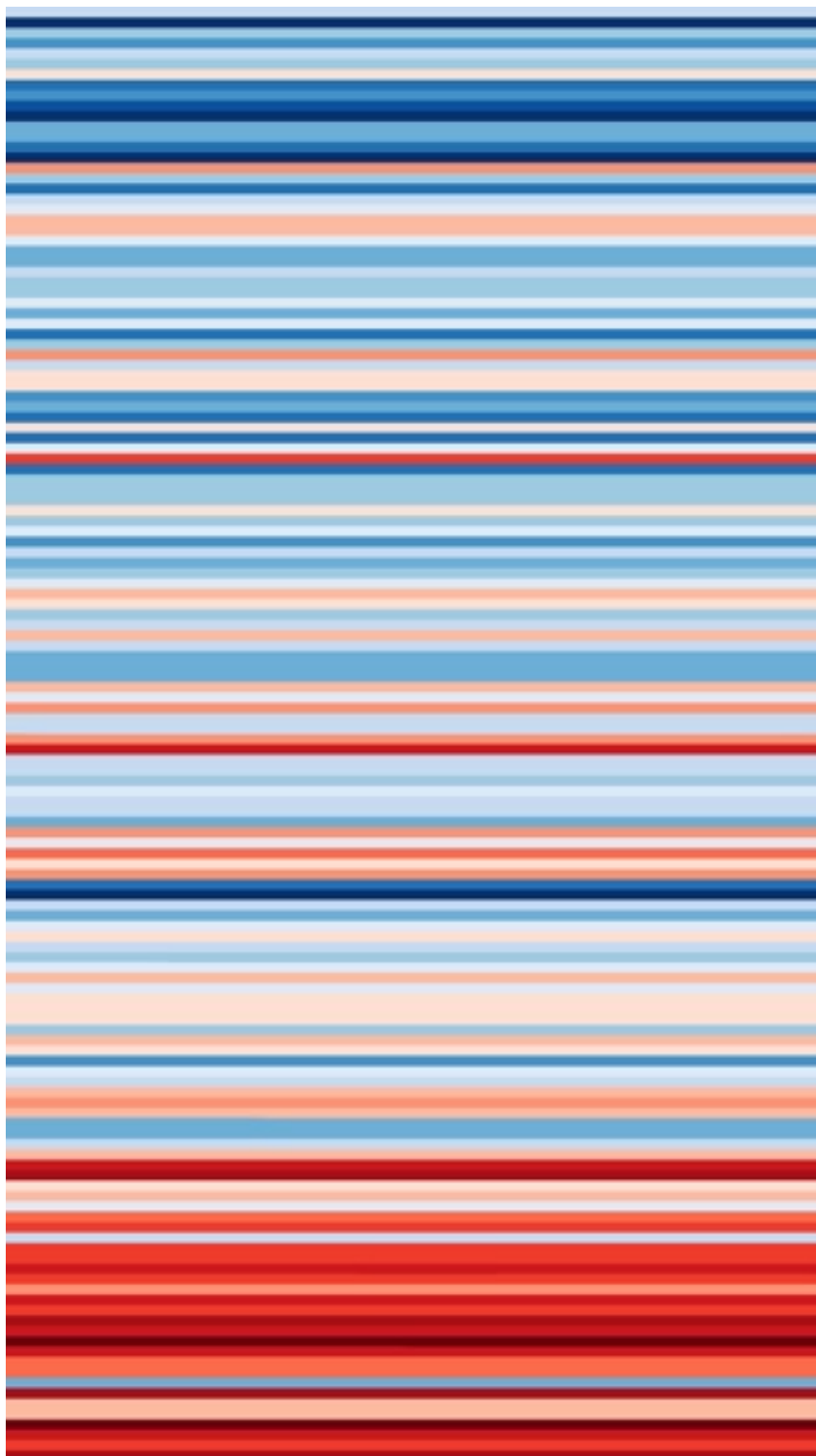


Weather Watching



average temperatures Hay On Wye 1878-2017

Weather Watching

poems by Nicola Davies

in response to the work of Dr Ed Hawkins



as part of the transMISSIONS project
NERC and Hay Festival 2018

Climate or Weather

Climate makes you book the wedding for late May,
Order smoked salmon, champagne, all the frills.
Then weather blows the marquee clean away
And all your guests head home with chills.
The barbecue that got rained off at six?
The fog that made all Thameslink trains run late?
The match, scrapped 'cos of a frozen pitch?
That's weather, that's what that is mate!
But when the ski resort at last goes bust,
Because in seven winters no snow fell.
Or when the garden and the orchard turn to dust,
Because the water table fell below the well.
That's when you know that somethings going on.
That's when you know the climate has gone wrong.

