



ALASKA CENTER FOR CLIMATE ASSESSMENT & POLICY

Welcome to the webinar:

BIOMAP ALASKA: CITIZEN SCIENCE FOR ALASKA'S OCEANS

December 6, 2011; 10 AM (Alaska Standard Time)

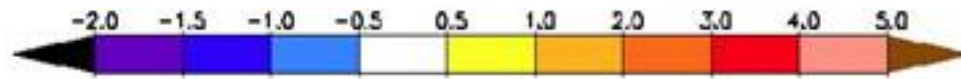
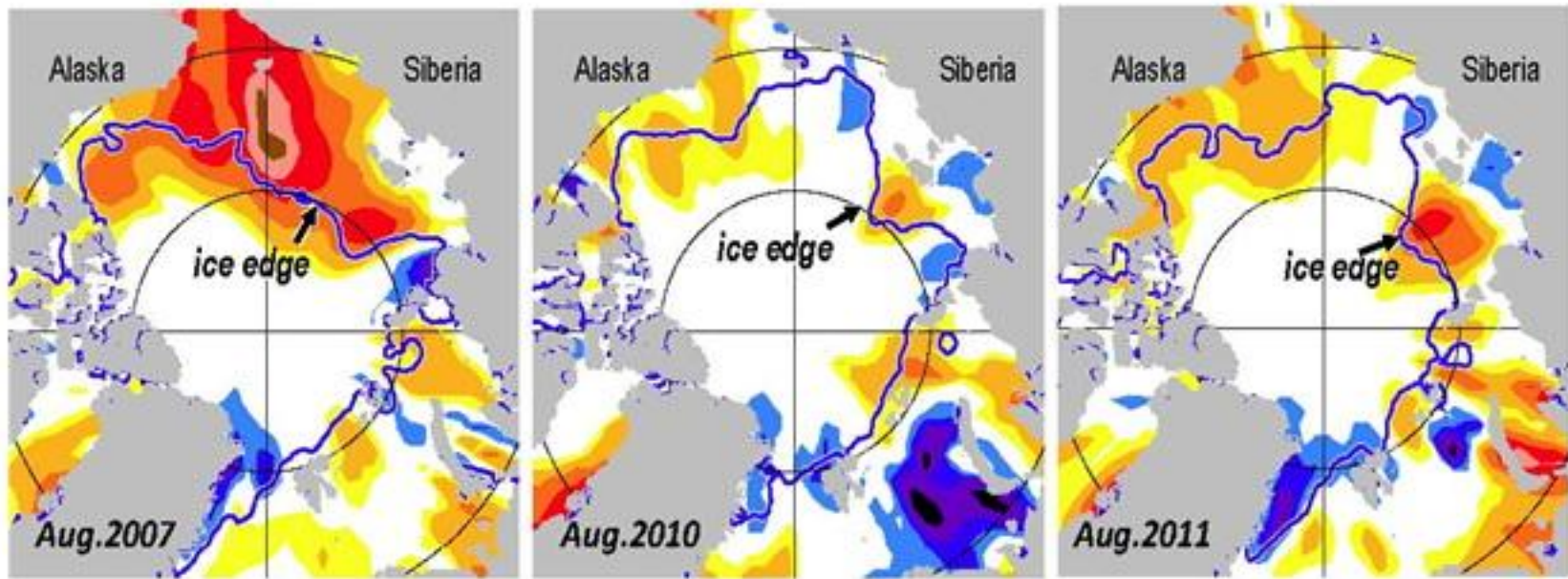
This webinar will be recorded for an archive available to the public.

**For more information, please contact ACCAP:
accap@uaf.edu or www.accap.uaf.edu**

BioMap Alaska

Citizen Science for Alaska's Oceans





August SST anomaly (°C) relative to 1982-2006 mean

Fig. SIO7. SST anomalies in August of 2007 (left), 2010 (middle) and 2011 (right) relative to the August mean of 1982-2006. The anomalies are derived from satellite data according to Reynolds et al. (2002). The August mean ice edge (thick blue line) is also shown. Protushinsky et al. 2011, NOAA Arctic Report Card.

