CLIMAVORE
On Tidal Zones
Recipe Book
It gives me great pleasure to introduce you to this new recipe book. I, and the senior Hospitality pupils at Portree High School have been working closely with CLIMAVORE and ATLAS Arts over the last few years. It has been an exciting journey and an educational one for all concerned.

The pupils have gained valuable experience from the many workshops with local chefs and producers, practical skills have been enhanced, but above all of that, they have learnt and understood the importance of sustainable produce on and around their island, their country and worldwide. As guardians of the future they are now all better placed to educate others in the safeguarding of our most valuable resources.

This recipe book is the culmination of this year’s apprentices’ experience working with local chefs. 2020 has been a difficult year for everyone but I am very proud of the way they have all managed to fulfil the commitment they signed up to before lockdown. Their recipes are innovative, nutritious and make use of sustainable ingredients. I hope you enjoy making them as much as the apprentices enjoyed devising them.

There are many people to thank for their input – the artists, local chefs and producers – but most importantly the pupils, whose enthusiasm and engagement for this project continues to surprise me.

Fiona Anne MacInnes
Hospitality teacher, Portree High School
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CLIMAVORE: On Tidal Zones explores how to eat as humans change the climate.

In this recipe book we are excited to share with you some of the recipes developed throughout CLIMAVORE: On Tidal Zones – a long term project examining the environmental impact of intensive salmon aquaculture, and the changing shores of the Isle of Raasay and Skye.

Exploring forms of eating that address environmental regeneration in this region, the recipes in this book have been devised by the CLIMAVORE: On Tidal Zones cooking apprentices and partners who have been part of this journey since 2017, using ingredients that respond to the new ecological challenges of Scottish waters.

Since November 2018 students at Portree High School have been training to become CLIMAVORE Cooks, through a series of oyster shucking and seaweed bread-baking workshops led by local chefs, foragers, scallop divers and the artists Cooking Sections.

A series of CLIMAVORE Apprenticeships have also taken place in restaurants around the island where the apprentices have developed, prepared and served a CLIMAVORE dish that supports alternative aqua-cultures and cleaner use of the tidal zone.

In this book you will find a new series of recipes using a range of intertidal ingredients, with tips and advice on how to forage and create your own CLIMAVORE foods.
Bivalves (aquatic molluscs with a hinged shell like oysters, mussels and scallops) clean the water when they breathe. One mussel is able to filter up to 25 litres of water per day and a single oyster up to 120 litres. They provide a source of easy-access protein without the need for irrigation, fertilisers or feed pellets – which can have a harmful impact on the environment.

Seaweeds can absorb and store incredible amounts of carbon dioxide and heavy metals in our oceans. Kelp, for example, takes in five times more carbon than most land-based plants. This is good for the environment, because carbon dioxide released into the earth’s atmosphere increases global heating.
CLIMAVORE: On Tidal Zones Recipe Book

Olivia’s Seaweed Sourdough

“Creating a recipe with the CLIMAVORE diet in mind meant looking at the natural ingredients to be found on Skye…I decided I wanted to create a bread recipe and tried a few different types, integrating the different seaweeds to create a twist on a standard recipe.” – Olivia.

Olivia developed this recipe with support from Mania Pietrzak at the Skye Bakehouse.

**Ingredients**

**For the Starter:**
- 700g strong white flour
- 125ml of warm water

**For the Loaf:**
- 500g strong white flour
- 1 tbsp fine salt
- 1 tbsp local honey or agave syrup
- 300g of your sourdough starter
- 100g dried seaweed

**Method**

First make your starter. In a plastic container or jar, mix 100g of the flour with 125ml warm water. Mix the batter until smooth and lump free. Leave the lid of your container ajar for an hour or so in a warm place then close and set aside for 24 hours.

For the next 6 days you will need to feed the starter each day. To do this, remove half the original starter and set aside, but don’t throw this surplus away! Give it to a friend or use it in cooking. It makes excellent pancake or pakora batter, turned into flatbreads or used as a thickener in sauces. With the remaining starter, add an extra 100g of flour and 125ml slightly warm water, whisking well each time, try to do this at roughly the same time everyday.

After 3-4 days you should start to see bubbles appearing on the surface, and it will smell yeasty and a little acidic. This is a good indication that the starter is working. On the eighth day the starter should be bubbly and smell much sweeter. It is now ready to bake with. Now you can make your first loaf.