climate spiral by Jack, Port Ellen Primary, Islay



The Testament of Species

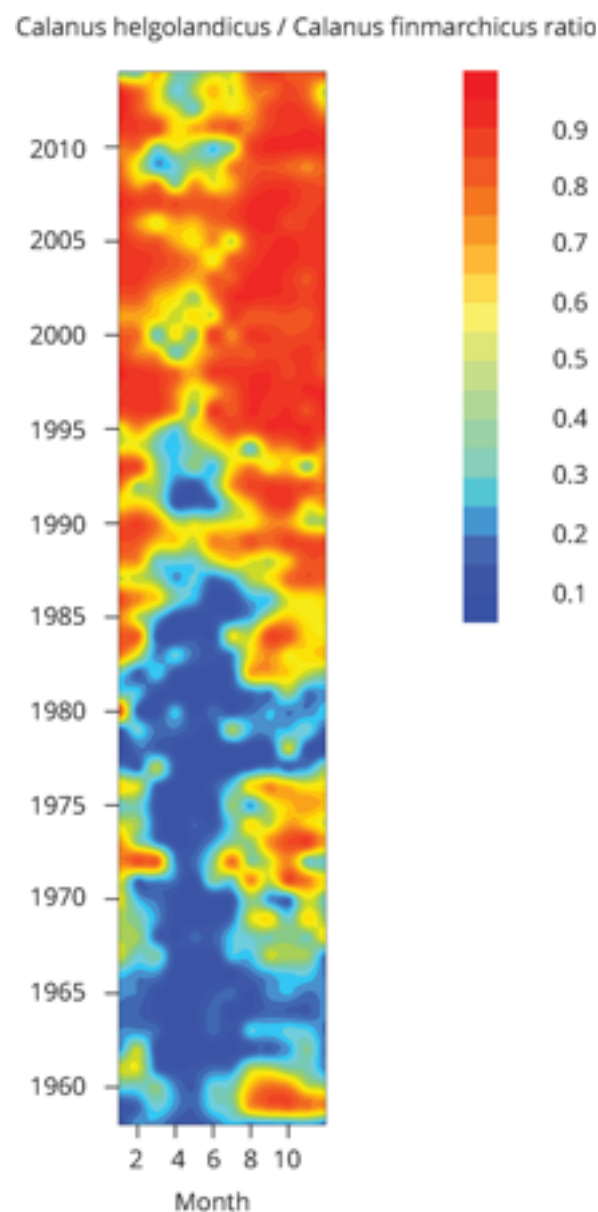
A statement for Mr Donald Trump with reference to his comments on global warming (sic), data manipulation by scientists and left wing press, and the invention of climate change by the Chinese

There are no left wing publications under water,
And I believe we can agree that fish can't read.
Yet the thornback ray, the haddock, cod and Norway pout
(the latter's not a prostitute from Tromsø),
have told their tale by absence, from waters grown too warm.
Replaced in trawler nets by gurnard, dragonet, John Dory
and the Splendid Alphonsino, not a mafioso lawyer from Manhattan,
but a fish, that once preferred deep ocean warmth off Rio,
to the North Sea out of Peterhead.

You have commented on snow, a lot.
Challenged 'global warming' to prove its own existence with a thaw.
(Like the devil tempting Jesus in the desert).
But there's no political advantage for a pika
To desert the mountain slopes, once blanketed and moisturised by
snow,
Now dry and bare. What is a pika? You should learn!
The stuffed toy version could make you serious money,
When, finally, your presidency's extinct.

It's all conspiracy you claim; the Chinese are behind it,
Calculating that, with your cut in carbon, their profits will increase.
If so, you must admire their eye for detail:
They've got hummingbirds to fly from Guatemala
Up to Washington a fortnight earlier than forty years ago.
But I suppose, latino migrants aren't your thing,
Especially when they wouldn't give a stuff about a wall.