Change in Northern Waters

Ocean temperatures are warming

Changes in Northern Waters

Less sea ice
Earlier breakup
Later freeze up
Threats to habitat

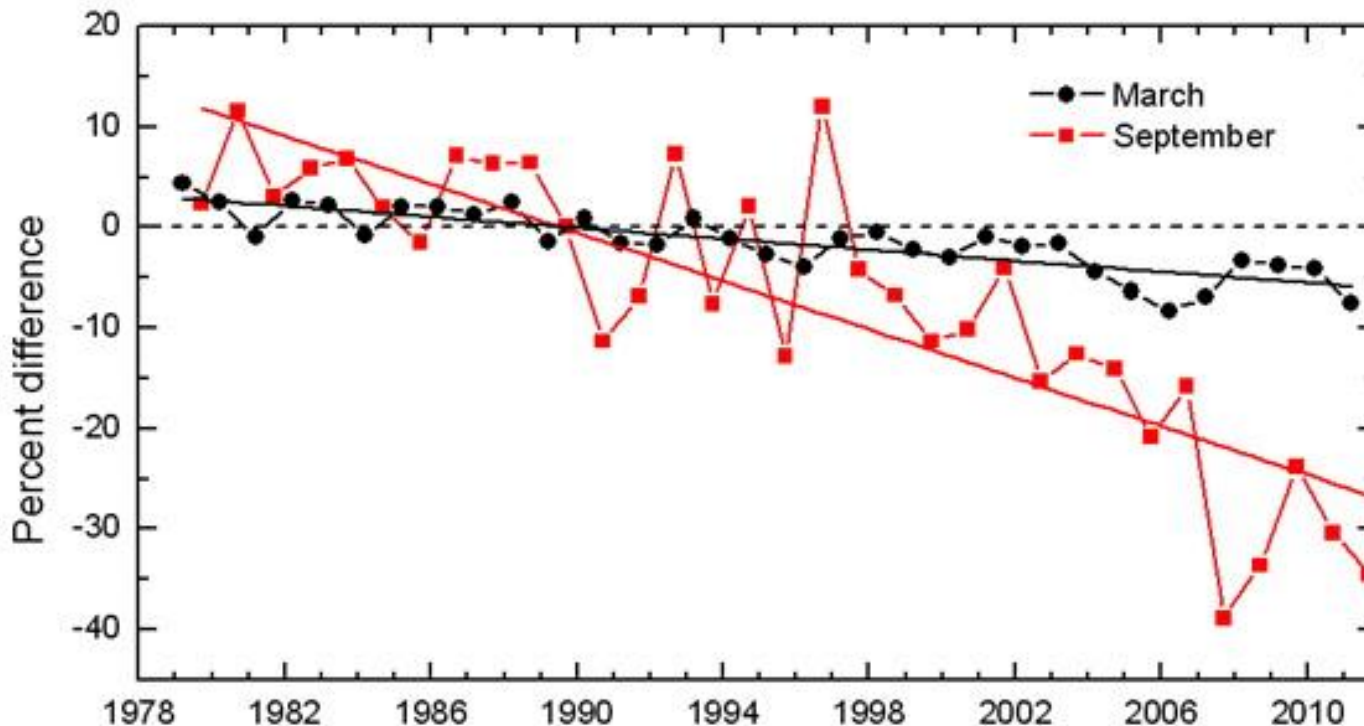
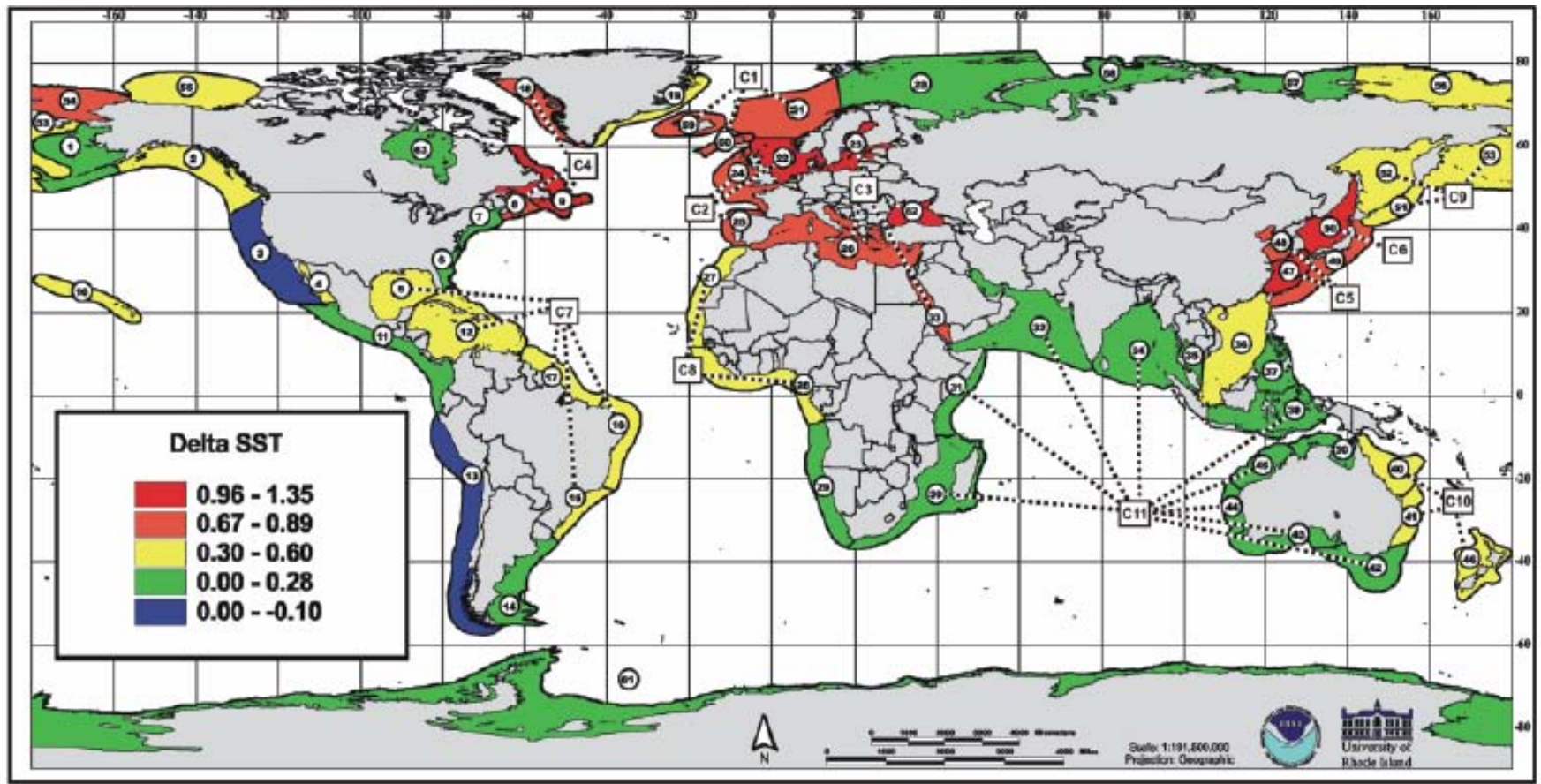
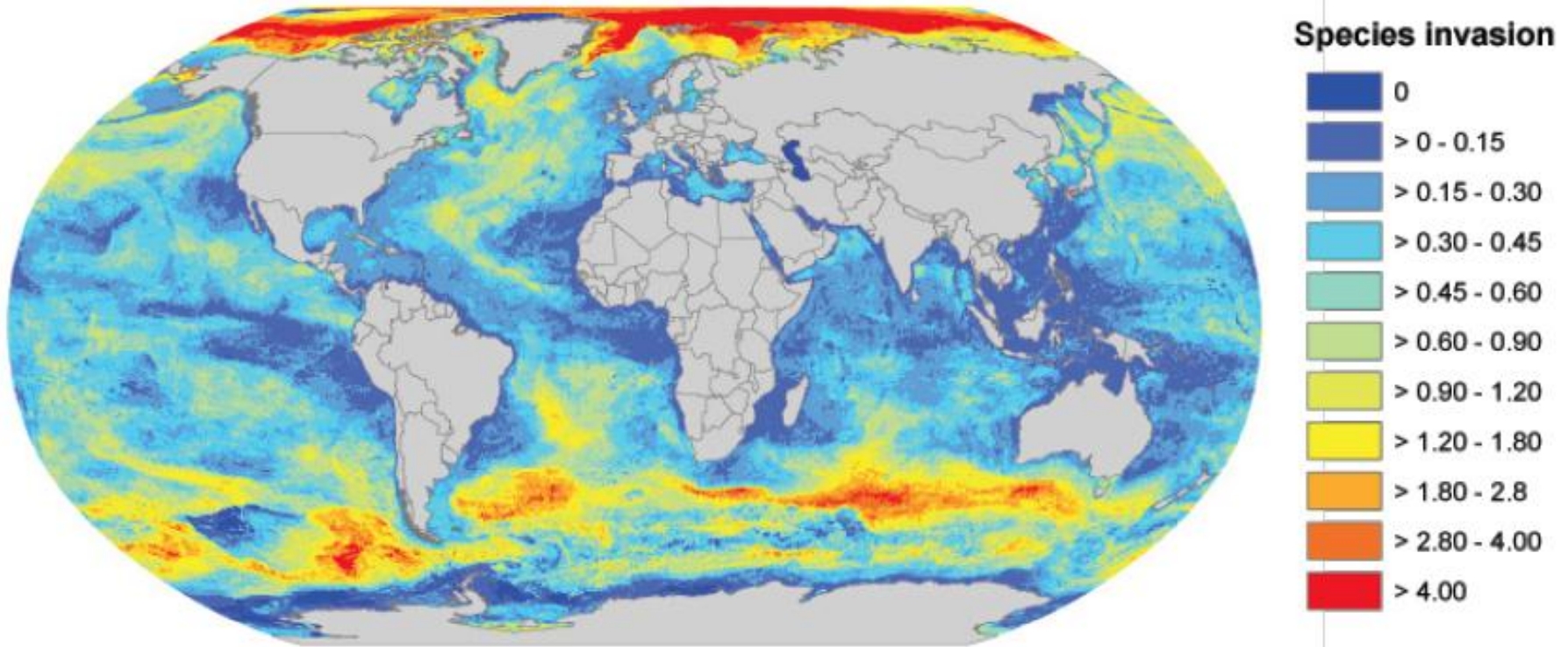


