Giving Voice
Representing Different Perspectives On Climate Change and Phenology

By: Maddie Matia
North American Bird Phenology Program - volunteers transcribe millions of paper migration records into digital ones to compare with today’s Phenology...the study of cyclic and seasonal natural phenomena.

USA National Phenology Network and Nature’s Notebook campaigns organized by area. Popclock helps with University of Maryland research on balsam poplar and quaking aspen. Greenwave tracks the leaf-out of maples, oaks, and poplars.
Phenology and Climate Change

seasonality = non-biological (all about our perceptions) vs. phenological = biological

-indirect and direct - things that coincide versus things that actually affect each other (the moon phases may coincide with seasonal events, but with climate change, we may find that this no longer occurs)

….examples of climate change affecting phenology…

First arrival date of humming birds to different parts of the country gets earlier in the year

Crop yield increases and decreases in parts of the world, due to climate change and its effect on animals like the hummingbird
Scientific Knowledge and Experience of Climate Change

Gaia Theory - idea that earth has evolved to be a self-regulating ecosystem
“Life maintains conditions suitable for its own survival.”
-Dr. James Lovelock, a British scientist and inventor

Predominant anthropocentrism - human-centric view, maybe moving towards bioregionalism - sees things through ecology and laws of life

NOAA [climate.gov](http://climate.gov)
hourly climogram > <snow cover chart
Indigenous Knowledge and Climate Change

TEK - traditional ecological knowledge - is itself a subject of scientific study.

-kincentrism - a relationship-oriented perspective on existence, including with the natural world.

names of months and seasons will have to inevitably change —— Jay Griffith

Australian Aboriginal Myths or Dreamtime stories - unite a lot of the beliefs of over 400 tribes, a way of conveying the complexity of the world, even incorporating modern events.

“Aboriginal myths still being performed across Australia by Aboriginal peoples... often continuously incorporates and "mythologies" historical events in the service of these social purposes in an otherwise rapidly changing modern world.”
Metaphors for climate change…variety but little accuracy

- globally averaged temperature means the earth “has a fever”

- weather ≠ climate

- nature imposing things the way a human would like “frying us with a drought”

slowing and stopping climate change as if it were a machine in motion, not a vicious cycle

“The indigenous tribe of the Amazon is a metaphor for all those ethnicities in the world under physical and cultural threat, and indirectly for their endangered environment, too. It is also a metaphor for knowledge and strength, for cultural richness and social resilience, for strong community cohesion, for respect and adaptability to the natural environment, all of which to me are the pillars of sustainability.” - Francesca Galeazzi, sustainability engineer and artist, looking for new metaphors
Almanacs…practical hunting/farming/navigating purposes
Stories…more for understanding of life
both can express climate change…

“Beginning in 1767, England’s Board of Longitude ordered published a yearly Nautical Almanac, with position tables for the sun, moon, stars, planets, and moons of Jupiter….over the next half century, they developed computers to do the work…” - pg. 84, Nautical Almanac….

Kowanyama mythologies or “dreaming stories” - artifacts carry knowledge about the land, but the rising sea levels are sweeping them away.

Old farmer’s almanac…uses Full Moon names and other native American cultural components - Strawberry Moon in June, but strawberries won’t always grow then.

Urapun Kau Buai - Billy Missi’s Australian aboriginal print showing kinship and the relations between relatives in all directions, Wongai fruit is central symbol holding them together.
Music & Sound…in the effort against climate change…

• Various projects and requests for videos with talking points -
  “The world is full of music, but if we fail to address climate change, the whole world will fall silent.”
  “I’m concerned about climate change, because music takes from the past and gives to the future — and we need a livable future.”

The BaAka Pygmies of Cameroon yodel polyrhythmic songs about their love and respect for the forest that gives them life — some ethnomusicologists believe this yodeled polyphonic music may be a remnant of the earliest music of our species.

