

# Educators Summit

## Local Solutions: Northeast Climate Change Preparedness Conference

## Day 3 – May 21, 2014

**Vulnerability Assessment & Risk Management Handout**

**Focus Question:** How can students help their communities study systems responses to climate change and assist in risk management projects?

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**Recommended Resources:**

Raising Awareness about Rising Sea Level Lesson Plan by Liz Duff:

<http://pie-lter.ecosystems.mbl.edu/content/raising-awareness-about-rising-sea-levels>

Interactive Flood Maps:

<http://flood.firetree.net/>

<http://sealevel.climatecentral.org/>

Free App for recording GPS Coordinates: iMarker Geotagging Lite

<https://itunes.apple.com/us/app/imarker-geotagging-lite/id435050788?mt=8>

Assess where infrastructure in your town is located.

<http://www.communitywalk.com/>

Look at Federal Emergency Management Agency (FEMA) maps to see what areas are vulnerable to flooding.

<https://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1>

Municipal Climate Change Action Plan Guidebook (From CanadaO)

<http://www.fcm.ca/Documents/tools/PCP/municipal_climate_change_action_plan_guidebook_EN.pdf>

*Low Carbon Diet 30 Day Program to Lose 5000 Pounds* book by David Gershon

<https://www.empowermentinstitute.net/index.php/community/low-carbon-diet>

**Concrete Climate Change Preparedness project ideas**

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| --- | --- | --- |
| System impacted by climate change | Preparedness Idea | Related Links |
| Ecosystems | Assess what ecosystems and ecosystem services may be at risk due to climate change. | Interactive Flood Map  <http://flood.firetree.net/>  Surging Seas  http://sealevel.climatecentral.org/ |
| Food & Water Security | Prepare for increased storm events.  Learn where local food can be bought.  Notice what food stores/water supply is at risk to flooding. | Food & Water Safety During Hurricanes.  <http://www.fda.gov/food/resourcesforyou/consumers/ucm076881.htm>  Find where you can purchase locally grown food.  <http://www.localharvest.org/> |
| Forest & Recreation Resources | Help assess forest health. | <http://harvardforest.fas.harvard.edu/research-projects> |
| Wildlife & Fisheries | Help maintain cold water fish habitat by planting trees, and reducing your carbon footprint. | Inland Fish and Warming Waters Curriculum: <http://pie-lter.ecosystems.mbl.edu/content/inland-fish-and-warming-waters-curriculum>  ID and map birds:  <http://merlin.allaboutbirds.org/> |
| Communication Systems |  | Prepare to communicate during disasters:  <http://www.dhsem.wv.gov/protectingyourfamily/Pages/default.aspx> |
| Energy Systems | Help map electrical substations and gas stations in your community to help assess vulnerability. Encourage back up power for essential gas stations along evacuation routes.  Prepare for loss of power in your own home | Create your own digital map.  <https://mapsengine.google.com/map/>  Prepare for blackouts.  <http://www.ready.gov/blackouts> |
| Transportation Structures | Assess roads and culverts to make sure that adequate drainage can happen during storm events with increased intensity  Assess what roads and railroads are vulnerable to sea level rise and storm surges. | Road Washout Video <https://www.youtube.com/watch?v=JamhlDxH77k>  Stream Crossing Assessment Protocol:  <http://des.nh.gov/organization/divisions/water/wetlands/documents/culvert-assessment-protocol.pdf> |
| Health Systems | Learn heat wave safety. Help assess who is most at risk in your community to heat waves, flooding, etc.  Notice if people are cut off from emergency services by flooding. | Learn Heat Wave Safety  <http://www.redcross.org/prepare/disaster/heat-wave>  Large print heat wave brochure.  <http://docs.health.vic.gov.au/docs/doc/688FDA12FE10BE2BCA257A44001811BE/$FILE/1310013_heatwave_dl_oct13_WEB_B.pdf> |

Projected Climate Change Trends & Hazards\*

|  |  |
| --- | --- |
| More frequent storm events | Flooding and flash-floods |
| Increasing storm intensity | Wetter, warmer winters |
| Changes in precipitation and extreme precipitation events | Hotter summers |
| Sea level rise | Loss of sea ice |
| Storm surges and floods | Drier summers with droughts |
| Accelerated coastal erosion | Water (availability) constraints |
| Greater ultraviolet radiation exposure |  |

\* From Municipal Climate Change Action Plan Guidebook

Discuss:

1. How will climate change affect the following systems?
2. How can people help assess what is vulnerable?
3. What ways can people help reduce risk?
4. What ways can students be involved in this?

* Food and water security
* Forest & recreation resources
* Wildlife & fisheries
* Communications systems
* Transportation structures
* Health systems

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