These testaments are everywhere.
The world's awash with displaced creatures.
All life's nations on the move.
Benthic worms, plankton, plants and jungle frogs,
Alpine butterflies and beetles, bees.
Polar bears and wolverines and lynx
seeking, seeking, seeking the world that they once knew.
A vast tsunami of canaries, tweeting.
Listen, Donald, and you'll hear a song about your downfall.



showing changes N Atlantic zooplankton species triggered by climate change

MAKING A WEATHER WATCHER

for Geoffrey Monk of the Mountain Weather Information Service



He was, he tells me, a solitary child
Who ran everywhere,
Watched the tide creep in, silver through the muddy channels
And thought about the territory of clouds.
Words were always tricky,
Other people, distant,
Blurred against the sharpness of the hills, the sky.
Figures spoke to his heart:
Windspeed, rainfall, humidity and temperature,
Eloquent expressions of the deep, majestic conversation
Held between the land, the air, the sea.
Time has layered him with weathers.
Given him a skin of wind and rain,
So complex and so subtle,
That he can touch the air and know
How your feet will fall upon the mountain,
How the air will caress you in the glen.
And the greatest wonder?
Now words please him as much as numbers,
and people are as close and clear as hills.

THE BEN NEVIS WEATHER WATCHERS



Ben Nevis Weather Station rimed in ice

We live on the bottom of the pond,
Where the giant physics of our world are just a muted echo,
Enough to answer baby questions:
Do I take an umbrella on the train?
Pack the sunscreen?
But up there on the Ben,
They witnessed weather's biggest business:
Forces running between continents;
Arctic winds, an ocean's worth of moisture;
Ions, waves and currents that connect
the centre of the earth, the sun, the solar system.

They watched the big rules of the universe
Played out in brutal style.
In May, snow deep enough to reach an upstairs window.
Freezing rain and mist that rimed their hut into an other worldly
sculpture,
An alien ship of crystals longer than your arm.
Winds measured in the angle of their bodies
Leaning up against its force, doubling the beaufort scale.
Wonders, glories, halos,
Concentric rings of light to hoop and dog the sun and moon,
Their own heads flaming with St Elmos fire.

All of it set down in figures.
Twenty years of hourly snapshots,
That now can help us answer grown up questions:
What are we doing?
What have we done?
How can we be different?
We must look up from the bottom of our pond,
Where we currently perambulate like larval dragonflies
Focussed only on the point at which our arms can grasp.
Look up, and see the picture that the weather watchers make,
That connects us to our world,
To each other and the future we might live.

On Camels Listening to Music

Weather watching has a long long history. The mathematician and thinker Alhazen's life straddled the 10th and 11th centuries. He was the first person to estimate the thickness of the atmosphere.



The genius Alhazen, whose name is Hasan Ibn al Haytham,
Whose nisba is al Basri,
Pondered many things:
The configuration of the earth; rainbows; moonlight;
The way the world jinks between the left eye and the right;
If camels can be induced to change their pace, by music.
And dusk, when light lingers, though the sun is gone,
Shining through the prism of the atmosphere,
To turn the Nile, to brass and copper,
Before darkness and the proper night.
Alhazen timed the twilight,
Used the sun's angular progression for calibration,
And, by geometry, gave us the thickness of the atmosphere,
A figure pretty close to the one that we know now: 50 miles.
It sounds a lot, until you're en route to the moon,
And then the earth's an orange and the atmosphere a sheet of
clingfilm.
A flimsy, fragile, precious, veil,
A swirl of blue and white,
The fingerprint of life against the empty black of space.

Look up now and feel it, that fifty miles of air above your head.
Stretch out your arms and hold a column of it,
Teetering on a base just like a picnic table.
That see through lego tower of gas, is all yours.
It is the co2 that all you do, and are, results in every year.
Your carbon footprint.
Open both your eyes and ponder on it,
On the orange and the clingfilm
On the dusty gold of twilight, rainbows, moonlight,
And camels listening to music by the Nile.