Tip the flour, warm water, salt, honey, seaweed and sourdough starter into a large bowl. Stir with a wooden spoon, until combined, adding a little extra flour if it’s too sticky or a little extra warm water if it’s too dry. On a work surface, knead for about 10 minutes until soft and elastic. The dough is ready when it bounces back when gently pressed with a finger.
Place the dough in a large, well oiled bowl and cover. Leave in a warm place to rise for 3 hours.

Line a medium-sized bowl with a clean tea towel and flour it well. Tip the dough back onto your work surface and knead briefly to knock out any air bubbles. Shape the dough into a smooth ball and dust it with flour. Place the dough in the bowl, cover with a sheet of oiled cling film and leave for 6-8 hours, until roughly doubled in size.

Place a large baking tray in the oven, set to 230°C / 210°C fan / gas mark 8, to heat up. Fill a small roasting tin with a little water and place this in the bottom of the oven to create some steam. Remove the large tray from the oven, sprinkle with flour then carefully tip the risen dough onto the tray. You can cut the top a few times with a sharp knife if you like. Bake for 35-40 minutes until golden brown and hollow sounding when tapped. Leave to cool on a wire rack for 20 minutes before enjoying!

Laura’s Seaweed Oatcakes

**Ingredients**

- 4 tbsp of seaweed – for this I foraged seagrass on the shoreline.
- 300g of oatmeal and extra to add to hands and workbench
- Pinch of salt
- Pinch of bicarbonate of soda
- 2 pinches of garlic salt
- 1 + 1/2 tbsp of butter or fat
- Water

**Method**

Wash your seaweed thoroughly under cold water, before lightly frying in a pan with oil untill crisp. Add this to a bowl with the oatmeal, salt, garlic salt and bicarbonate of soda. Stir together and set aside. Melt the butter in a pan, before slowly adding the mixed ingredients. Slowly work all the ingredients in together with a splash of water until you can form a ball.

Dust your hands and surfaces in oatmeal – this will help prevent it from sticking. Roll your mixture out and cut it into circles. After you have cut them place them into a hot frying pan or girdle, keeping an eye on them. After 5-10 minutes flip them and give the other side 5-10 minutes. Remove from the heat and allow them to cool before enjoying.
“The thing I enjoyed most while working with CLIMAVORE was the class visits we got from people all across the island that use local produce in a sustainable way. These visits really opened my eyes as to how much more we could be getting from where we live.” – Sam

Sam worked with head chef Elanor Bailey from Taigh Ailean Hotel to develop this CLIMAVORE recipe, using locally foraged seaweed.

**Ingredients**

- 400g of smoked mackerel
- 200g of clotted cream
- 100g of fresh sea lettuce or gutweed.

**Method**

First soak and wash thoroughly your foraged seaweed in cold water. Take your mackerel and remove the skin and scales and debone if not done so already.

Put all the ingredients into a food processor and mix until smooth. Using a spatula, remove from the food processor and decant into a ramekin or small bowl – keep in the fridge until ready to serve.

Enjoy spread on Laura’s Seaweed Sourdough (Page 7).
Ingredients

- 2 tbsp spirulina
- 50g dried wakame
- 1 pack nori sheets
- 300g rolled oats
- 1200ml water
- 240g spelt flour
- 20g demerara sugar
- 5g kummel seeds
- 500g flax seeds
- 180g wheat bran

Method

Soak oats in water for at least six to twelve hours.

Preheat the oven to 160°C. Leaving the wakame and nori aside, add the rest of the ingredients to the soaked oats and mix well. Line baking trays with silicone mats and spread the batter evenly and thinly. With scissors cut the nori sheets into confetti-sized flakes and spread with the wakame over the batter.

Bake in the oven for forty to fifty minutes until the bread is dry, crisp, and golden.

While baking you can start plotting your rope-grown seaweed farm. With as little as £50 worth of rope and buoys, you can set up a plot that would yield dozens of kilos of kelp a year.

“Next time you swim among slimy algae, think why before cursing.”
Recipe provided by Anna Schavikin and Jamie Keith of the Sligachan Hotel

**Ingredients**

- 500g Strong white flour
- 350ml Blackhouse Ale
- 20g dried baker’s yeast
- 10g table salt
- 20g dried sea lettuce (or gutweed / any from ulvaceae family)

**Method**

Combine the flour, yeast and salt in a medium sized mixing bowl. Slowly add the Blackhouse Ale (this will work better if the beer is not chilled as it can inhibit the yeast). Mix and fold until elastic then add your dried sea lettuce and continue folding until the mixture has stopped sticking to your hands.

