

Picture Post: A Picture Perfect Future

Proposal to the Trace Invaders Challenge



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This is the past....

Plan for the Future

We will improve the capability for Picture Posts to collect data and communicate with the user right at the post

Prototype will focus on New Hampshire forests

Invasive species include:

- Emerald Ash Borer
- Wooly Adelgid
- Various fungi

Potential Environmental/Landcover Data Connections:

- MODIS landcover
- Landcover Products (VIIRS, TBD)
- Airnow (EPA air quality data)

Endangered tree species in New Hampshire



Ash

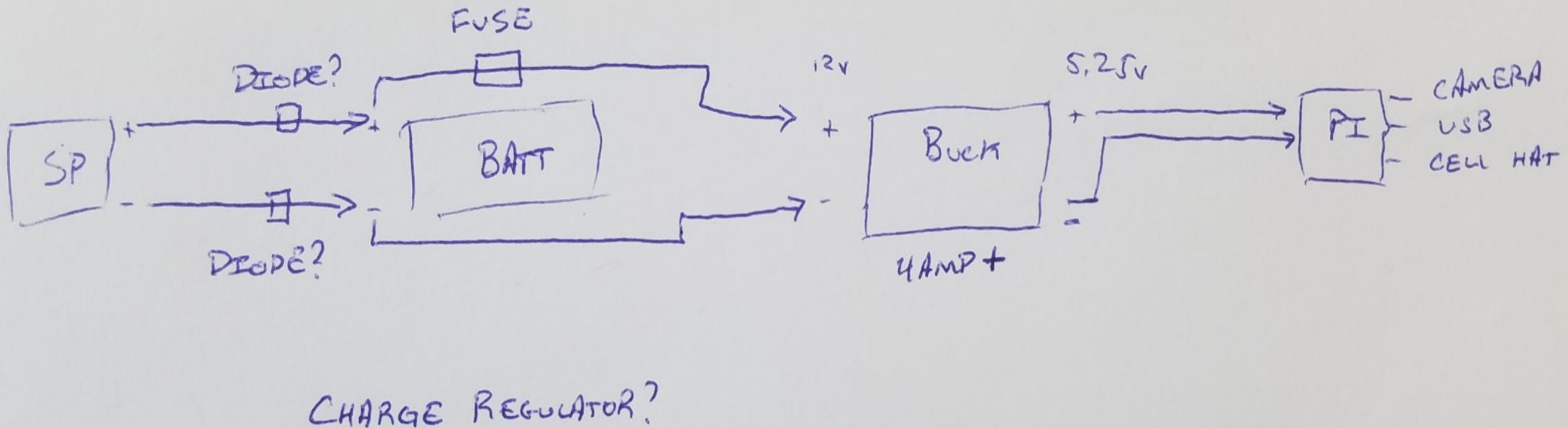


Hemlock

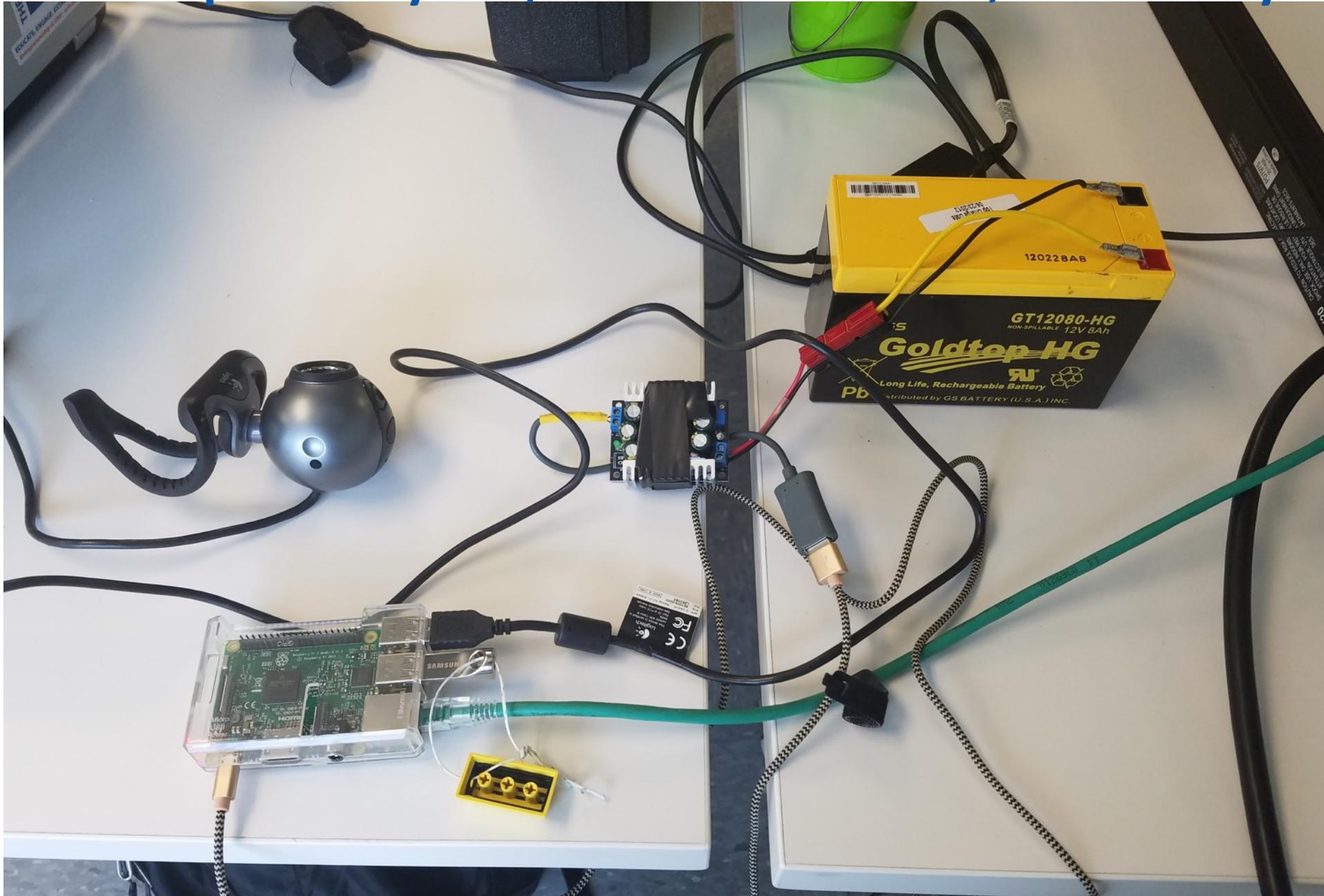
Photos taken at existing Picture Posts owned by the Society for the Protection of New Hampshire Forests