THAT TRICKY STAGE

Humans are bad at seeing slow processes, like sea level rise, which may ultimately drown the machair, the ravishing grasslands of the Western Isles

It'll be an Autumn wedding.
She's going for the 'boho princess' look she says:
Floor length, lace sleeves.
Botanicals with peach and sugar pink old roses,
Are on trend bouquets for this year.

I look away, out of the window
Rain's slamming on the pavement like a firehose,
in spite of Easter being hot enough to melt the eggs.
Floods, the headlines say,
showing that the tabloids have at least one talent,
for outlining the obvious.

Far North, on Uist, in the Hebrides
Junes like this were always wedding season.
All the flowers needed, bloomed wild on the machair
And redshanks piped a celebration from each fence post.
But it's all changed now my landlady tells me
"You've to cut the peat in April or it'll still be be wet in Autumn.
And weddings? You can't predict the fine days any more.
Just as well they'd sooner fly to Thailand to be wed."

The sea is eating at the sand dunes
Seeping slowly underneath the roots of flowers,
A process, like the way hair grows,
too small to notice day by day,
A depth rise just the thickness of a penny every year.
A pound's worth isn't much, but it'll be enough
For a brackish bleaching of the rainbow .
Campion and harebell, heartsease, cranesbill, eyebright, thyme
The calls of birds that fill the long, sweet dusks
They call the simmer dim
All gone.

A fish tail plait with lots of root lift is what the stylist recommends.
But the bride to be is squinting at her own reflection,
tugging at the ear-length foils.
“Trouble is, I just can’t see it growing.
It’s at that tricky stage”



God Speaks on the Subject of Water

The serendipitously unusual behaviour of the water molecule influences everything about life on Earth. Consciousness is also serendipitous, an emergent property of complexity that might, like the properties of water, cut humanity some slack.

If I say so myself water was great idea!
Once I'd done water, everything else sort of happened?
Water is a stubborn little sod.
Really doesn't like changing.
I have to respect it for that.
And anyway, between you and me that charged molecule thing?
Like Fleming and petri dish, happy accident.
Anyway, the stubbornness:
You know about that right?
Well, think how long it takes to boil a kettle?
Defrost a chicken?
There you go see, stubborn.
Takes a hell of whack of energy to make it do anything.
That's the beauty of it!
It just soaks up heat where there's too much
and dumps it where there's too little.
That's what those two great lumps of ice top and bottom of your nice
little planet were for.
It worked beautifully.
And then I turn my back for five minutes and what happens?
You lot have a saying 'if it aint bust, don't fix it.'
So why did you bust it?
All that lovely ice is melting!
The clever little system I set up is buggered.
More or less.
Even I don't know what's going to happen now.
But d'you know what?
My other good idea?
(well, I say idea, but if you make a big brain, it sort of happens?)
Consciousness!
There! See? You do see, don't you?

NO ICE

Thirty years ago in Alaska I hacked glacial ice off a small berg that had calved from a glacier. It was dense and extraordinary. Back then no one was talking about climate change.

I once drank a gin and tonic
With six thousand year old ice
I didn't think much about it
But it tasted kind of nice.

Since that long passed day in June
I've had time enough to think
If all the ice on earth had vanished
What would I put in my drink ?

Of course the reality is starker
If every glacier turned to sea
Life would become quite dismal,
No gin, no lime, no me!



Round and Round the Seasons Go

extreme weather by children from Coastlands School Pembrokeshire



Round and round the seasons go
We knew once what each one would bring
June for sun, December snow,
Autumn, harvest, lambing, Spring.

We knew once what each one would bring
Now the pattern does not hold,
Autumn, harvest, lambing, Spring.
Winter's warm, and Summer's cold.