Allow the mixture to rest for 30 minutes. Knock back the air and shape into a loaf. Allow the loaf to rest for another 30-45 minutes. Bake for 25-30 minutes at 200°C.

Tip: Using dried sea lettuce intensifies the salty/umami flavours and combining later in the mixture creates pockets of intense flavour through the loaf.
Laura’s Classic Moules Marinière

After cooking this dish in one of the CLIMAVORE school workshops with Loch Bay’s Head Chef Michael Smith, Laura went foraging on the shoreline with her family to collect mussels for this recipe.

Ingredients

- Mussels - 1/2 a kilo in the shell per person
- 1 finely chopped shallot
- 5 minced garlic cloves
- 1/4 of dry white wine
- 1 knob of butter
- Heavy double cream
- Lemon juice
- Parsley

Method

Clean the mussels under cold water and debeard. Discard any mussels that do not close after gently tapping.

Add a knob of butter to a pan, once melted add the shallot and cook until soft. Add the garlic – cooking lightly. Add the mussels and the white wine and cover with a lid, steaming for 4-5 minutes until they are all open – if any are still closed, discard them.

Once reduced add a cup of heavy double cream – leave this to slowly simmer for 5 minutes. Be careful not to bring up to the boil.

Add a squirt of lemon juice, chopped parsley and season to taste. Serve with a slice of the Cuillin Brewery loaf (Page 11).
**Ingredients**

**Stock:**
- 1kg cleaned mussels
- 2 onions, finely diced
- 3 clove garlic, finely grated
- 2 bay leaves
- 1 bottle of dry white wine
- 100ml water

**For the broth (all finely diced):**
- 1 bulb fennel
- 1 onion
- 1 white of leek
- 1 stick celery
- 3 garlic cloves, finely grated
- 150g cooked cocoa beans
- 100g cooked puy lentils
- A pinch of saffron
- Stock from mussels

**Methods**

**Preparation for stock**
- Sweat the onions until soft, add the garlic, then the liquids.
- Bring to a boil. Add the mussels and cover.
- Steam until all the mussels are open.

**Preparation for broth**
- Cook the diced vegetables in a big pot until tender.
- Add the garlic and cook out for 30 seconds.
- Add the mussel stock, pulse then add the saffron.
- Simmer for 5 minutes.
**Garnish for broth**

1 medium squid (prepared and cleaned)
2 razor clams (placed in freezer, then fine sliced)
12 cockles
Picked meat from mussels
12 langoustines (pre-boiled and peeled) – keep 1 whole langoustine per portion for garnish
3 tomatoes (peeled and chopped)
Chopped fresh parsley, fennel, basil, herbs
1 red chilli (finely diced and de-seeded)
1 tsp toasted fennel seeds
Generous pinch of dried dulse flakes

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**For serving**

Heat the broth. Take a small amount to steam the cockles.

Pan-fry the prepared squid, shred the cooked squid and mix the razor clams, chilli and fennel seeds.

Add langoustine tails and tomatoes to the broth. Serve in warmed bowls and garnish with cockles, squid and razor clams and a whole langoustine.
Charlie’s Crispy Dulse Tofu
(Serves 4)

Working with the ATLAS team, Charlie developed this recipe for crispy dulse tofu and rice. Perfect as a starter or a tasty snack.

**Ingredients**
- 1 block of firm tofu
- 1 egg
- 50g of Panko breadcrumbs
- 25g of sesame seeds
- 10g of dried dulse
- Salt
- Vegetable oil for frying
- 300g of Originario rice
- 390ml of water
- Soy sauce
- Sesame oil
- 1 lime
- 1 spring onion
- 1 red chilli
- Coriander leaves

**Method**

Wash the rice in a sieve under a cold tap until the water runs clear. Add the rice and 390ml of water to a pan and bring to the boil. Once boiling, turn down the heat and simmer for 15-20 minutes – make sure the lid is kept on. Take off the heat and remove the lid to allow the rice to steam for a further 10-15 minutes before it’s ready to serve.

Start making the crispy tofu. In three bowls: bowl one for flour, bowl two for whisked egg, and bowl three for the Panko breadcrumb, sesame seed and dulse mix. Cut the tofu into roughly 1 inch cubes. You may need to press dry your tofu in kitchen roll first. Dust the tofu in flour, coat in the egg before rolling in the dulse mix. Shallow fry on a medium high heat in a non-stick pan, carefully turning until golden brown on all sides.

