

TEMPLATE FOR CMap PROJECT

Project Title: How is Climate Change Affecting the United States? Story Map
Created by: Jessica Stant
Class: Biology (10-12)

Project Description	<p>Students will divide in groups and read articles from the education news site newsela.com about regional effects of global warming in the United States. They will do a article mapping activity with these articles on arcgis.com. Then they will collaborate with their groups to create a class Story Map about global warming effects around the country.</p> <p>Students predict how Climate change will affect Washington County</p> <p>After making predictions, the students will interact with community leaders at the Washington County Water Conservancy District to learn how these changes may affect Washington County (or already are).</p> <p>At the end of the project students will reflect on what they have learned and how climate change will affect them personally in a final essay.</p>
Community Issue or Problem Selected -How project evolved?	How does/will climate change directly affects the lives of people in each region.
Community Partner(s)	Washington County Water Conservancy District
Project Objectives	<p>Students will be able to evaluate the effects of climate change by region in the United States. Students will map these regions and describe the effects in a Story Map format.</p> <p>Students will understand how these changes are affecting their county.</p>
Utah Core Standards/Objectives	<p>Biology Standard 1: Students will understand that living organisms interact with one another and their environment.</p> <p>Objective 2: Explain relationships between matter cycles and organisms.</p>
Essential Question(s) -Spatial Issue	<p>How is climate change affecting the different regions of the United States?</p> <p>How is climate change affecting Washington County?</p>
Assessments (rubrics, scoring guides)	<p>*Story Map Scoring Guide</p> <p>*Online task manager (Glasscube or Redbooth (groups of 5))</p>

	<ul style="list-style-type: none"> *Story Map Rubric: <ul style="list-style-type: none"> Self assessment Peer assessment *Final write up on how climate change may affect them personally now or in the future (scoring guide and rubric)
Project Products	<ul style="list-style-type: none"> *Article Map (individual) *Story Map (group) *Reflection essay (individual)
Project Timeline (include a step by step Procedures)	<p>Day 1:</p> <ul style="list-style-type: none"> *Introduce GIS or Google Maps - students practice mapping their house, school, and favorite restaurant. Students practice measuring distance to school, favorite restaurant *Review Water Cycle and Carbon Cycle *Divide students into groups and handout articles. Students read articles in groups and highlight location references. *Hand out article mapping requirements. *Students map locations from article. <p>Day 2</p> <ul style="list-style-type: none"> *Students finish mapping locations from article and share with me. *Hand out Story Map rubric and project description - discuss as class *Hand out Story Map outline *Students collaborate in groups to complete outline *Students use Chromebooks to complete Story Map <p>Day 3</p> <ul style="list-style-type: none"> *Students complete Story Maps *Students write reflections <p>Day 4</p> <ul style="list-style-type: none"> *Students present Story Maps *Presentation from Washington County Water Conservancy District *Students finish and turn in reflection essay
Resources Needed	<ul style="list-style-type: none"> Story Map Software Collaborative tools (shared Google Doc for outline) Articles from Newsela
Skills Required	<ul style="list-style-type: none"> *Plotting points on Arcgis software (or Google Maps) *Use of Story Map Software *Small group communication for collaboration

	<p>*Understanding of the Carbon Cycle and Water Cycle and how human impacts affect these cycles.</p> <p>*Written communication</p> <p>*Reflection</p> <p>*Personal responsibility to complete tasks</p>
Project Team Member Roles	<p>Teacher(s): Prepare resources, instruct students in use of tools and core concepts (cycles), monitor groups for progress and participation, support students as they work, answer questions, evaluate student work</p> <p>Students: complete article mapping assignment, collaborate on Story Map outline in groups, communicate with partners, complete assigned tasks, complete assigned Story Map task,</p> <p>Partner(s): Provide information on climate related data in Washington county</p>
Celebration/Presentation	Groups present Story Maps to class
Project Evaluation	<p>*Students complete self and peer assessment using Story Map Rubric</p> <p>*Teacher scores article mapping assignment, assesses Story Maps using rubric, assesses reflection</p>
Project Bibliography	<p>Articles from Newsela</p> <p>Alaska: https://newsela.com/articles/polar-bears-alaskan-natives/id/23211/ or https://newsela.com/articles/govt-EPA-climate-alaska/id/28474/</p> <p>US Northeast: https://newsela.com/articles/govt-EPA-climate-northeast/id/28808/</p> <p>US Great Plains: https://newsela.com/articles/govt-EPA-climate-great-plains/id/28424/</p> <p>US Southwest: https://newsela.com/articles/govt-EPA-climate-southwest/id/28398/</p> <p>US Midwest: https://newsela.com/articles/govt-EPA-climate-midwest/id/28478/</p> <p>US Northwest:</p>

	https://newsela.com/articles/govt-EPA-climate-northwest/id/28414/ US Hawaii and Pacific Islands: https://newsela.com/articles/govt-EPA-climate-hawaii-islands/id/28407/ *arcgis.com *maps.google.com
Plans for Future CMAP Activities	*Virgin River invasive species mapping project (check out gps units from Dale Stapley) *Geogenome project (using genetic data to map population migration) *Using concepts of scale to map spatial relationships of atoms (stolen from Joy White 😊)

Optional:

- Lesson Plans
- Student Artifacts
- Publicity