Fig. SIO2. Time series of the percentage difference in ice extent in March (the month of ice extent maximum) and September (the month of ice extent minimum) relative to the mean values for the period 1979-2000. Based on a least squares linear regression for the period 1979-2011. Perovich et al. 2011, NOAA Arctic Report Card

Climate-driven changes are expected for all large marine ecosystems



Impacts on Biodiversity



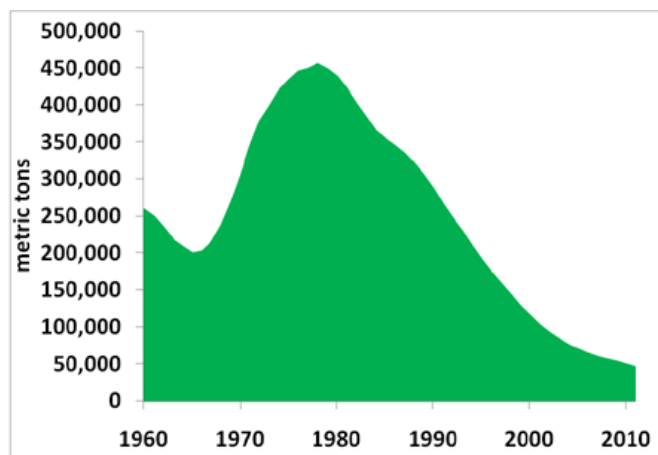
CHEUNG *ET AL* (2009)
FISH FISHERIES 10: 235

