

# The Community Camera Project

## Monitoring Long Term Trends in Community Environment

A Local Environmental Observer (LEO) Network Project



Ron Loftfield and Mike Brubaker installing a time lapse camera in Nondalton.  
Photo by Sue Flensburg



Global warming is causing the environment in the north to change very quickly.



The Wulik River near Kivalina, Photo by Mike Brubaker



This project uses stop action cameras located in northern communities to monitor change over long time frames (days, weeks, years).



Shishmaref Erosion, Photo by Ned Rozell

The cameras are hardy all-weather field cameras that run on double (AA) batteries and take a memory card. They cost about \$100 per unit.



Time lapse camera, Photo by Jennifer Skarada



## What You Need:

- Camera
- AA Lithium
- Memory (card or drive)



Winscapes TimeLapse Cam



Brinno TLC 100



Typically the cameras are mounted at sites selected by local partners, and the cameras take one or two images per day.



Greg Andrew with a camera ready to install in Levelock  
Photo by Mike Brubaker



The images are then compiled into videos that help to evaluate important local topics, such as weather, seasonal change, infrastructure, vegetation, erosion, ice conditions, water level, and so on. Here is a [video](#) made by Ben Jones at USGS.



00:00 / 00:33



51.22 inHg ↑

8°C



07/11/09 06:00 PM

5555555555



You can see the images on your camera viewer or by transferring them to your computer.

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Computer

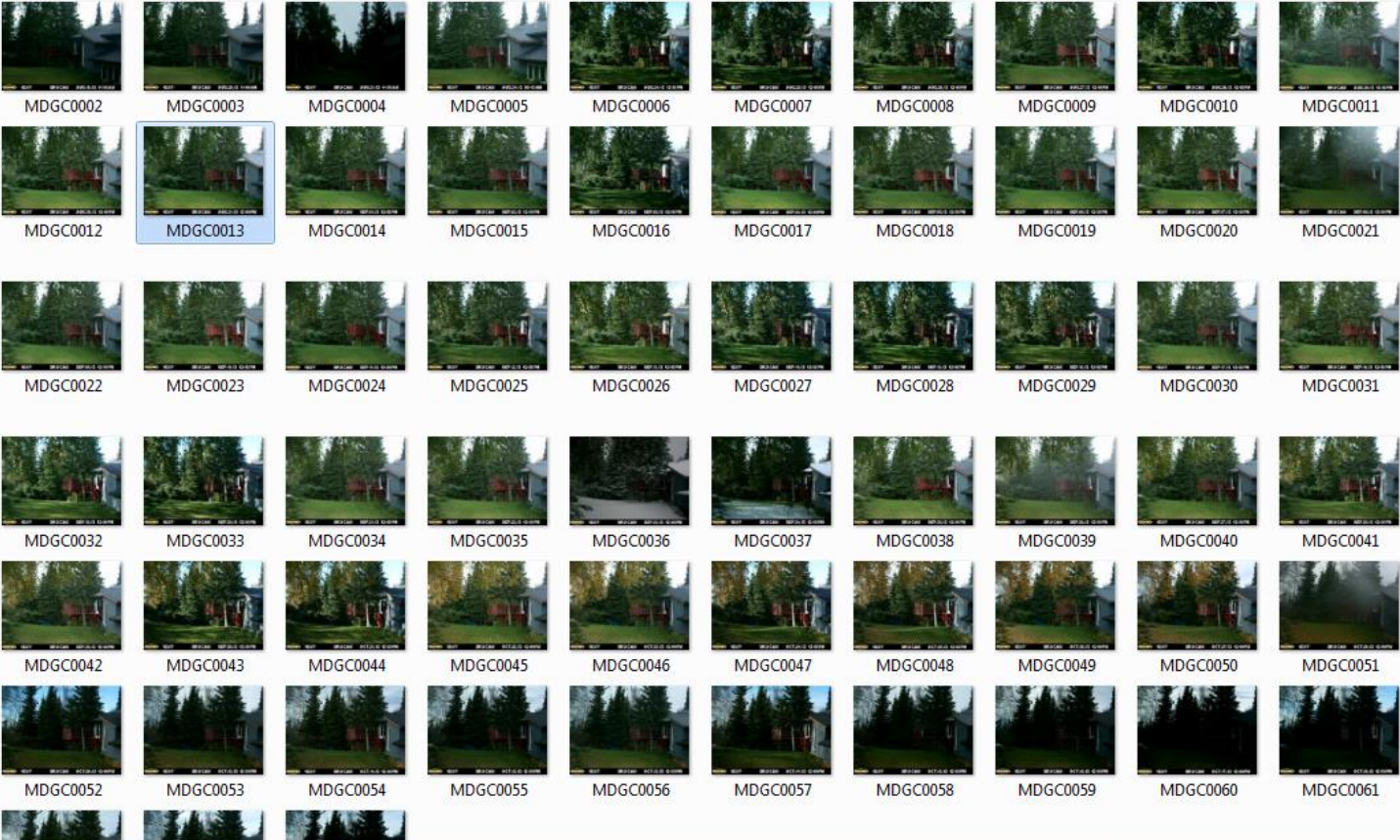
- OCHEL59-45210 (C:)
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Network