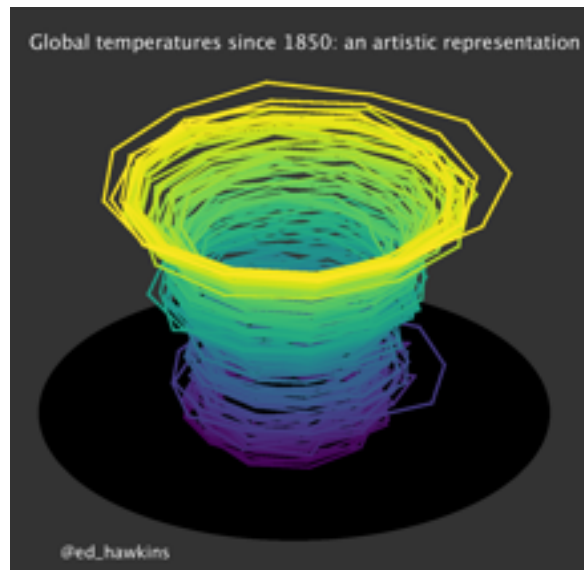
Now the pattern does not hold,
When now to plant, when now to sow?
When Winter's warm, and Summer's cold.
How will this end, we cannot know.

When now to plant when now to sow?
December sun, and June for snow?
How will this end, we cannot know.
When all to hell the seasons go.



LIKE A CIRCLE, LIKE A SPIRAL

Spirals in nature are limited by natural selection. The spirals that Ed Hawkins has created by joining years together show how average temperatures are increasing on a global scale. The limiting factor on these Spirals has to be us.



Join the years, start to end.
Fuse Januarys to Decembers with a glue of ice.
Line up the warmth of Junes in gold meridians.
Every one as similar as siblings
Containing water in the same proportions of gas, liquid solid.
Congruent circles, one on another,
back in the day when wolves howled on Pen yr Fan.
It's not that spirals are unfamiliar.
Garden snails, nautilus in the seas' depths,
Brocoli.
But there are checks on the flare of their logarithms.
Calcium levels, diffusion rates,
the pruning force of natural selection.
What can check the spirals of our climate
wider, wilder by the year?
We can. We can. **We can**

WEATHER RESCUE

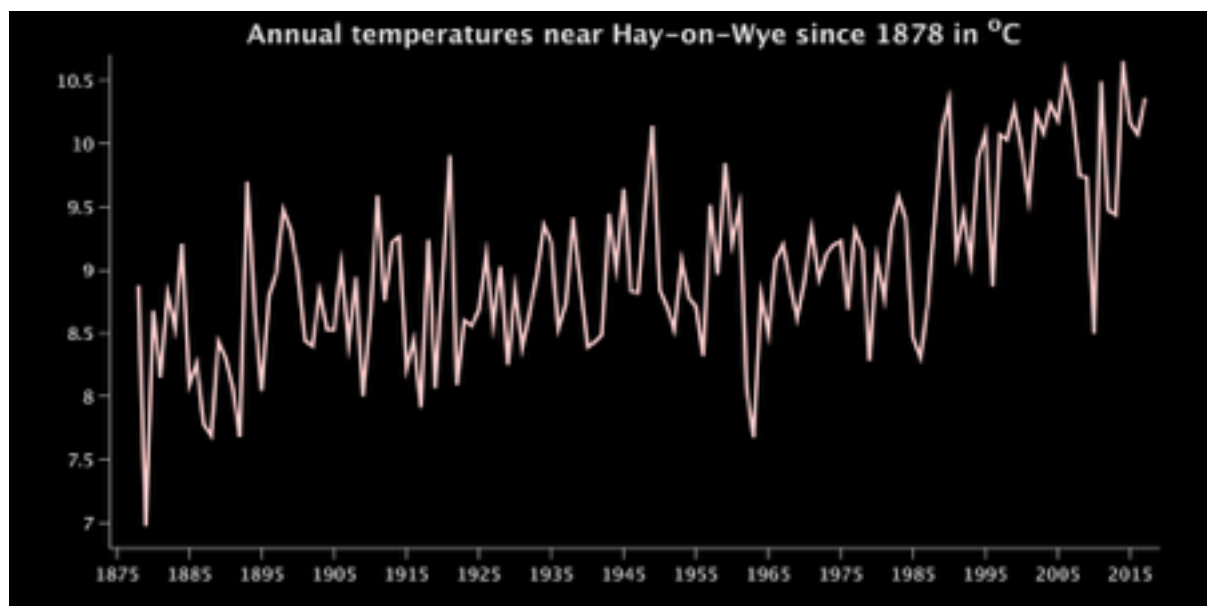
Weather records from the past can be used to help us predict and plan the future. Dr Ed Hawkins' 'Weather Rescue' project, invites ordinary people to play a part in science by digitising handwritten historical weather records, connecting lives both past and present. This symbolises humanity's greatest properties: cooperation and curiosity

Nowadays the Vaisla weather hawk,
that sets you back three hundred pounds and more,
will personalise your weather:
trigger your sprinkler systems and your heating,
so your tennis lawn stays watered,
and your Ferrari will not skid on an iced drive.