Operation in Remote Areas

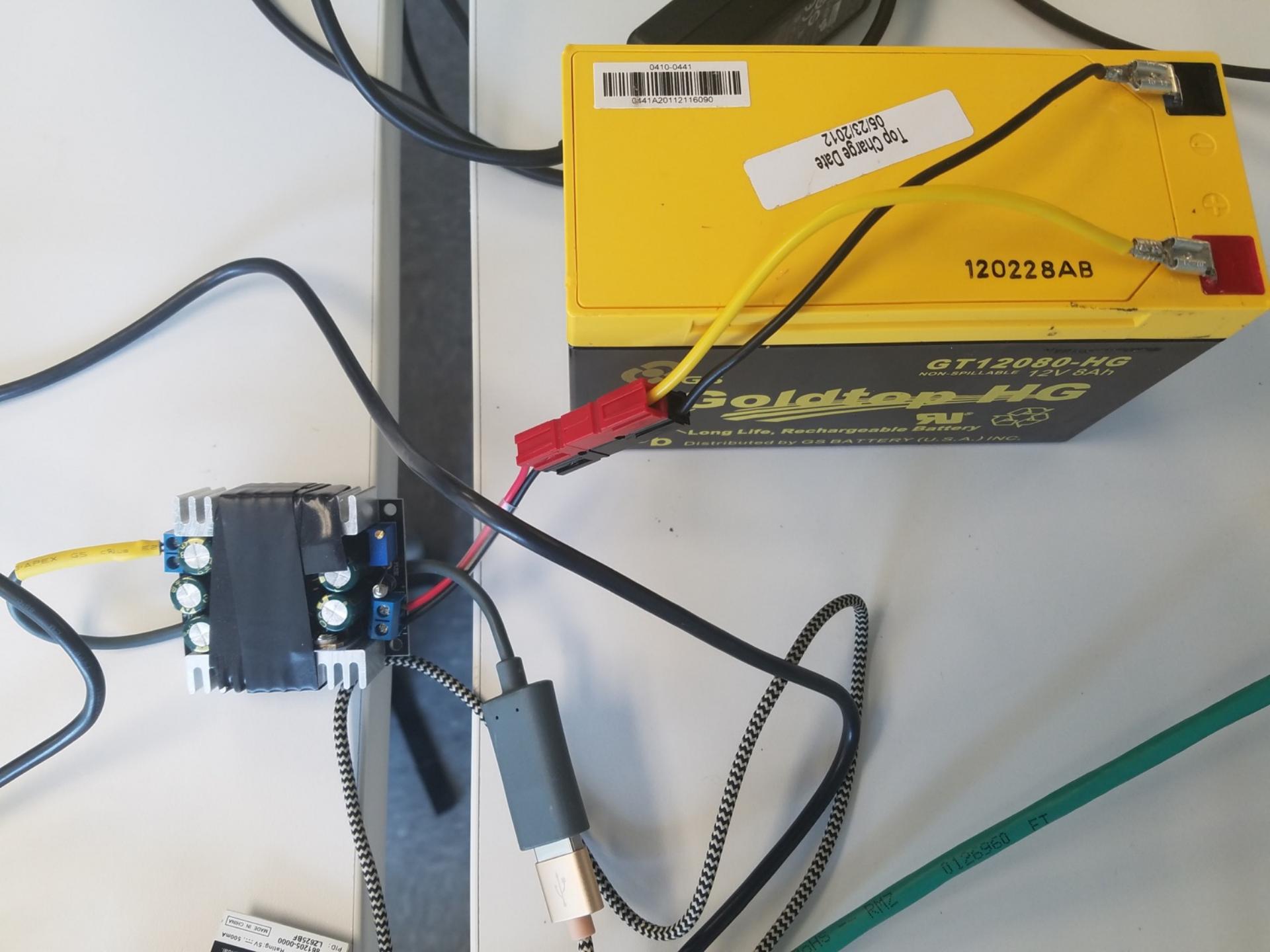
Solar Schematic