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MDGC0002 MDGC0003 MDGC0004 MDGC0005 MDGC0006 MDGC0007 MDGC0008 MDGC0009 MDGC0010 MDGC0011

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MDGC0032 MDGC0033 MDGC0034 MDGC0035 MDGC0036 MDGC0037 MDGC0038 MDGC0039 MDGC0040 MDGC0041

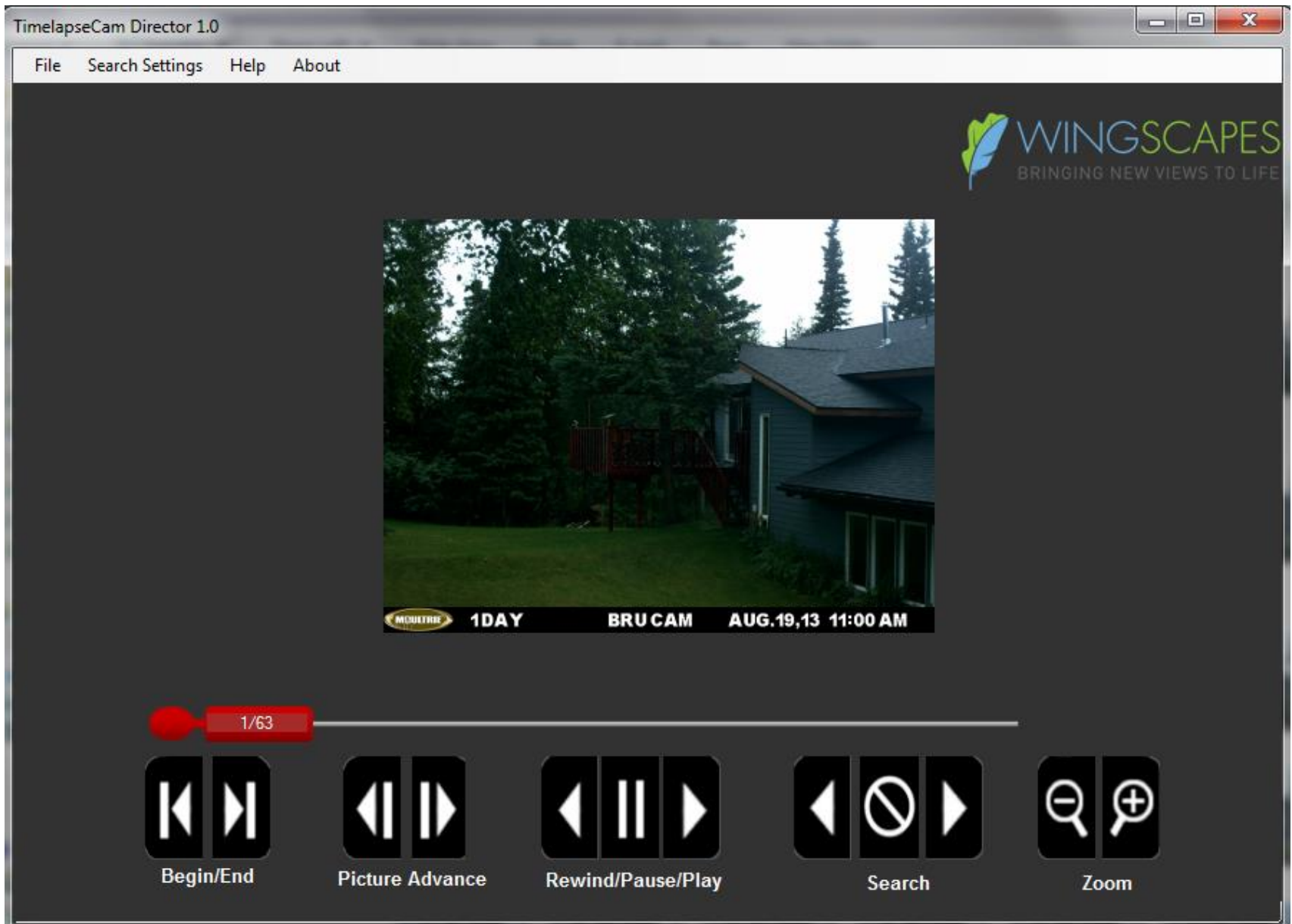