But weather once was more hand made.
Every figure marked down on a page,
was a moment in a life.
A country vicar escaping from the circle of his oil lamp
to note the exact speed of the wind.
A teacher blowing on her mittened fingers,
to write a temperature in neat black ink.
A soldier, long retired,
testing rain gauges in a Yorkshire field.
A skinny girl at the weather station's louvered side
as if it were a porthole to another world.
In Haparanda, Härnösand and Stockholm
Wisby, Kartsford, Faeder, Skuderness,
Reachers Point and Biarritz and Ponta Delagada
Careful weather watchers in button boots and waistcoats,
in rubber macintoshes and straw hats,
performed the daily ritual of recording
a small part of something bigger than themselves.

As we tap our keyboards, squinting at our screens
at the hand written figures,
our many lives, our moments reconnect
through those long, lost data points,
with lives long gone.
All our stories coalesce,
we may lose the details,
but they will serve a bigger, sharper picture,
with a purpose better than fast cars and tennis courts:
an explanation of our world,
and where and how we fit, together, in it.

NB the Vaisla weather hawk is a modern automated weather recording device



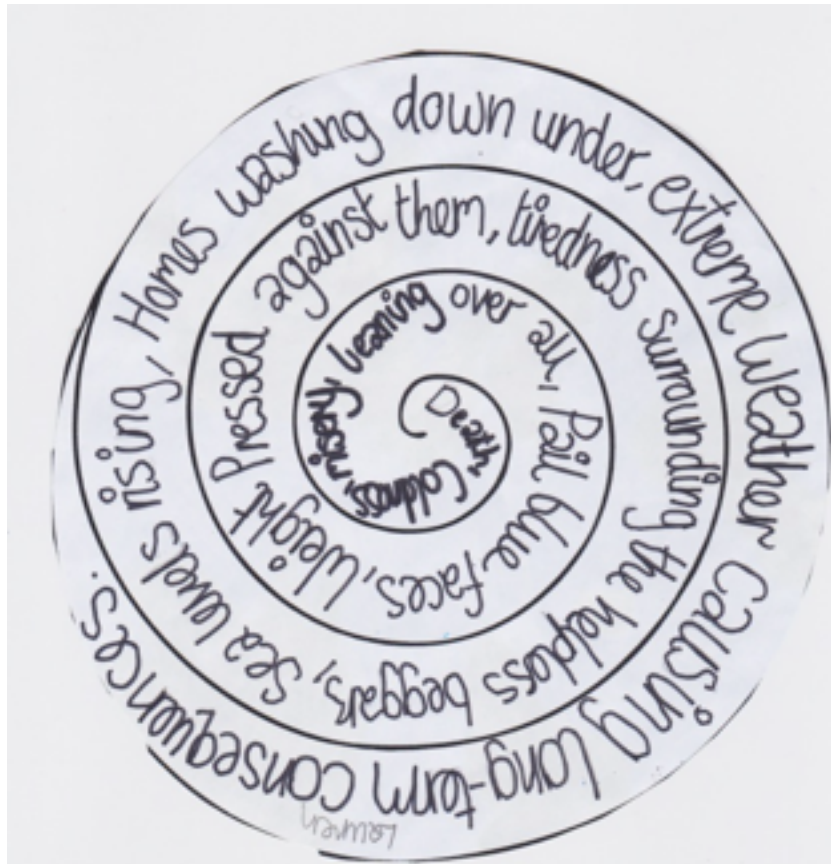
INTERVIEW, 2098

All anyone ever speaks about are the negatives of climate change. Scottish children when asked to write about it made 'climate spirals' of their own that talk about destruction and disaster. But the positives of switching to a low carbon, 'conservation' economy are huge; in my work as a trustee for the World Land Trust I see these positive outcomes in action around the world.