For the dressing, thinly slice spring onion and red chilli. Mix with a drop of sesame oil, glug of soy sauce and the juice of half a lime. To serve, take a spoonful of rice and 3 pieces of tofu. Drizzle the dressing over and finish with a few coriander leaves and an extra sprinkle of dulse for colour.
ATLAS Arts’ Pepper Dulse and Cheese Scones

(makes 6 big scones)

Pepper dulse is a beautiful ruby red seaweed – known as ‘the truffle of the seas’, it gives a rich, spicy, peppery kick to your cooking.

Ingredients

225g white flour
1 tsp of pepper dulse (dried)
1 tbsp of baking powder
50g butter (cold, cut into 2cm cubed)
150g grated strong cheese (cheddar or similar)
125ml whole milk

Method

Preheat the oven to 200°C. Sift the flour, pepper dulse and baking powder into a bowl. Add the cubed butter into the dry mixture and crumb with your hands. Add the grated cheese and stir. Then, make a well and slowly add the milk to the mixture to create a soft dough, being careful not to overwork it.

Sprinkle some flour on a surface and roll out the dough to a thickness of 3cm. Cut the dough into 6 then loosely shape into triangles with your hands. Place the scones on a greased baking sheet and brush with egg wash if you want them to look shiny. Sprinkle with a wee bit more cheese and bake for 15 minutes or until golden.
Mania Pietrzak’s Skye Bakehouse Lemon, Dulse and Heather Honey Madeleines

**Ingredients**

- 75g butter
- Zest of 1/2 a lemon
- 2 eggs
- 50g sugar
- 3 tbsp heather honey
- 100g plain flour
- 1/2 tsp baking powder
- 1 tsp dried dulse seaweed

**Method**

Heat the oven to 200°C / gas mark 6. Butter the madeleine baking tray. Melt the butter in a pan before adding the lemon zest, stir and set aside. In a separate bowl mix the flour, seaweed and baking powder, set aside.

Beat eggs and sugar until pale and fluffy, add honey and beat it in. Sift the flour, dulse and baking powder mix into the egg fluff and gently fold in using a spoon or a spatula, until just incorporated – do not overmix.

Fold in the cooled melted butter with lemon zest. Cover the bowl and leave to sit for a minimum of 30 minutes and up to 2 hours. Divide the batter into the greased baking tray indentations, filling to three quarters high, roughly a tablespoon each.

Bake for 10-14 minutes until golden brown on the edges and plumped in the middle. They should spring back when lightly pressed. Cool down on a wire rack and enjoy dusted with icing sugar and a cuppa!
Mair’s Seaweed Pesto

Ingredients

- 1 handful of pumpkin seeds
- 1 large bunch of fresh basil
- 1 garlic clove
- Handful of grated parmesan cheese
- Dried dulse seaweed – it can be bought online or at stores, or be collected at the coast and dried at home.
- Extra virgin olive oil
- Sea salt
- 1 lemon

Method

Place the garlic, roughly chopped basil and a pinch of sea salt in a food processor and pulse. If you don’t have a food processor, a blender or pestle and mortar work well.

Add the pumpkin seeds, pulse again then add parmesan cheese and the dried dulse.

Drizzle and mix in the olive oil until it gets to an oozy consistency. Season and add lemon juice to taste.

Select your favourite pasta and boil until al dente. Strain the pasta before adding a couple of tablespoons of your fresh seaweed pesto. Heat briefly in a pan before serving.
Elanor Bailey’s Taigh Ailean Baked Oyster and Gutweed Salad

**Ingredients**

**For the baked oysters:**
- 12 fresh oysters
- 10 slices of Parma ham (or substitute for bacon)
- 200g Smoked Arran cheese (other smoked cheese)

**For the salad:**
- 100g of rocket salad
- 1 punnet or 200g cherry tomatoes
- 1/2 a red onion
- 50–100g gutweed
- Olive oil to dress

**Method**

Preheat the oven to 180°C. Carefully open and shuck the oysters, disconnecting the muscle from the shell with an oyster knife and tea towel. Gently remove the oysters from their shell.

Roll Parma ham around each oyster until covered, return to the shell and sprinkle with a half of the cheese. Place in the oven, and cook for 10 minutes or until the liquid in the shell bubbles. After 10 minutes, add the remaining cheese and cook for further 10 minutes until crispy.