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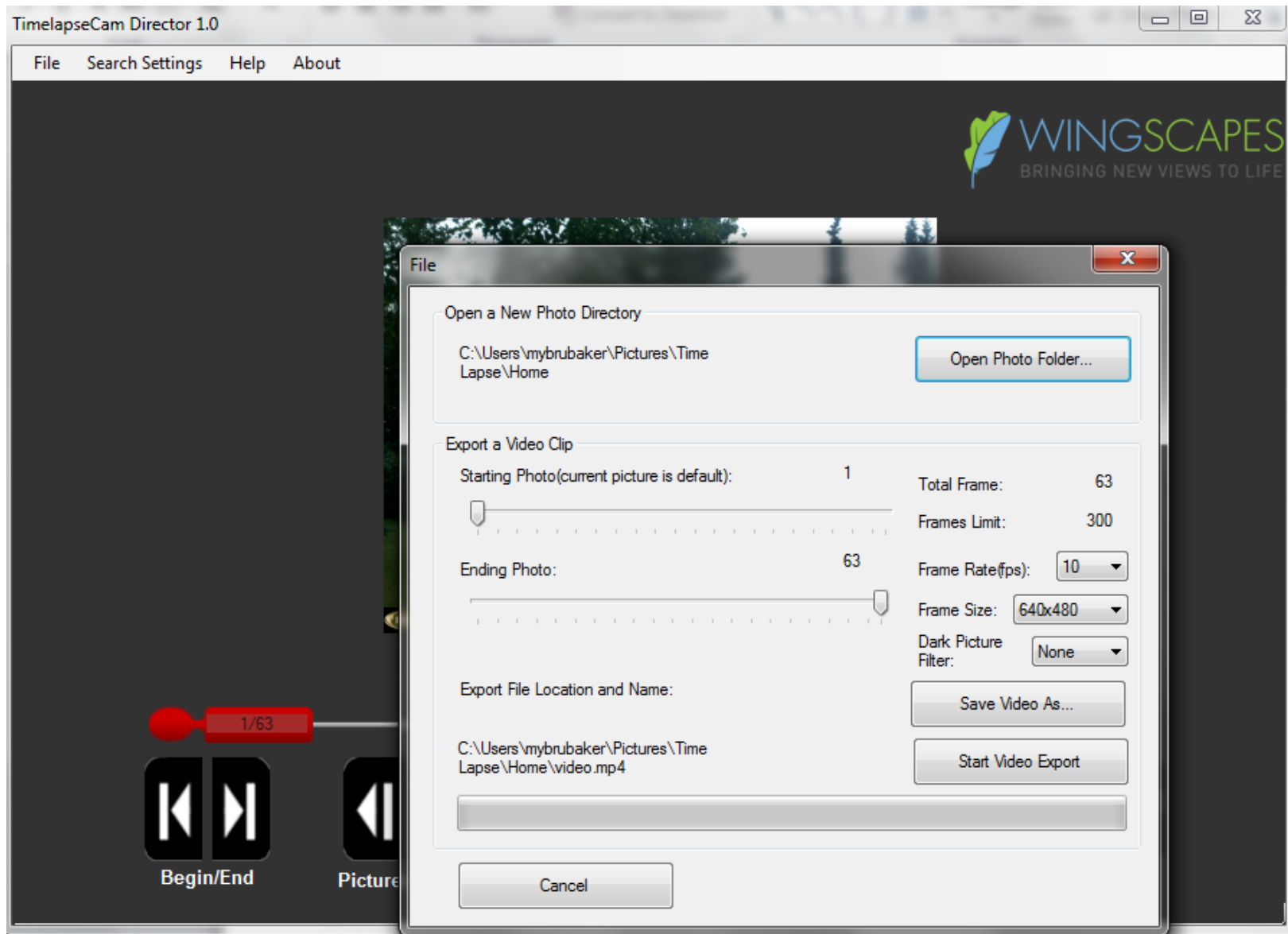
MDGC0013 Date taken: 8/31/2013 12:00 PM Rating: ☆☆☆☆ Size: 1.53 MB Authors: Add an author Camera maker: Zoran Corporation Subject: My beautiful picture  
JPEG image Tags: Add a tag Dimensions: 3264 x 2448 Title: My beautiful picture Comments: Add comments Camera model: COACH