Mr Millen was born in 2000 and lives in New Colchester on the Essex Peninsula

Yeah, there are things I miss.
Holidays abroad were nice.
But Norfolk's like Corfu these days,
and all I have to do is remember to book the ferry crossing.
Roast lamb. I did love a roast.
I don't dare tell the great grandkids that!
Little Gaia she had a hysteries the other day
when she found out there were crickets in her burger.
Mostly though, no,
I don't miss that life.
All that getting and spending.
It caused nothing but grief and trouble in the end.
Seems mad to me now.
Kids growing up today they're so different.
We had to be taught to share, seems they're born knowing.
Life's calmer, less rushing about.
Everyone here works from home.
And the food on this table?
All came from within ten miles.
Yeah! Even the pineapple!
It's the trees I love the most.
Trees everywhere, not like when I was young.
They used to dig 'em up then.
I could spend all day under a tree.
Sometimes now, I do.

climate spiral Port Ellen Primary School, Islay



tree planting and forest restoration Garo Hills, N. E India



THIS IS HOW THE CHANGE BEGINS

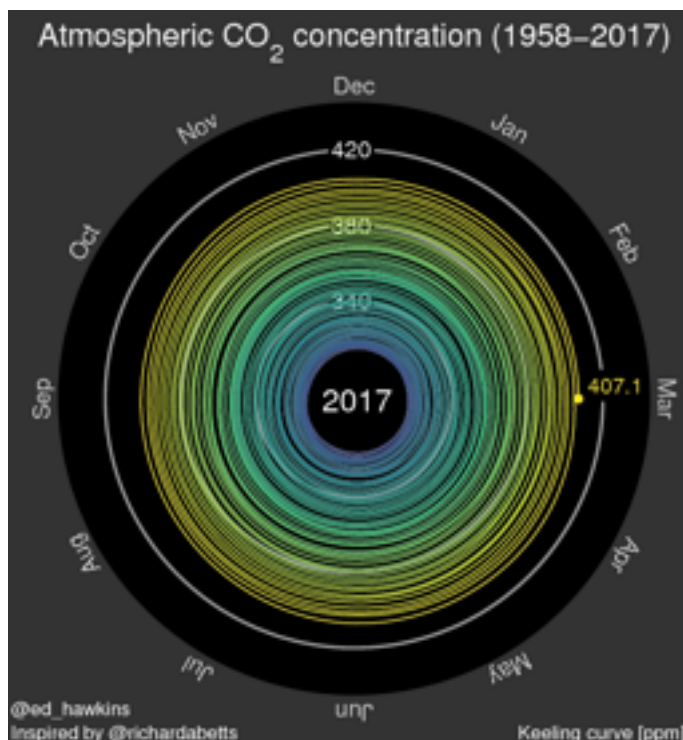
*Little drops of water and little grains of sand,
make the mighty ocean and the promised land
This is how the change begins*

With a heat wave in the Arctic
and New York under snow
and a little mountain pika
with no place left to go
*This is how
This is how
This is how the change begins*

With an island in the ocean
where fresh water's turned to salt
and an oil company executive
who says its not our fault.
*This is how
This is how
This is how the change begins*

With the perma frost that's melting
and with coral bleached to white
with animals once plentiful
that vanish over night
with selfishness and greed and lies
denials fed by fear,
while storms and droughts and famines
grow with every passing year
*This is how
This is how
This is how the change begins*

With windmills on the hilltops
and solar panels on the roof.
With governments and businesses,
that finally act on truth.
By seeing that our future
can be better than our past,
and that the century that's coming
doesn't have to be our last.
By learning how to share, not own,
by remembering to dream
of a world that's kinder, fairer,
a world that's truly green.
We are but drops of water,
We are but grains of sand,
But together we're an ocean
We can make a promised land!
This is how
This is how
This is how the change begins



IT'S A CHOICE

It isn't a done deal.
We don't have to give up hope.
We can change our own behaviour,
we can throw ourselves a rope.

The future doesn't have to be a wasteland filled with sorrow
Act today to change the way the world will be tomorrow.
We've all to gain and much much, more than everything to lose,
So look carefully in the mirror, and tell yourself, ***choose***.

children from Selbagre in Meghalaya N.E India, where the community has chosen to protect its forest