Evidence of Ecosystem Change

- Species composition shifting in the southern Bering Sea
 - Increase in pollock
 - Some increase in humpback and fin whales
 - Decline in Greenland turbot biomass, snow crab, fur seal



Alaska Fisheries Science Center, NOAA Fisheries Service



Biomass of Greenland turbot is at low levels (compared to observations during the 1970s) and has been declining due to poor survival of juvenile turbot. The North Pacific Fishery Management Council has set low catch quotas for Greenland turbot as an added conservation measure due to concerns about low recruitment.

Evidence of Ecosystem Change

- N Bering and Chukchi seas
- Some evidence for decline in productivity
- Change in biomass



A brittle star on the bottom of the Chukchi Sea.

www.nurp.noaa.gov/Images/Spotlight/arctic_ophiur2.jpg

Evidence of Ecosystem Change

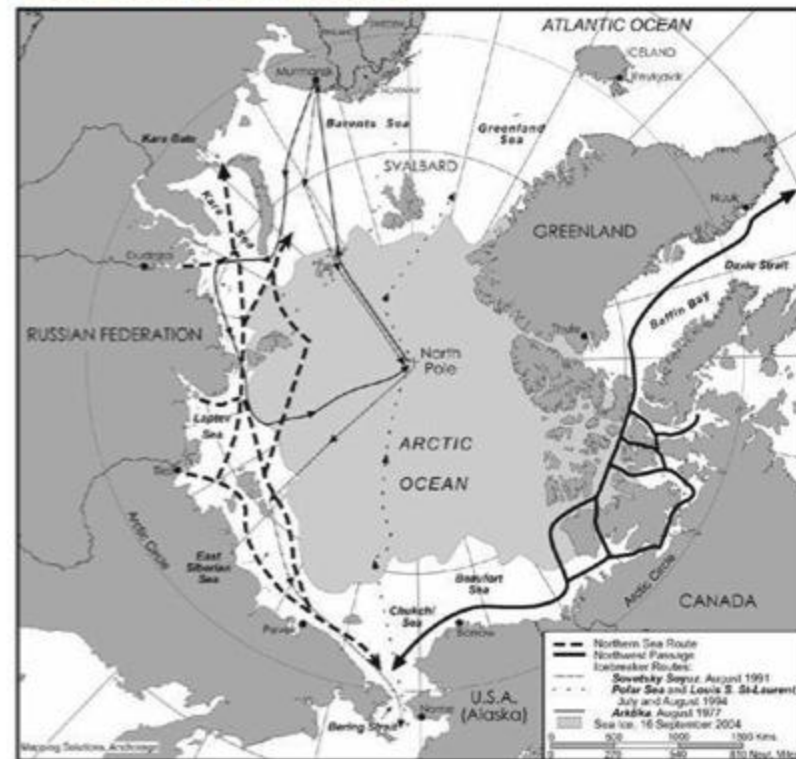


- Offshore surveys of the Beaufort Sea indicate species are extending their ranges
 - Walleye pollock
 - Bering flounder
 - Pacific Cod
 - Snow crab are getting larger and more abundant

Increased Marine Transport

- Has the potential to bring new, and possibly invasive species into northern waters
- Increased potential for marine accidents which also impact marine species

Arctic Ocean Marine Routes



BioMap Alaska



- To provide a publicly accessible, multi-lingual web site that provides information on marine species of concern that is useful for education and management purposes
- To engage residents of coastal Alaskan communities in a citizen science initiative that will enable them to contribute their observations to scientific and monitoring activities in a simple and user friendly fashion
- To improve baseline information on marine species and the marine environment in the Chukchi/Beaufort sea region
- To facilitate better communication among scientists, resources managers and stakeholders using the internet and incorporating local knowledge