The cameras come with software so you can transform the images into a video.



The settings allow you to select the start and end images, and how many frames per second (fps) you want your video to show. Then you save the project and export.







Anchorage 09-15 to 10-01 2013.mp4



**1DAY**

**BRU CAM**

**AUG.31,13 12:00 PM**



# Monthly Calendar Weather History Overview

Precipitation: Actual month total 5.67 Average month total 2.08

 Print This Weather Calendar































« Previous Month

« 2012

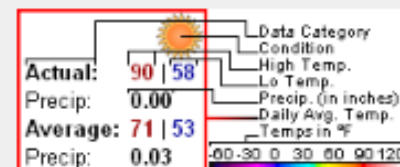
September 2013

2014 »

Next Month »

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>1</b>  Actual: 59   53 Precip: 0.03 Average: 59   45 Precip: 0.06	<b>2</b>  Actual: 64   53 Precip: 0.32 Average: 59   44 Precip: 0.06	<b>3</b>  Actual: 66   53 Precip: 0.03 Average: 59   44 Precip: 0.06	<b>4</b>  Actual: 57   51 Precip: 1.35 Average: 58   43 Precip: 0.06	<b>5</b>  Actual: 64   46 Precip: 0.01 Average: 58   43 Precip: 0.05	<b>6</b>  Actual: 55   46 Precip: 0.20 Average: 58   43 Precip: 0.05	<b>7</b>  Actual: 59   50 Precip: 0.20 Average: 58   42 Precip: 0.05
<b>8</b>  Actual: 63   51 Precip: 0.53 Average: 57   42 Precip: 0.05	<b>9</b>  Actual: 60   50 Precip: 0.02 Average: 57   41 Precip: 0.05	<b>10</b>  Actual: 55   51 Precip: 0.25 Average: 56   41 Precip: 0.05	<b>11</b>  Actual: 61   50 Precip: 0.93 Average: 56   41 Precip: 0.06	<b>12</b>  Actual: 63   48 Precip: 0.01 Average: 55   40 Precip: 0.06	<b>13</b>  Actual: 59   48 Precip: 0.30 Average: 55   40 Precip: 0.06	<b>14</b>  Actual: 64   46 Precip: 0.01 Average: 54   40 Precip: 0.06
<b>15</b>  Actual: 62   42 Precip: 0.00 Average: 54   39 Precip: 0.07	<b>16</b>  Actual: 57   37 Precip: 0.00 Average: 54   39 Precip: 0.07	<b>17</b>  Actual: 53   46 Precip: 0.00 Average: 53   39 Precip: 0.07	<b>18</b>  Actual: 52   45 Precip: 0.06 Average: 53   39 Precip: 0.08	<b>19</b>  Actual: 51   41 Precip: 0.21 Average: 52   38 Precip: 0.08	<b>20</b>  Actual: 48   32 Precip: 0.00 Average: 52   38 Precip: 0.08	<b>21</b>  Actual: 46   34 Precip: 0.00 Average: 51   38 Precip: 0.08
<b>22</b>  Actual: 44   39 Precip: 0.00 Average: 51   37 Precip: 0.09	<b>23</b>  Actual: 44   32 Precip: 0.06 Average: 50   37 Precip: 0.09	<b>24</b>  Actual: 44   28 Precip: 0.00 Average: 50   37 Precip: 0.09	<b>25</b>  Actual: 50   39 Precip: 0.90 Average: 49   36 Precip: 0.09	<b>26</b>  Actual: 50   43 Precip: 0.25 Average: 49   36 Precip: 0.09	<b>27</b>  Actual: 54   43 Precip: 0.00 Average: 48   35 Precip: 0.08	<b>28</b>  Actual: 55   36 Precip: 0.00 Average: 48   35 Precip: 0.08
<b>29</b>  Actual: 53   37 Precip: 0.00 Average: 48   35 Precip: 0.08	<b>30</b>  Actual: 55   32 Precip: 0.00 Average: 47   34 Precip: 0.08	<a href="http://www.wunderground.com">www.wunderground.com</a> (weather history and almanac)				