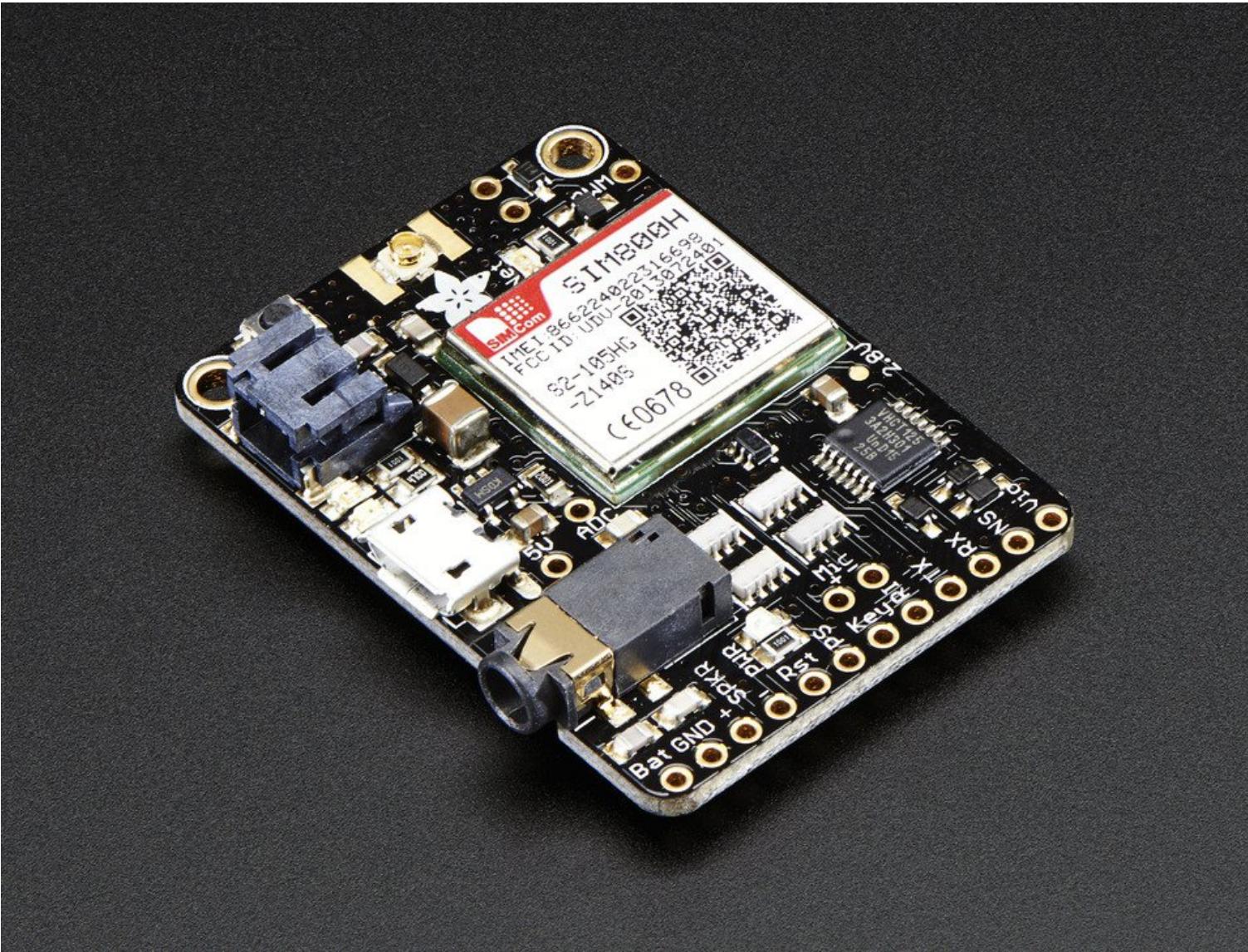
Raspberry Pi, 360 camera, battery





