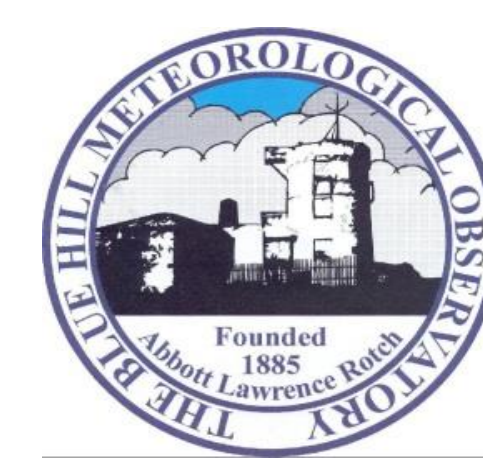




Using the Citizen Science Picture Post Project for Environmental Monitoring with Digital Photography



<http://picturepost.unh.edu>

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Summary:

The Picture Post Project, part of the Digital Earth Watch Network, is an easy and low-cost method to observe changes in natural areas by taking and sharing repeat digital photographs from picture post platforms that are set up by local sponsors including those by the Blue Hill Meteorological Observatory. Panoramic images are taken by a citizen scientist using any device with a camera. Uploaded, images can be compared over time to track change such as vegetation cycles, erosion, and atmospheric conditions. Picture Post can capture visual trends that can supplement other science programs.

What is Picture Post?

Picture Post is an easy and low-cost method to observe changes in natural areas by taking and sharing repeat digital photographs from picture post platforms that are set up and maintained by local groups or individuals. The posts featured here are sponsored by Blue Hill Observatory.



At each site, a set of eight images are taken using a fixture on a post to align the camera for each image to ensure direction consistency.

With Picture Post, anyone with a camera or smartphone can upload images and measure environmental change in their neighborhood and as part of a national database. Sites are in the US and Canada.



DEW's easy-to-use image analysis software is available on the website. For more, go to

<http://picturepost.unh.edu>

Where Can Picture Post Sites Be Found?

- On hilltops and open fields
- Along lakes, ponds, and shorelines
- At recently disturbed habitats, - natural or man-made



Wells Reserve 1, Wells Reserve National Estuary, ME



Scoodic Beaver Impoundment, Acadia National Park, ME



Grand Trunk Trail, Army Corps of Engineers Prop., Brimfield, MA

The Posts on Great Blue Hill within the Blue Hills Reservation:

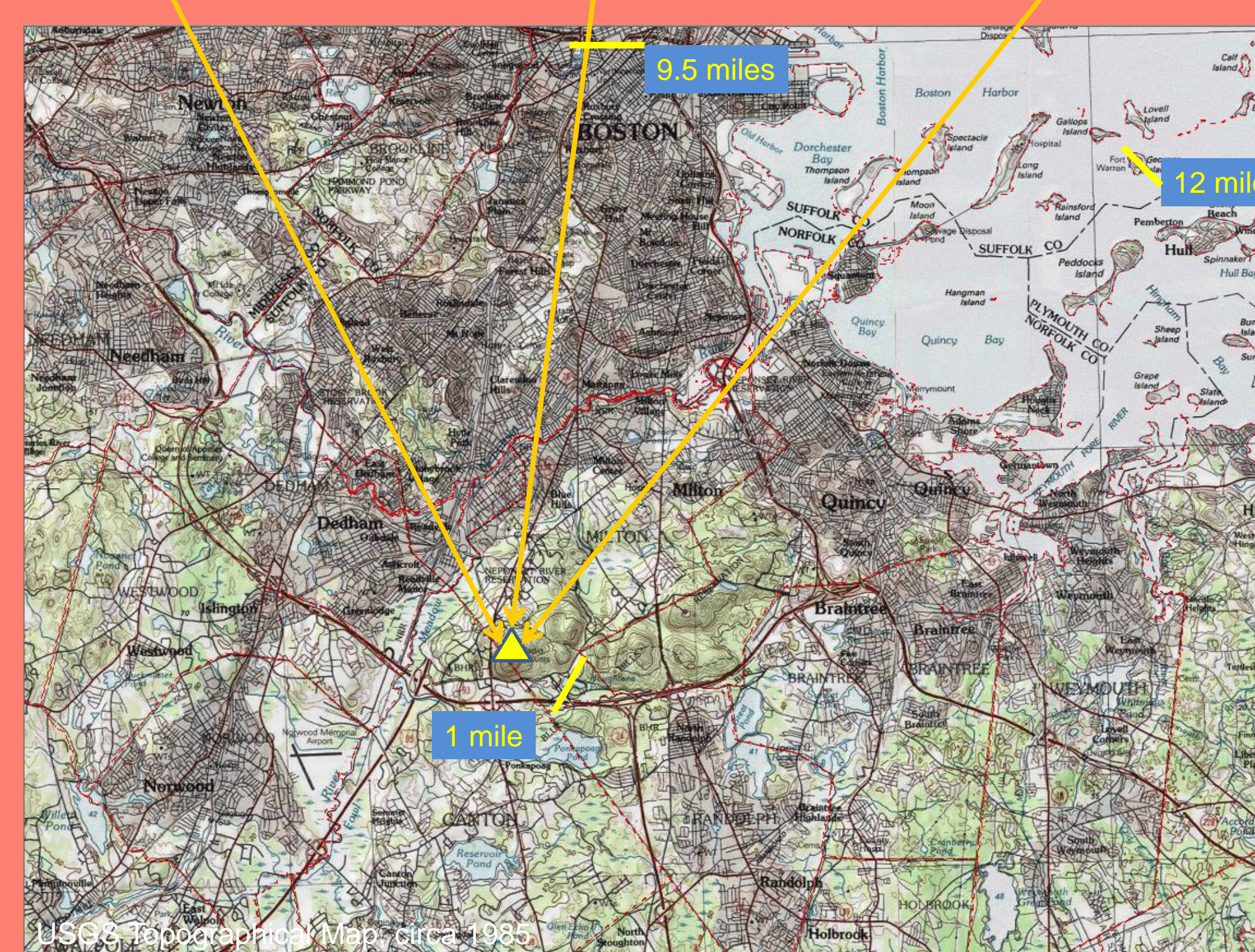
Blue Hill-Tower



Blue Hill-West



Blue Hill-East



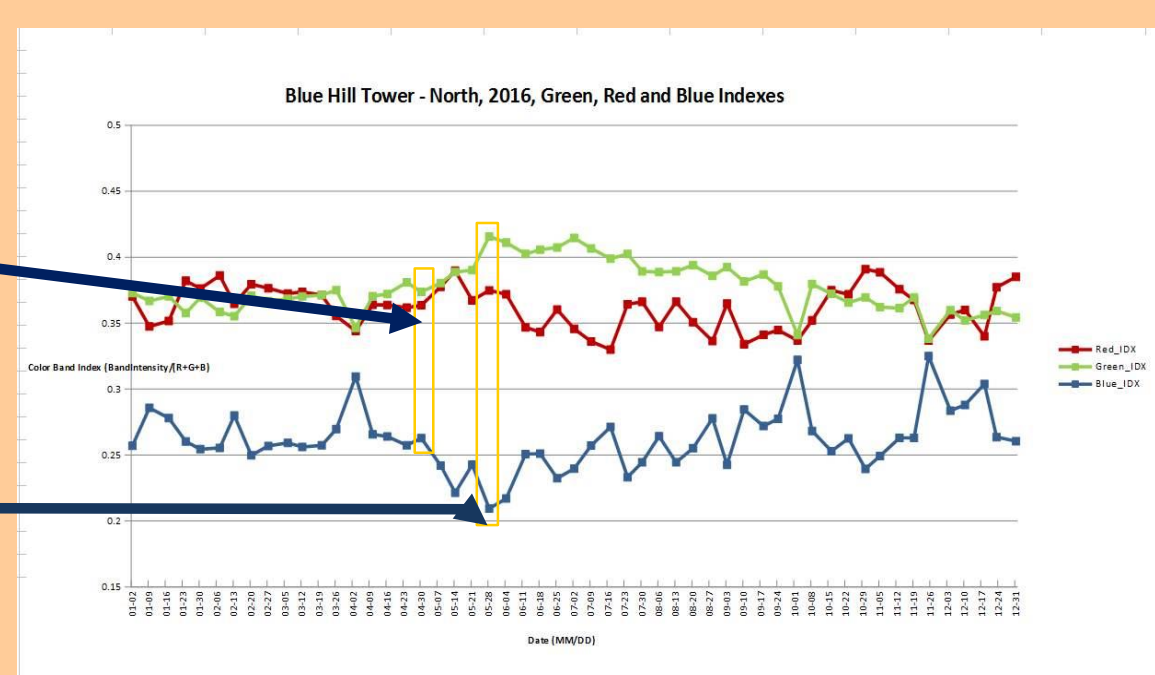
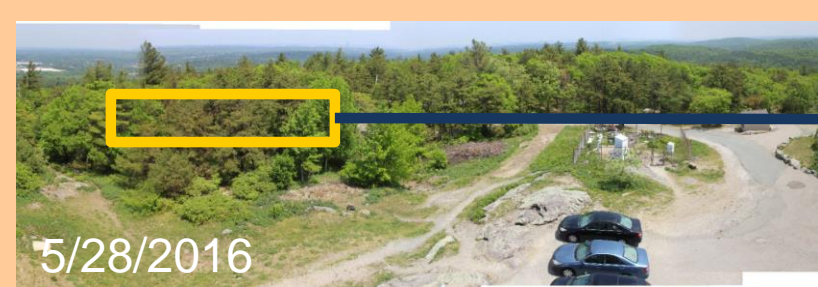
Picture Post locations have the potential of viewing near medium and far distant views, depending on placement and field of view.