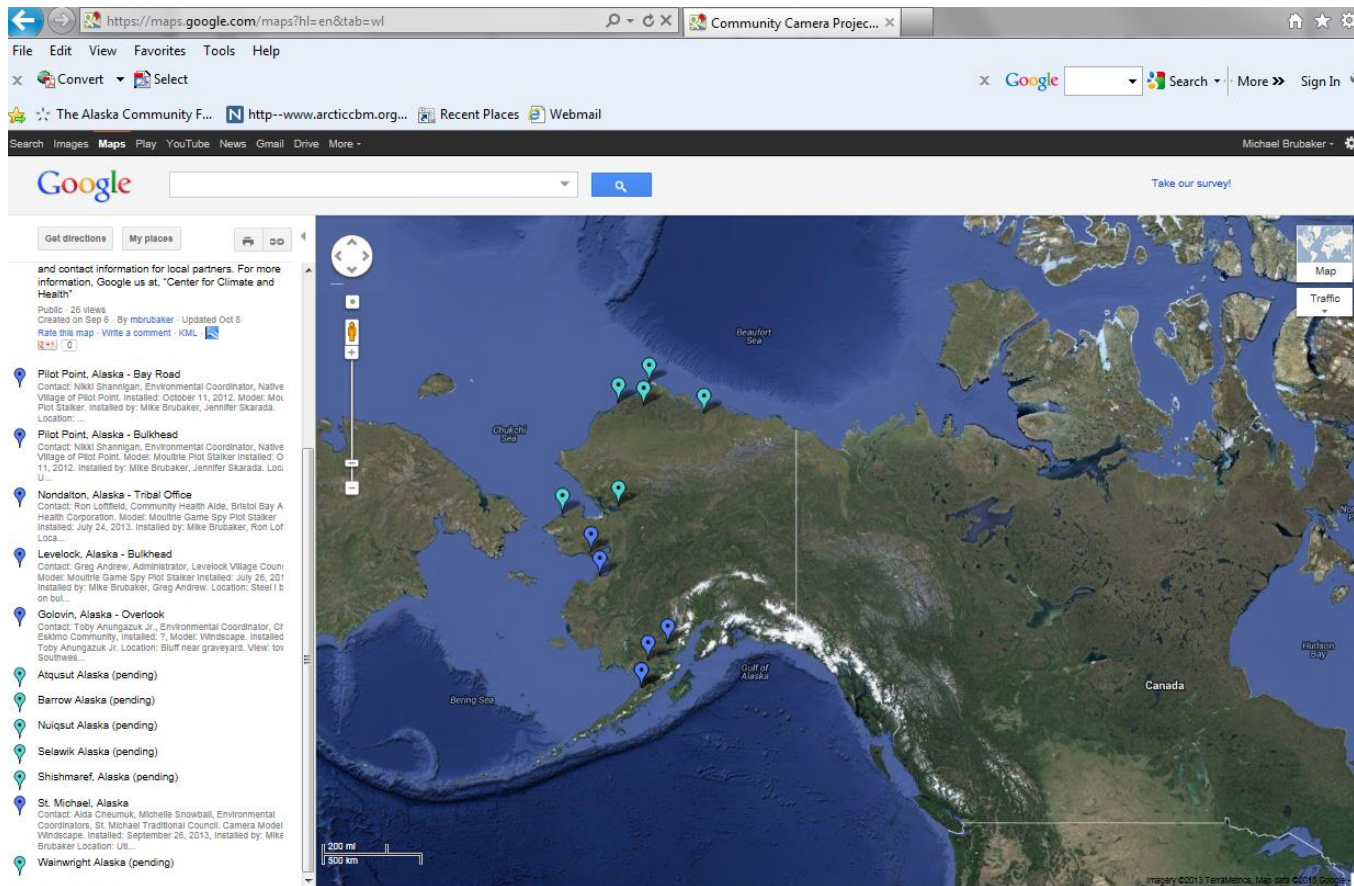
## Calendar Legend





The project is active in three communities in Bristol Bay and two communities in Bering Strait. Plans for program expansion include these regions and North Slope. We will be enrolling other LEO Network communities in the coming months.

## Community Camera Project



The project has local partners located in tribal organizations and tribal government offices. These are environmental