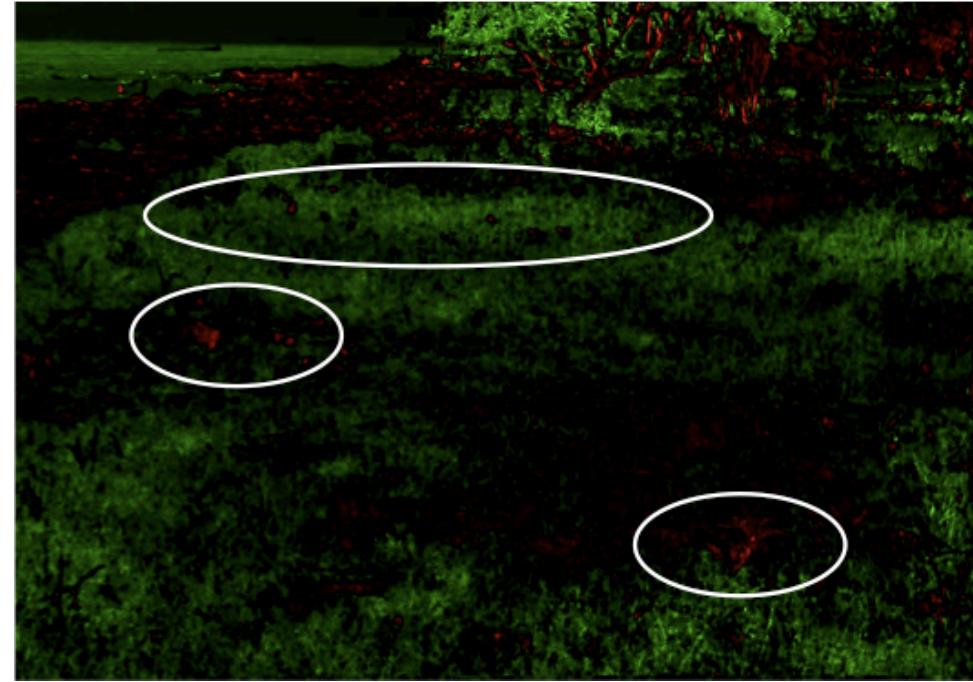
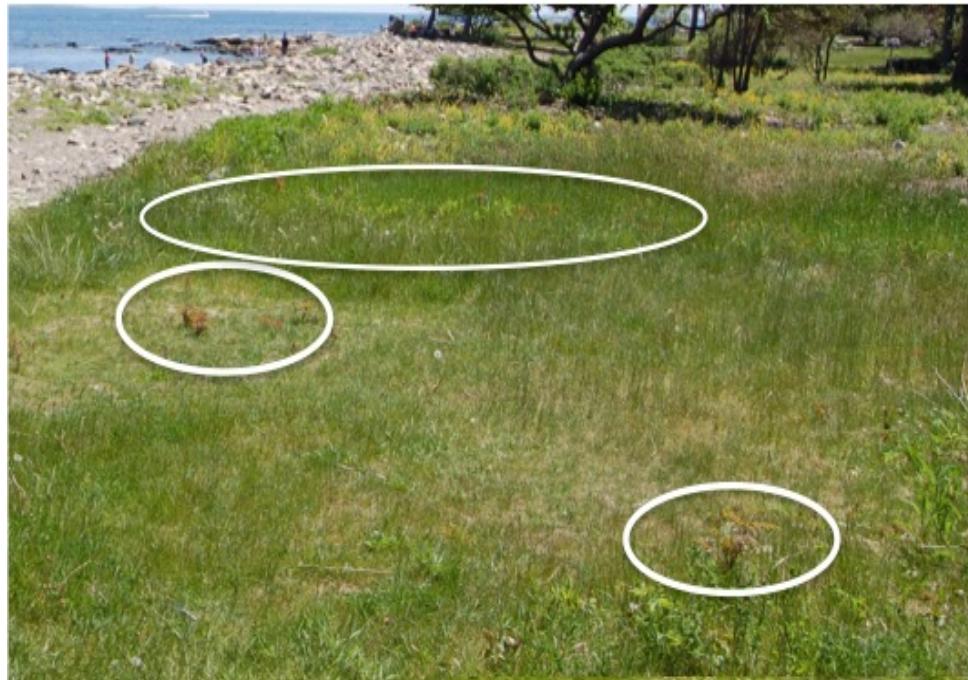