Percentage of Aboriginal music on Australian commercial radio in 2008 [2]: 0.14%
Percentage of Aboriginal music on community radio in 2008 [2]: 4%
Percentage of Aboriginal music on the Australian Broadcasting Cooperation: 1.37%

Songs from modern day artists about climate change - Asha Edmund, Jill Soluble, Sandel, Melissa Etheridge

http://www.ecowalkthetalk.com/blog/2010/12/01/songs-on-climate-change/
...calendars take on different forms depending on their uses...tell the time of year to do tasks or perform different ceremonies, keeping track of weather - useful in the face of climate change.
Indigenous Efforts Against Climate Change

-the Arctic Climate Impact Assessment
-North Australian Indigenous Land and Sea Management Alliance
--Indigenous Voices on Climate Change film
-Inuit Knowledge and Climate Change - possible focus due to rapid change in arctic


- Yupik Environmental Knowledge Project

http://www.nature.com/nature/journal/v478/n7368/full/478182a.html#close
‘Emerging Adults’ and Climate Change

From the book "Voices for the Earth" by Daniel D. Chiras

"Earth Education - A New Beginning" by Steve Van Matre

- process not content
- tie all learning together
- Institute for Earth Education
- broad-based understandings and appreciations
- Sunship Earth

http://www.mappingmeaning.org/connections/

The Wilderness Effect - as coined by Robert Greenway - supports restoration and reciprocity. making it about what the individual can do.

- "That constituency must be smarter, better informed, more creative, and wiser than earlier generations. It must comprehend systems and patterns. It must be farsighted, yet practical. It must be able to tell the difference between ecological sense and nonsense. And it must be politically effective."

- David W. Orr - Ecological Literacy Education and the Transition to a Post-Modern World
What kind of experiences truly make meaning?

“A group of students working on water quality, for example, often end up knowing a lot about that topic and little or nothing about other, equally important facets of their own impact upon the earth” - Earth Education - A New Beginning by Steve Van Matre

...wanted to talk to people about their own experiences....
Rich Clow

Has been involved with tribal timber practices and water issues in his early studies
In graduate school, he studied historic jurisdiction problems with indigenous people and evolved an interest in resources
Teaches Cultural Ecology at UM and is always learning new things to share with students
Knows that some are there for credit and only some are there out of interest
Still tries to engage all of them - knowing that with jobs, families, and school, they’re already overwhelmed
Solution has to start today with students, not nations - but private utilities are stakeholders affecting Congress, not indigenous or the people
Even with solid values around climate change, institutions still need to change
Incentivizing recycling, universities resisting donors with stipulations
Believes though that with all the right information and solid data, people could learn how to do more
But you can't just sacrifice everything, because not everyone does
He has hope - a student of his quit working for an eco-tour company in Alaska because of all the wasted energy - a special person
Information overload - inuit need accurate info, farmers need accurate info, everyone needs to study more and get the studies out - minimalist calendars - cut through the entertainment and information fog
Just read the headlines of a couple newspapers daily, choose some things for the class. Interested in every community, despite the class being for indigenous people.
interested in unemployment...all the social issues. taking people out is so unnatural. if we don’t care about one or the other, but realize humans and the environment are one, it’s better. we need creativity.
Ruth Swaney

-Grew up on reservation, relatively traditional, but her family also ranched
-Mom, aunties, grandma brought her berry picking - now she brings her family, learned fishing from her dad
-Grandparents were biggest influence - lucky enough to spend a lot of time with her grandma and hear stories and expectations passed on
-Also school’s native language classes and wellness committee - brought elders to speak on kinship systems and clans
-Cousin has a horse camp and hunting camp for native children - cultural context

Most important knowledge….how not to take too much and to always give back
-Hidatsa leave buffalo gut piles, which gives the elk some forage
-Leave an offering before you start and ask permission - maybe offer tobacco
-Don’t pick all the berries or onions and only take what you can use
-Picking cedar, flat cedar or sweet pine - cut branches off and clean what you’ll use, put back the old parts to decompose or be used again
Primitive Skills Practitioners

Buffalo Bridge Camp

• (from The Scavengers by Alex Sakariassen, photos by Cathrine L. Walters)

• Their form of expression - practicing all the skills involved in harvesting buffalo

• Preventing waste - good for ecosystem

• "Higher elevation snowmelt brought on by warmer weather allowed the bison to migrate back into the park earlier than usual, resulting in a lower than projected hunter harvest and subsequently, fewer carcasses to scavenge." - climate change exacerbates controversy over how to control the bison

• Impacts these people as they try to “honor old ways,” but makes their role even more important to ease conflict by eliminating waste and helping out
Anne Grant -

• “seasonal circular calendar design for a mural I want to paint that incorporates Traditional Ecological Knowledge (TEK), more specifically Blackfeet seasonal knowledge - as that is one of the tribal nations I belong to.”

• her form of expression - expresses phenology through painting, experiences through writing, beading tradition

• her family used stories and the gift of experience to express values to her
Some of my answers to that question... my calendar... personal, specific, symbolic

There's a benefit just in making them, for the people who make them. It's the thought process of putting your views onto paper, gradually developing a deeper knowledge of your own relationships with the world.- using symbolism