

Appendix C: The Project Design Overview from the Sinking Cities Group

PROJECT DESIGN: OVERVIEW		page 1
Name of Project: Sinking Cities: Sea Level Rise in Hampton Roads		Duration: 3 weeks
Subject Area Collaborators: Earth Science Algebra I	Teacher(s):	Grade Level: 9th
Other subject areas to be included, if any: English 9		
Key Knowledge and Understanding (CCSS or other standards)	Earth Science ES.1 The student will plan and conduct investigations in which c) scales, diagrams, charts, graphs, tables, imagery, models, and profiles are constructed and interpreted; d) maps and globes are read and interpreted, including location by latitude and longitude; ES.2 The student will demonstrate an understanding of the nature of science and scientific reasoning and logic. Key concepts include a) science explains and predicts the interactions and dynamics of complex Earth systems; b) evidence is required to evaluate hypotheses and explanations; observation and logic are essential for reaching a conclusion; ES.10 The student will investigate and understand that oceans are complex, interactive physical, chemical, and biological systems and are subject to long- and short-term variations. Key concepts include: c) Physical and chemical changes related to tides, waves, currents, sea level and ice cap variations, upwelling, and salinity variations; e) economic and public policy issues concerning the oceans and the coastal zones including the Chesapeake Bay ES.11 The student will investigate and understand the origin and evolution of the atmosphere and the interrelationship of geologic processes, biologic processes, and human activities on its composition and dynamics. Key concepts include d) potential changes to the atmosphere and climate due to human, biologic, and geologic activity. Algebra I: Statistics A.9 The student, given a set of data, will interpret variation in real-world contexts and calculate and interpret mean absolute deviation and standard deviation. A.11 The student will collect and analyze data, determine the equation of the curve of best fit in order to make predictions, and solve real-world problems.	

	English 9.1 The student will make planned oral presentations independently and in small groups. b) Use relevant details to support main ideas. d) Use grammatically correct language, including vocabulary appropriate to the topic, audience, and purpose. e) Use verbal and nonverbal techniques for presentation. g) Credit information sources. k) Summarize and evaluate information presented orally by others. l) Assume shared responsibility for collaborative work.			
Success Skills (to be taught and assessed)	Critical Thinking/Problem Solving	X	Self-Management	X
	Collaboration	X	Other: Communication	X
Project Summary (include student role, issue, problem or challenge, action taken, and purpose/beneficiary)	In groups of 4, students will explore and compare the different sea level projections for the Hampton Roads area and present to the community (ODU Center for Sea Level Rise) a public service announcement to raise awareness of the issue. Students will individually create a summary fact sheet (informational text) that briefly records unit terms and concepts, SL rate numbers and impacts of SL rise. The end product will consist of an oral public service announcement and infographic poster created in student groups showcasing how students explored, calculated and mapped the different SL rise rates (including the best case scenario, worst case scenario, past rates projections).			
Driving Question	How will Sea Level Rise affect your community (Hampton Roads Area)?			
Entry Event	Maldives—Sea Level at its Worst! What are governments doing now about sea level rise? Are entire nations impacted by the rising waters? Are governments moving underwater? The teacher will present a profile of the Maldives noting the tourist attractions, diverse and unique animal life and culture of the island nation in order to build attachment and buy in. Then the teacher will present the news that the Maldives will be underwater within the next 30 years. Various news articles and a video of the recent underwater congress meeting will highlight the severity of the event.			
Products	Individual: Summative: • Hampton Roads Reflection • Project/Presentation Reflection • Self-Assessment of Collaboration Evaluation Sheet • Cumulative Fact Sheet Formative: • Jigsaw sheet • Excel Data Sheet • Class Map Activity/Lab	Specific content and success skills to be assessed: Content: • ES.1cd, ES.2ab, ES10ce, ES.11d • A.9, A.11 Success Skills: • Critical thinking/ problem-solving		

	Daily Exit tickets			
	Team: Public Service Announcement, Class Oral Presentation, Oral Presentation to ODU Center	Specific content and success skills to be assessed: Content: - ES.1cd, ES.2ab, ES.10ce, ES.11d - A.9, A.11 - English 9.1 Success skills: - Collaboration - Self-Management - Communication		
Making Products Public	Students will present their final oral PSA and infographic poster to ODU Center for Sea Level Rise members and the community at one of the Center for Coastal Physical Oceanography and ODU Resilience Collaborative Seminar Series, which occur every Monday at 3:30 at Innovation Research Park Building II (4211 Monarch Way, 1st Floor Old Dominion University, Norfolk, VA 23508).			
Resources Needed	On-site people, facilities: Computer Lab, Media Specialist			
	Equipment: Laptops (Excel, mapping), Access to Color Printing			
	Materials: DIGITALCOAST Sea Level Rise Viewers, Maps and Graph paper, Posters, Scissors, Glue, Clay, Water, Ice			
	Community Resources: ODU Center for Sea Level Rise			
Reflection Methods (how individual, team, and/or whole class will reflect during/at end of project)	Personal Reflections (2 Hampton Roads impact/connections and Project as a whole reflection)	X	Focus Group	
	Whole-Class Discussion	X	Fishbowl Discussion	
	Self-evaluation (2)	X	Other: Teacher Check-ins/Exit Ticket	
Notes:				