What Can Be Observed with Picture Post?

Examples where Blue Hill Picture Post images can observe change:

•Vegetation Change in Over Time

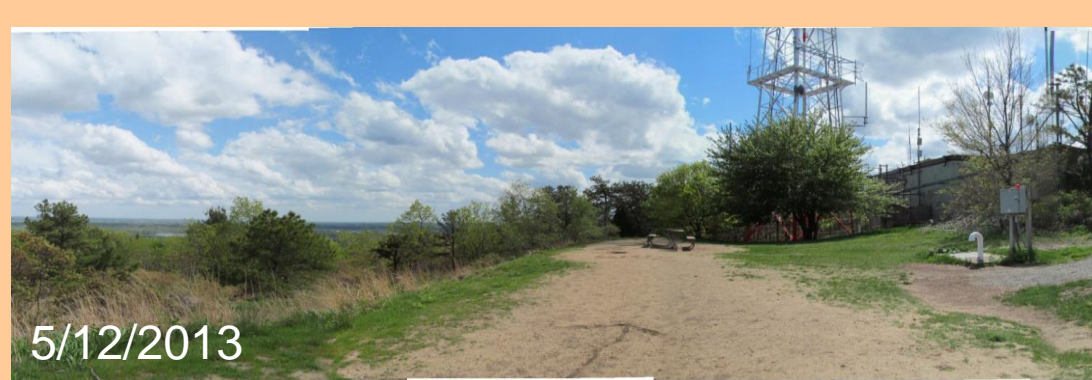
Picture Post images can be clipped, then the mean color brightness values of these areas can be plotted on a graph to reveal trends.



•Water and Ice Level Monitoring - Water features within view of a Picture Post image can be monitored to measure changes in water height and the amount of ice over time.



•Human Activity/Erosion Monitoring - Erosion and landscape changes over time due to human activity can be monitored using Picture Post images.



•Invasive Species Monitoring - Picture Post images can track the progress of invasive plant species over time.



How can Picture Posts Images Be Integrated with Other Data?

•Satellite Imagery – Picture Post can provide ‘ground view’ images to compare with satellite imagery such as MODIS and LandSat.



•Vegetation Surveys – Picture Post can supplement biodiversity surveys by showing the tree with other vegetation nearby.

Norway Maple



•Weather and Climate Research – Picture Post can supplement research on weather and climate to show how weather and climate affects vegetation.