and health professionals enrolled in the LEO Network. The following slides provide an overview of the current project sites.

## PILOT POINT

Contact: Nikki Shannigan

Environmental Coordinator, Native Village of Pilot Point

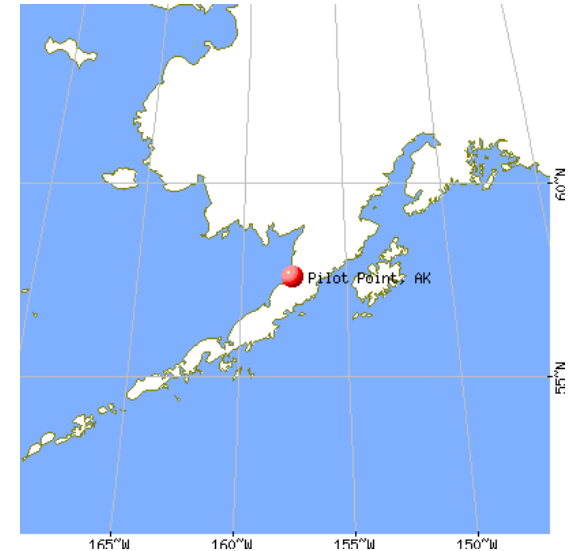
Camera 1 - installed: October 11, 2012 (Moultrie)

Installed by: Mike Brubaker, Jennifer Skarada

Location: Utility Pole along Bay Road

View: Road and shore line looking north.