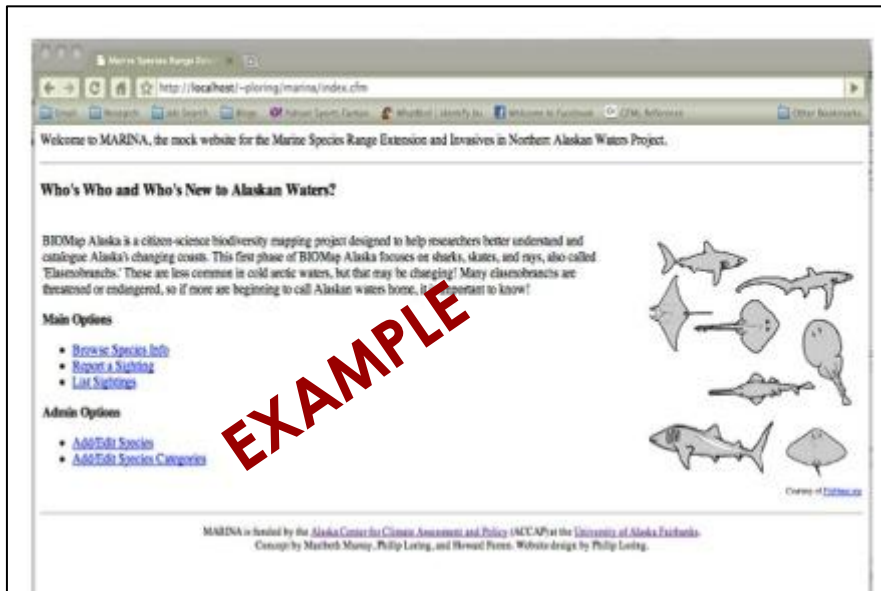
Project Components

- Survey of Managers and Scientists
 - To develop a network of participating entities to help with species verification and identification
 - To help identify species of interest
- To participate in the survey:
<http://www.surveymonkey.com/s/BIOMapAlaska>



Project Components

- Develop a prototype web-based reporting system and companion survey for community participants to test



Welcome to MARINA, the mock website for the Marine Species Range Extension and Invasives in Northern Alaskan Waters Project.

[\[Back to Main\]](#)

Report a Sighting

So you think you've spotted something new or unusual in the waters? Great!

Please use the form below and enter as much information as you can about the sighting. If you have one, you can attach a photo to the form below. You can also attach GPS coordinates.

If you don't have a photo or GPS coordinates, that's OK! Please log your sighting anyway it is still useful information that help us to study how the oceans are changing.

However, if you are unsure about what you have seen, please make sure you select 'unsure' for confidence level. This helps us to maintain the highest quality information in our database.

All required fields are noted with a *

About You

Full Name*

Email Address*

What is your home zip code?*

What did you see?

Species* [\[Help Me Identify\]](#) (opens a new window to Fishbase.org)

Weight (please specify lbs or kg)

Length (please specify inches or cm)

Sizing method

Sex

Upload your Photo No file chosen

Where?

Project Components

- Community Workshops – January-March 2012
 - To introduce the project
 - To gauge level of interest in participation in the project
 - Community input on species of interest
 - Provide observers in communities with protocols and training for reporting observations online
 - To test and improve the reporting system
 - Materials provided in English and Inupiat

