Food
an atlas
FOOD: an atlas
There is nothing so simple nor anything so complicated. Food is the neighborhood blackberry bramble foraged in midsummer. Food is the rice grain that finds its way to the table from halfway around the world. The agricultural food base has become the first link in a chain of industries that deliver the fuel needed to energize the human body and mind. From it a vast complex of interrelated businesses—the global food industry—is focused on the production, distribution, preparation, and consumption of comestibles. There is almost no segment of the economy untouched by this network. And there is certainly no human unaffected by it. Despite the industrialization of food, it remains a personal and intimate human endeavor. We find community and identity in the food we eat. James Beard, American chef and early food writer, said it best: ‘Food is our common ground, a universal experience.’

an atlas is a collection of maps with a common purpose—either to present a holistic picture of place through repeating geography that maps various phenomena of the atlas’s subject area, or to examine a theme across a broad geography, striving to edify the reader on a particular subject. Food: An Atlas is of the latter. It illuminates a theme by its examination of food phenomena over a wide range of geographical scales, locations, and research disciplines. This atlas fuses traditional cartography, poster art, infographics, and journalistic text blocking to render the map as a narrative device. Maps are a superb medium for illuminating complicated issues, and food is an exciting theme to explore. While food is an important aspect of our lives, few have a comprehensive understanding.

Books, paintings, dances, plays. The process of creating them rarely becomes a part of them. As art forms go, photography comes the closest to documenting itself by the nature of its creative habit of ‘capturing reality.’ This atlas, too, has a reference wirelessly its creation being a part of what it is. In its pages are innumerable insights into the human relationship to food, and that is exactly what this atlas aims to do. It is the story of how it came to be. Why should the story of a little collection of maps be so important to tell? Because the story describes a new paradigm for collaborative knowledge working and sharing, a new way to make an atlas.

I have learned over many years as a cartographer that when working with data, especially spatial and temporal data, time is critical in the dissemination of information. I wanted to find a way to make an atlas in a few short months, so the food atlas would be an experiment in guerrilla cartography and guerrilla publishing. Guerrilla cartography became an open call for maps was distributed and shared through a network of people who care about geography, or food, or both, and cartographers and researchers would decide, by their submissions, what would appear in the atlas. And guerrilla publishing, because we would not pitch our atlas, we seek approval from a publishing house, instead we would publish our atlas by a consortium of supporters using a crowd-funding platform—the people are making the atlas, literally giving it form. We would further buck the commercial publishing model by pledging to give a portion of the proceeds from the sale of the atlas, first printing to an organization working for food justice somewhere in the world.

The crowd-sourcing model requires collaboration, but even if I could gather the maps, I could not, in less than six months, organize them into an atlas by myself or I sit about recruiting volunteers to help me create the food atlas. I first called on Molly Roy, a former student who had helped me with the final editing of Mission Possible: A Neighborhood Atlas, and she happily joined the project as my co-editor (someone to share the glory and the blame). Acknowledging that it was an ambitious plan to make this atlas in a few short months, we wrote and sent out a call for maps in a solicited list of 250 university cartography
Within each chapter, maps are organized by scale, from small to large. Each map contains regional and national map introductions, small-scale and large-scale maps, and subject-specific essays. Maps are separated by international boundaries, even oceans, while others crossed across and meet still when not meant to be fine. The maps are heretofore connected by the geographic and temporal context in which they are made. Each atlas is a work of its time and place, and each map is a work of its own. Maps range across the scope of food—mapping its myriad contexts. What can we teach each other about urban agriculture as well as other maps of Oakland’s food environment, about the role food plays in our lives, in our communities, about our planet.

The scholarship and artistry invested in these maps is impressive. They are informative and thought provoking. Theatrical and they give shape to the word food. But in a mere seventy maps it is impossible to map every commodity, distribution network, cuisine, or food identity. This atlas cannot tell every food story. But it can tell more than seventy stories if you let the maps inform each other as well as your own curiosity.

This atlas will provoke more questions than the answers it provides, and that’s fantastic, because what we are charged to do as scholars of food is to get people to think about these issues, to foster conversations, and to promote further investigation about our world through the lens of food. We hope that these conversations and investigations generate more food maps, especially dealing with the geographies (South America and, especially, Asia and Africa) that are not well represented here, and subjects that are absent or under represented. What can we teach each other—through maps—about seeds, pollinators, fisheries, food histories, food workers…

We became proactive, almost aggressive, in seeking exposure. We reached out to food bloggers and journalists—everyone we could think of. We also had a social network of our collaborators, and out of them had networks to explore—and exploit we did!

The campaign ended on Thursday, October 25, with 767 people backing the project. Our collaborators include well more than one hundred people across the globe volunteer researchers and cartographers who create the maps, the design and production team who spearheaded the atlas, the editorial panel who managed the crowd-funding campaign, all working in the spirit of collaboration and community knowledge-sharing.