Topics: shore erosion, road conditions, sea ice, flooding, vegetation, weather.



Nikki Shannigan and a friend. Photo by M. Brubaker





Shot  
Orientation



Camera  
Location

The following slides provide an overview of the project sites and currently in active in the project.

## PILOT POINT

Contact: Nikki Shannigan

Environmental Coordinator, Native Village of Pilot Point

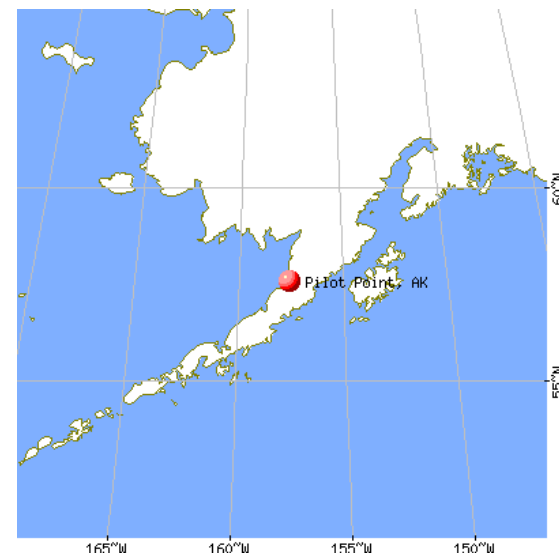
Camera 2 - installed: October 11, 2012 (Moultrie)

Installed by: Mike Brubaker, Jennifer Skarada

Location: Utility Pole at bulkhead

View: shoreline looking northeast.

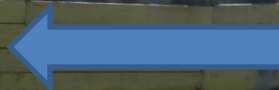
Topics: shore erosion, sea ice, flooding, vegetation, weather.







Shot  
Orientation



Camera  
Location



# NONDALTON

Contact: Ron Loftfield,  
Community Health Aide, Bristol Bay Area Health Corporation  
Installed: July 24, 2013 (Moultrie)  
Installed by: Mike Brubaker, Ron Loftfield  
Location: Satellite base adjacent to tribal council offices.  
View: lakeshore north  
Topics: lake conditions, flooding, ice, vegetation, weather



Ron Loftfield completing installation. Photo by M. Brubaker



## Nondalton Camera View



Photo by Mike Brubaker

## LEVELOCK

Contact: Greg Andrew

Administrator, Levelock Village Council

Installed: July 26, 2013 (Moultrie)

Installed by: Mike Brubaker, Greg Andrew

Location: Steel I beam on bulkhead

View: river bank southwest , Newhalen River

Topics: river conditions, erosion, flooding, ice, vegetation, weather



Greg Andrew preparing for installation. Photo by M. Brubaker





Levelock Camera  
Location



## Levelock Camera View



Photo by Mike Brubaker



## GOLOVIN

Contact: Toby Anungazuk Jr.

Environmental Coordinator, Chinik Eskimo Community

Installed: September 2013 (Wingscape)

Installed by: Toby Anungazuk Jr.

Location: Bluff near graveyard (?)

View: Town Southwest, Golovin Bay and Golovin Lagoon

Topics: flooding, ice, vegetation, weather



Toby Anungazuk Jr. Photo by Anahma Shannon

## Golovin Camera View





# GOLOVIN

Contact: Michelle Snowball  
Environmental Coordinators,  
St. Michael Traditional Council  
Installed: October 4, 2013 (Wingscape)  
Installed by: Toby Anungazuk Jr.  
Location: Near tribal council office  
View: Topics: flooding, ice, vegetation, weather



Michelle Snowball and Aide Cheemuk. Photo by Mike Brubaker





# The take home

**The Northern environment is changing very quickly.**

**Monitoring change is important for understanding impacts.**

**Local observers provide knowledge and capacity.**

**Time lapse cameras are one approach to monitor change.**

**LEO Network is helping to install stop action cameras.**

**This project is helping to raise awareness and understanding.**

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