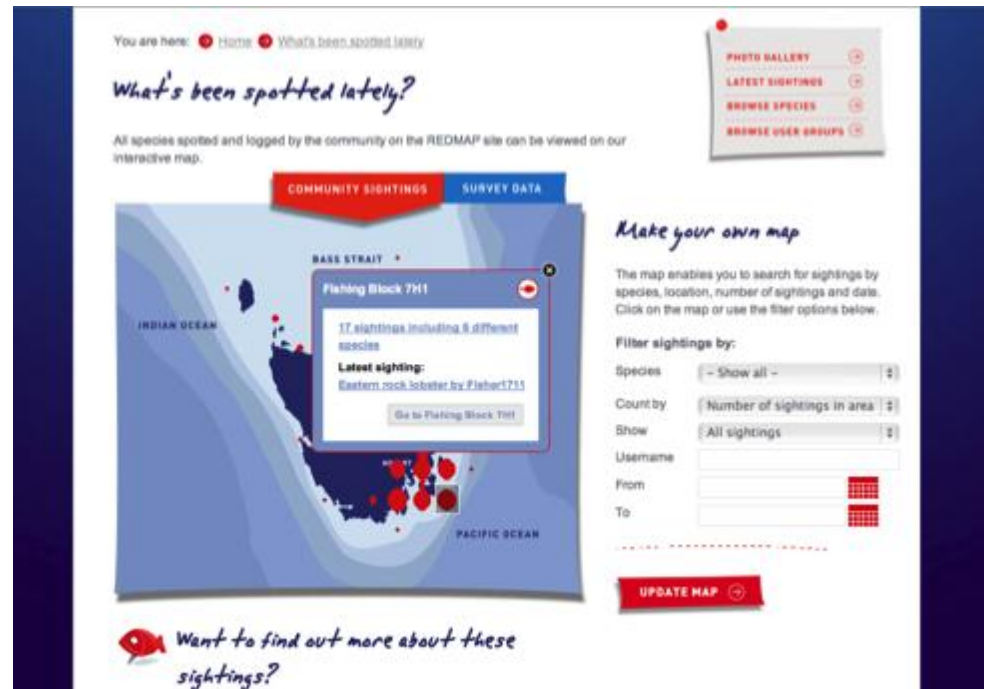


Project Components

- Develop a field guide for three groups of species
 - Ice dependent marine mammals
 - Fish
 - Crustaceans
- Limit of 10-20 species during the testing phase, identified from surveys