Remote Area Data Transfer



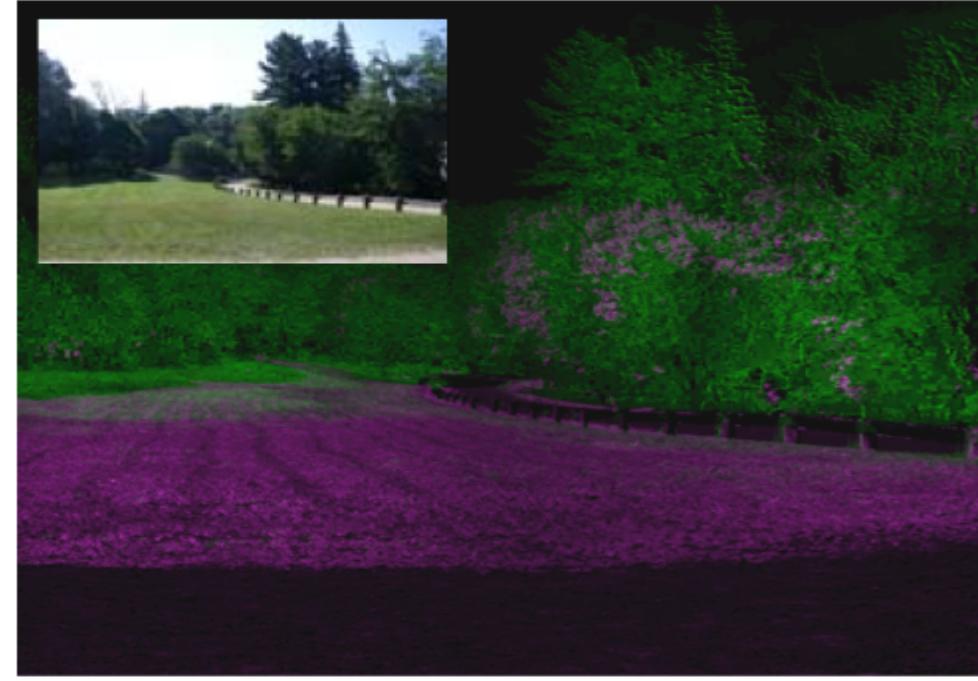
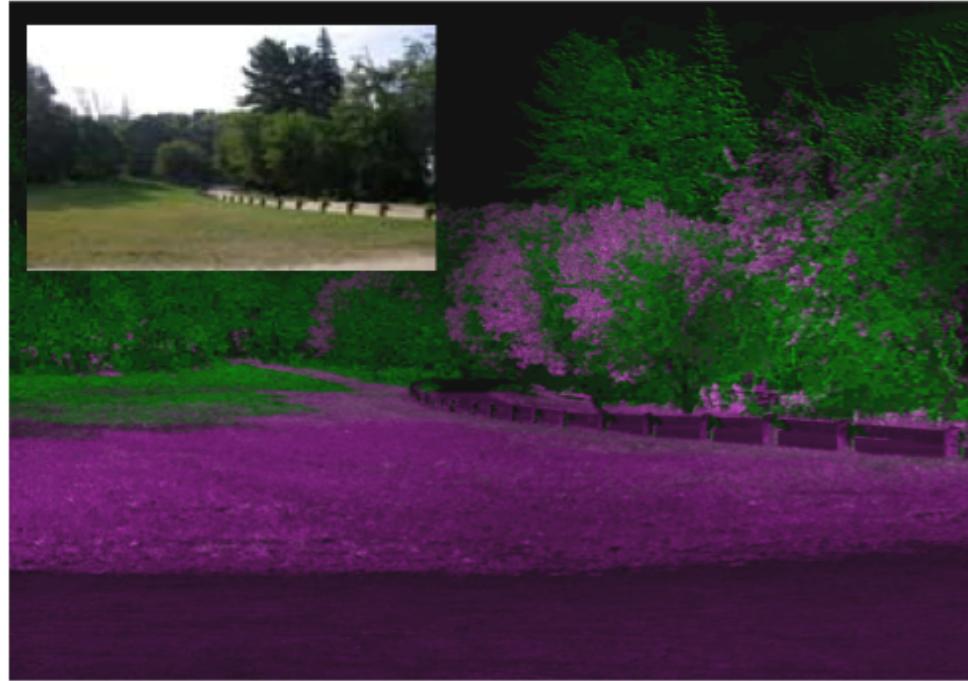
User Activities

Enhancing the picture through manipulation of colors



Color ratios highlight an invasive species. The user will be guided on hot spots and asked to mark anything they see.

Enhancing the picture through manipulation of colors



Color ratios show vegetation response to dry (left) and wet (right) conditions. The user will be advised of when conditions favor invaders.

Change Detection through color manipulation



The user will be shown areas of change between photographs taken at different times.