Whilst cooking, finely chop the onion and gutweed, cut tomatoes in half and mix everything together in a salad bowl. Serve 3 oysters for an appetiser and 6 for a main meal, and split the salad between each serving.
Murdo’s Seared Scallops with Skirlie and Potato

Using locally sourced, hand-dived scallops, this recipe is as sustainable as it is delicious! Using three key West coast ingredients, this easy starter is quick and simple and adds a great local twist to your meal.

Ingredients

- 12 large, hand dived scallops
- Rapeseed oil for frying
- Lemon juice
- 200g of sliced Stornoway black pudding (for a meat free option use dried flaked seaweed instead)
- 120g of Panko breadcrumbs
- 4 medium potatoes, peeled
- 4 tbsp double cream
- 4 tbsp milk
- 60g butter

Method

First, make the skirlie. Skirlie is a traditional Scottish dish, usually made from oatmeal, fried onions and seasonings – in this recipe it adds a delicious crisp topping. For a richer flavour, use Stornoway black pudding – simply place the slices on a baking tray in the oven for about 75 minutes at 120°C. Alternatively for a lighter option, dried seaweed flakes work well. Mix the black pudding or flaked seaweed with the breadcrumbs (I’ve chosen Panko breadcrumbs for a lighter skirlie) and put into the oven for 15 minutes. While still warm, mix together well until fine then set aside.

Then prepare your mashed potatoes. Cut and dice the potatoes evenly, and stick them in a pan of cold water with a pinch of salt. Bring them to the boil, then bring down the heat and cook until soft. Drain them, and leave on a low heat to dry for a few minutes. Add the milk, cream and butter and mash until smooth.
Remove the scallops from their shells and clean before seasoning with salt and pepper. Heat a large frying pan with the rapeseed oil, then fry on both sides until slightly brown. Then sprinkle with lemon juice.

To serve, pipe the mashed potato round the edges of a scallop shell, place the scallop in and cover with a spoonful of the skirlie. Serve with fresh salad leaves and dressing to finish.
Seaweed Foraging: Tips

Foraging for seaweed is relatively easy on Skye and around the coasts of Scotland. Unlike other plant species and mushrooms, there are no poisonous seaweeds in the UK.

It is important to stay safe when out foraging on the shoreline:

Don’t go alone – always go with someone.

Wear suitable clothing and footwear, welly-boots or comfortable shoes.

Be careful when walking or climbing over slippery rocks.

Be conscious of the tides and changing weather conditions – tides and swells can change quickly, make sure you always have a clear way to return and avoid going out too far without knowing you can easily find a safe route back.
What to look for:

**Pepper dulse:** A small, deep red coloured seaweed found clinging to rocks from mid tidal range downwards.

**Dulse:** A medium sized flat red seaweed that usually looks a rusty purple/brown colour.

**Gutweed:** Thin strands and bright green, this seaweed is often found on rocks high on the shoreline.

**Sea Lettuce:** A similar colour to gutweed, but with wider and flatter strands.

**Bladderwrack:** Brown with distinctive air pockets, this seaweed can be found further down the tidal zone.
Carefully collecting seaweed

It is important to be mindful of the impact of our foraging activities, and ensure we don’t cause long-term or extensive damage to the environment. As a general rule:

Only pick what you need, try to take small amounts from different areas.

Use scissors to cut parts, and avoid pulling and detaching the seaweed from the rocks – this will help it to grow back easily.

Preparing

Wash collected seaweed thoroughly before using, rinsing three times in a bowl or in the sink when you get home. If you want to dry your seaweed, pat dry with a clean dishcloth before spreading evenly across a baking tray and place in the oven at 150°C. After 15 minutes turn over and continue baking until there is no moisture left. Store in a clean jar.
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About CLIMAVORE:
CLIMAVORE is a long-term project led by artists Cooking Sections (Daniel Fernández Pascual and Alon Schwabe), that includes a variety of site-responsive projects across the world. Exploring how to eat as humans change climate, CLIMAVORE explores forms of eating that respond to human-induced environmental transformations. You can find out more about CLIMAVORE at www.climavore.org

About ATLAS Arts:
ATLAS Arts is an art organisation working across Skye, Raasay and Lochalsh. We organise artistic projects that connect the history and knowledge of our local area with the shared concerns of global communities. Working across different spaces and venues in collaboration with community organisations, activists, schools, growers, workers, artists, makers and local groups, our work spans performance, film, publishing, research, spatial projects, collective making, exhibitions, and learning programmes. www.atlasarts.org.uk