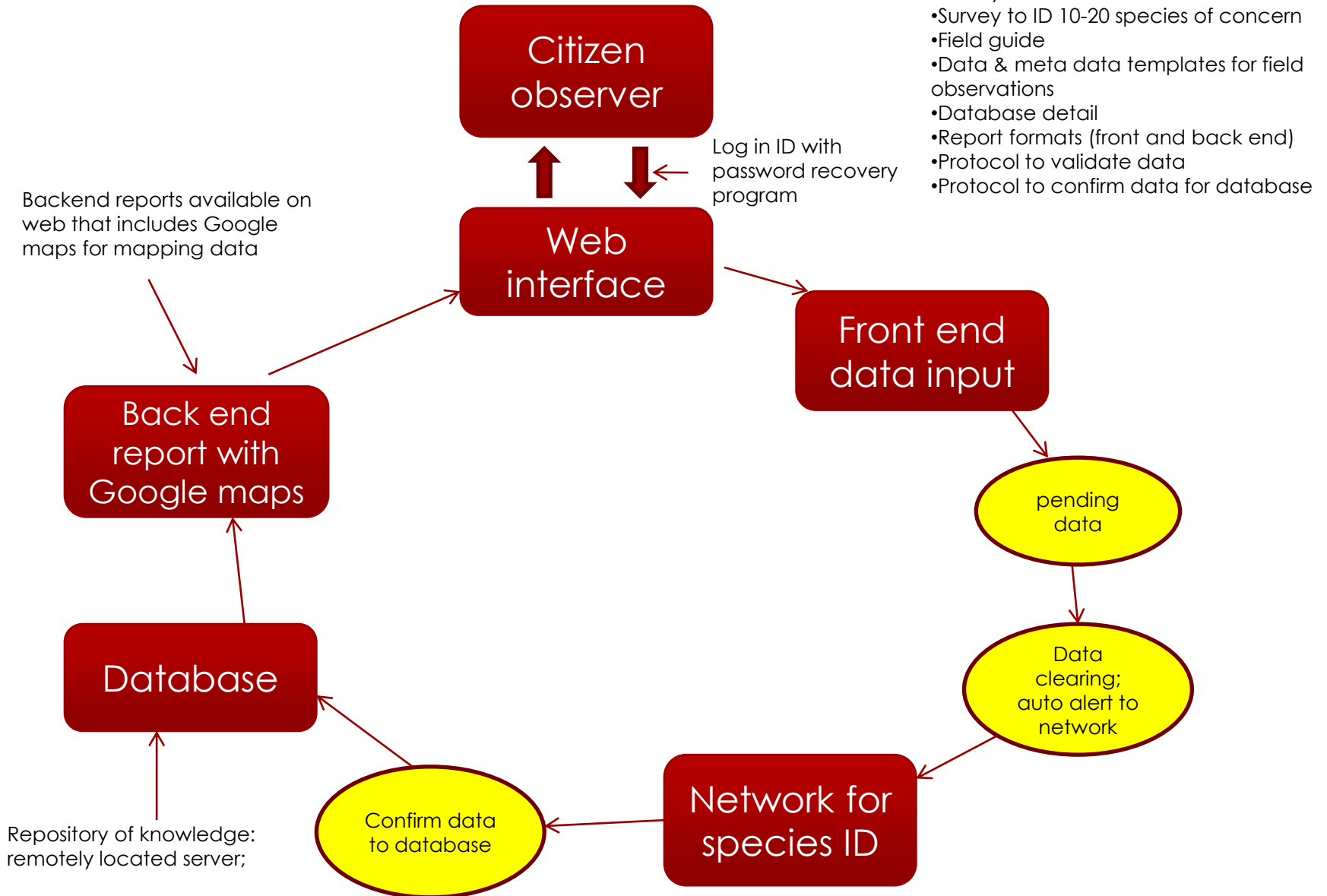


- Community-based monitoring and reporting
- Individuals will be able to view their contributions
- Map-based data showing sightings and observations



The screenshot displays the REDMAP website interface. At the top, it says "You are here: Home > What's been spotted lately". Below this is the heading "What's been spotted lately?" and a sub-heading "All species spotted and logged by the community on the REDMAP site can be viewed on our interactive map." The main content area features a map of the Bass Strait region, showing the Indian Ocean to the west and the Pacific Ocean to the east. A pop-up window for "Fishing Block 7H1" is open, displaying "17 sightings including 8 different species" and "Latest sighting: Eastern rock lobster by #jehor1731". To the right of the map, there are filter options for "Species" (set to "Show all"), "Count by" (set to "Number of sightings in area"), "Show" (set to "All sightings"), and "Username". There is also a "Filter sightings by:" section with "From" and "To" date pickers. A red "UPDATE MAP" button is located at the bottom right of the map area. Below the map, there is a red fish icon and the text "Want to find out more about these sightings?".

BIOMap Alaska



Field Testing – Spring and Summer 2012

- To assess user appeal on the front end
- Collect observations
- Refine website
- To assess utility to scientists, educators, and managers on the back end



www.ptmsc.org

A screenshot of the Scientific American website. At the top, it says "SCIENTIFIC AMERICAN" with a logo of an elephant and the text "Winner of the 2011 National Magazine Award for General Excellence". Below that is a search bar. A navigation bar includes "News & Features", "Blogs", "Multimedia", "Education", "Citizen Science", and "Topics". The "Citizen Science" section is highlighted, with a sub-navigation bar for "Energy & Sustainability", "Evolution", "Health", "Mind & Brain", "Space", "Technology", and "More". The main content area features a "Featured Project" section with a dark image of a ship's mast and rigging. To the right of this image is a text box titled "What is Citizen Science?" which explains that research often involves teams of scientists collaborating across continents and that Citizen Science falls into many categories. Below the featured project image is a section titled "Old Weather" with a list of bullet points: "PRINCIPAL SCIENTIST: Philip Brohan, Climate Scientist" and "DATES: Ongoing".

Project Participants

- Maribeth Murray, IARC UAF
- Phillip Loring, ACCAP, UAF
- Robert Mikol, CLA, UAF
- Howard Ferren, Alaska SeaLife Center
- Rebekka Federer, Alaska SeaLife Center
- Jackie Senderling, Alaska Sea Life Center



BioMap Alaska

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