The archive that you hold in your hands—an atlas on the geography of food—is the tangible result of all those efforts. But this project has created more than an atlas. It has created a community of guerrilla cartographers—one that you will surely hear from again.

—David Jones, December 2012
In the time since the first farmers settled in the Fertile Crescent, our relationship to food and the natural world has changed dramatically. We have developed ever-more sophisticated agricultural systems now capable of producing vast amounts of food. In fact, we’ve become so efficient at doing so that by 1996 humans were producing enough food to provide every man, woman, and child on Earth with over 2500 calories per day—some 400 calories more than the average adult requires for healthful nourishment.¹

In today’s world, small numbers of people—some indigenous tribes, hunters and fishermen—forage or kill most of what they eat. But the majority of the world’s seven billion inhabitants are now mostly dependent on large-scale food production systems.² This dependency has impacted natural systems and reduced the diversity of what we eat. Of 10,000 plant varieties used as human food since the origin of food production, today only around 150 constitute the green part of the world’s diet.³

This chapter explores food production at scales from the global to the (hyper-)local, from the global expansion of agricultural land over time to rooftop-farming potential in modern cities, with maps of foodstuff cultivation at regional scales in between. Together these maps illustrate the relationship of food production to place, resources, and space.
There are two important lessons here. First, the transportation revolution that began in the mid-nineteenth century is far from over; vast stretches of Africa, South America, and Southeast Asia could still be opened up to agricultural uses. Preserving these rainforest areas will require further intensification elsewhere. Second, with many agricultural areas at close to 100 percent exploitation, it would seem that much of the logic of density and intensification usually applied to cities could apply equally well to agricultural areas. A simple divide between “urban” and “rural” is perhaps less instructive than an analysis of different kinds of intensifications.
In the year 2000 there were approximately 1.85 billion ha (4.5 million mi²) of cropland and 2.8 billion ha (7.0 million mi²) of pasture, which are represented in the two main maps. These equal 12% and 26% respectively, of the planet’s ice-free land surface.

But all crops grown on agricultural land are turned into food directly. On one third of the world’s arable land crops are grown to feed animals. The US, Argentina, and Brazil are the three largest soybean producers in the world, using which is a major global source for animal feed.

In many parts of the world, areas unsuitable for agriculture due to climate and water conditions are instead used for livestock. Such areas are found in large parts of Central Asia and Australia.
Aroids, or taros, is a common name for plants belonging to the lily family of plants. The aroid plant family consists of more than 120 genera and 3750 species of which many are used as food, medicine, animal fodder, ornamental plants and cut flowers. The main centres of origin and diversity of aroids are tropical Asia and tropical America.

Aroids are a staple crop for several hundred million small farmers throughout the tropical world. It is roughly estimated that around 500 million people are involved in the cultivation, consumption and trade of aroids.

All plant parts of aroids are edible, and have good nutritional qualities. The roots and tubers are rich in carbohydrates, vitamins, minerals, and are hypoallergenic. The leaves, stems and petioles are frequently eaten as a green vegetable and represent an important source of vitamins, especially folic acid.

Cultural & Culinary Heritage

Aroids and aroid dishes are part of national, local, culinary and cultural heritage in numerous communities in Africa, Asia, Latin America and Polynesia. In many cultures aroids are sacred plants with high prestige and strong symbolic value, intrinsic to cultural identity.

Origin

Aroids are the world’s oldest food crops, and were the most densely distributed starchy food plants during the 16th and 19th century. Cultivation already occurred when rice and wheat were just weeds. Archaeological evidence from the Solomon Islands suggests taro was already in use around 28,700 years ago.

Carl Vaneker & Erwin Slaats

Global Cultivation & Consumption

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Carl Vaneker & Erwin Slaats

© 2012 Carl Vaneker & Erwin Slaats (www.lekkerontwerpen.nl)
By now, chile peppers have become major crops and commodities, as well as an integral part of many cuisines and cultures around the world. For Mexicans, Bhutanese, Chinese from Sichuan and Hunan, and other so-called “chileheads” around the world, eating spicy foods is a marker of cultural identity. In various parts of the world, chile peppers also find use in representation in practices to ward off evil and bring good luck. Chile pepper festivals in the USA and Europe celebrate traditional varieties and uses of the spicy pods. In continuation of the chile pepper craze, the hot sauce market is currently one area of growth and the hunt for the hottest pepper has heated up in recent years. The Bhut Jolokia, from Assam and Nagaland, India, gained notoriety as the hottest pepper, thus becoming popular. It was recently surpassed by the Trinidad Scorpion and Trinidad Moruga Scorpion. These peppers originated in Trinidad and were further developed in Australia and the USA.

Given the importance of spices in medieval Europe, it is not surprising that Christopher Columbus should have brought back chile peppers on his very first voyage. It is not known how they were first received, but they spread quickly and widely.

