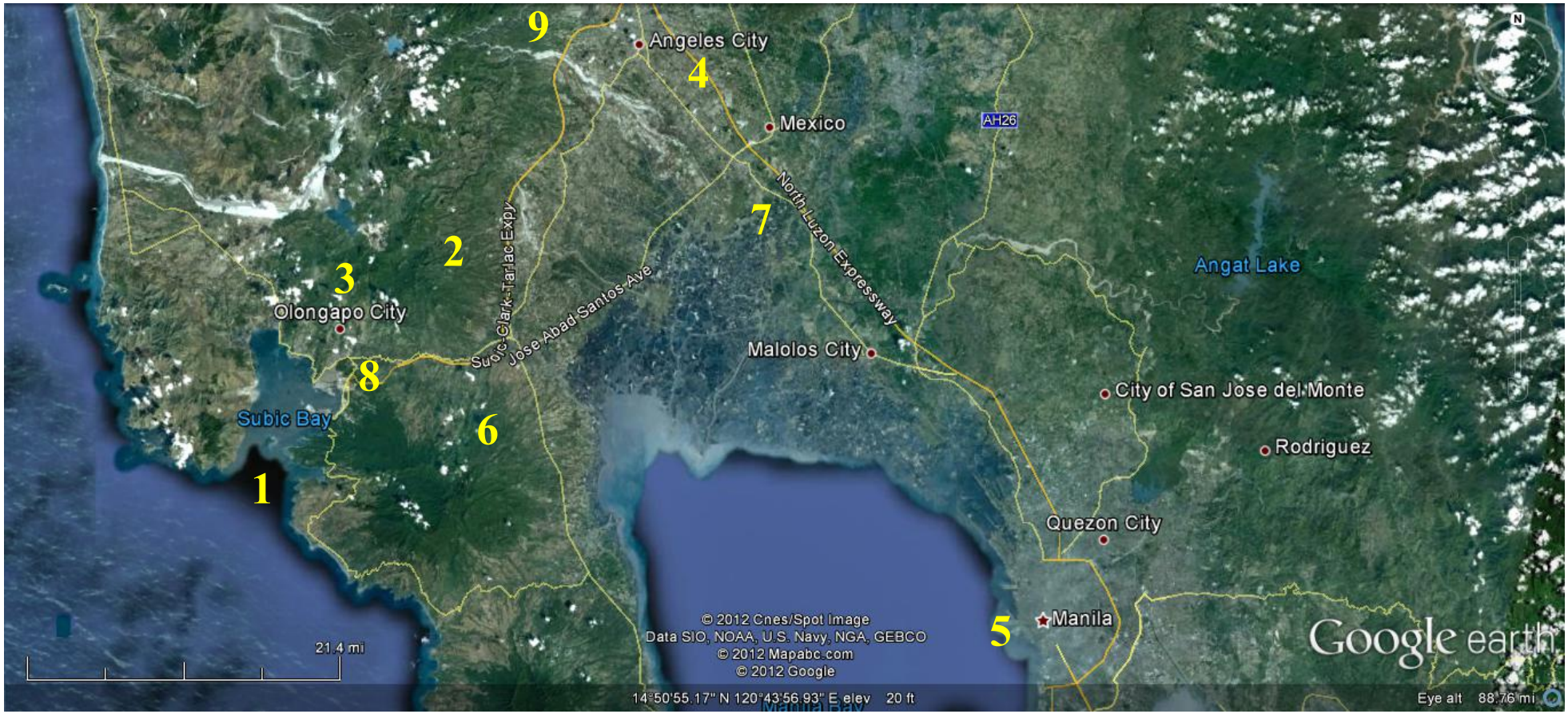
Situation
Over the last three months, 18 people have died and more than 35 others have become sick. Those that have died or are sick span a diverse breadth of people, from Filipino citizens, to US Navy officers and European tourists. The diverse nature of the people afflicted by the outbreak has made it difficult to isolate a single cause for the outbreak.

Your task
A number of people from different backgrounds are involved in this investigation and have been brought together to discuss what is going on. In your groups, each person represents a single investigator of the outbreak, each with their own data, perspective and experiences to share. Together as a group, your task is to discuss the facts of this case and using what each of you knows to develop hypotheses about the causative agent of this virus outbreak and a mechanism by which it spreads. As a group, you will develop a plan of action to stop the spread of this outbreak and present this to class.

About the area

The Subic Bay region is situated on the island of Luzon (Loo-zon), about 40 miles from Manila, the capital of the Philippines. The Subic Bay region was the home to a US Naval base (Subic Bay Naval Base) and US Air Force Base (Clark Air Force Base) until 1991. In the time since the closing of the bases, the Subic Bay area has seen resurgence in activity as a hub for divers, hikers and eco tourists. The landscape is a mix of farmland, forest and medium to highly urbanized areas. Surrounding the region are forests preserves and national parks that are home to primary growth forests that have remained untouched compared to the forest of the rest of the Philippines. Mountains, caves and other geological features dot the landscape and add to the complexity of the animal habitats in the area. The Philippines is known to house many species of animal and plants that are not found anywhere else in the world. The forests around Subic Bay house some of these rare species. The area is also a hub of transportation and commerce. Traffic from Manila to other parts of the northwest cities of Luzon usually passes through the Subic Bay region.

Map of Subic Bay and surrounding region, the Philippines



Legend

1- Subic Bay
2- Roosevelt Forest Preserve
3- Olongapo City (pron. “O-long-apo”)
4-Angeles City
5- Manila (Capital of the Philippines)
6- Bataan (pron. “Ba-ta-an”) National Park
7- City of San Fernando
8- Formerly Subic Bay Naval Base
9- Formerly Clark Air Force Base

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