- In 1542, Leonhart Fuchs (in De Historia Stirpium) spoke of “Indian” or “Calecutian” pepper, believing them to be from South Asia.
- Clusius (Charles De L’Escluse), writing in Curae posteriores (Curaposter; 1611) mentions peppers being grown in Castilia, Spain and around Brünn, Moravia.
- Nikolaus von Jacquin, in perhaps the strangest twist, gives Capsicum chinense its name “after its homeland” China, where this species is still but rarely found, even though he also mentions having seen it on the Caribbean island Martinique (Hortus botanicus vindobonensis, 1770-1776).
- About the same time (between 1750-1800), a medicinal thangka was created in Tibet with depictions of chile peppers as medicinal plants.

The nuclear area of the genus Capsicum, where it arose several thousand years ago, was apparently in Eastern Bolivia. From there, it spread first to sub-tropical and tropical South and Central America, then presumably to the first cultivated food plants (to which remains from 6000 years ago attests). The very adoption of the chile pepper into the human diet is a riddle, as no other mammals develop the liking for their pungency that humans acquire. There is range from nutritional benefits and protection against food-borne illnesses to physiological benefits (chile-induced sweating helps to cool in hot climates).
Food grains are an integral part of the Indian diet. Their production is important to feeding India’s fast growing population.
A LANDSCAPE OF SPECIALIZATION

Bill Rankin

The geography of US agriculture is not a smooth space of overlapping local conditions; it is instead a disjointed and lumpy space of specialization. With the exception of some crops in the Midwest, there are few areas where different commodities are grown side by side, and while cattle are distributed relatively evenly throughout the country, the production of all other animals is quite concentrated.

These maps suggest that we need to rethink our commonplace ideas of localism and the virtues of local farming. While local food is often more healthful or sustainable, the idea that the US could become a nation of locavores is absurd. No major city could ever source all of its food from local farms—not even those close to major agricultural areas.

All maps shown at the same scale using equal-area projections. Data from the 2007 US Census of Agriculture.
The basic ingredients of beer are water, malted grain, hops, and yeast. Malted barley is the most common grain used for brewing beer and, when boiled, it releases fermentable sugars which the yeast convert into alcohol. Hops are used to add bitterness and flavor in order to balance the sweetness of the malt.

There are only a handful of major yeast suppliers in the world and two of them are in the United States: Wyeast Laboratories and White Labs. Each offers dozens of different yeast strains for both commercial and personal use. The type of yeast used strongly influences the final flavor and aroma of the beer.

In 2011, the US produced over 180 million bushels of barley. Barley can be used for food, feed, and seed, but the majority of the crop is used for brewing beer. About 60% of US barley is grown in Idaho, Montana, and North Dakota, while the rest is grown in other states. Barley is prepared for brewing at malting plants where it is soaked in water, allowed to germinate, and then dried. This process converts starches into simple sugars that can be fermented by the yeast.
Humidity, temperature, compost and fungi spores conspire to grow mushrooms. In commercial production, shiitake and oyster mushrooms are usually grown outdoors on stacked or piled logs. Portabella and button mushrooms are grown in trays in climate controlled buildings. Truffles are the most difficult mushroom to cultivate, growing underground on the roots of oak trees.

According to the American Mushroom Institute, the United States is the second leading producer of mushrooms, providing 17% of the world commercial mushroom yield. 141 commercial and small private mushroom farms are represented on the map. While most farmers grow more than one type of mushroom, the dominate variety is mapped at their location.

By: Shannon Kail with Terra N. Tice. Sources: Mushroom Grower’s Online News Letter, USDA, & American Mushroom Institute

<table>
<thead>
<tr>
<th>Mushroom Farm Type</th>
<th>Production State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shiitake</td>
<td>Pennsylvania</td>
</tr>
<tr>
<td>Button</td>
<td>California</td>
</tr>
<tr>
<td>Portabella</td>
<td>Oregon</td>
</tr>
<tr>
<td>Oyster</td>
<td>North Carolina</td>
</tr>
<tr>
<td>Truffle</td>
<td>Washington</td>
</tr>
</tbody>
</table>
In 2007, the federal government disbursed $8 billion in direct payments to farms as part of an ever-increasing subsidy program that has been in place since the 1930’s. That year, $1.8 billion went toward land conservation-related programs, while the remainder was used to support the production of major agricultural commodities, irrespective of farm need (this total does not include subsidized crop insurance). From 1955 to 2011, approximately 38% of such payments have historically gone to producers of grain corn (used primarily for animal feed and as a biofuel), with the other major commodity crops (cotton, wheat, rice, and soybeans) accounting for an additional 50%. Most fruit and vegetable crops were not eligible for such payments (many produce growers advocated against direct subsidies due to concerns about price deflation). The pending 2012 Farm Bill legislation would reduce or eliminate direct payments for most commodity crops. Production of feed and fuel crops such as corn is heavily concentrated in the highly fertile land of the Midwestern U.S., while vegetable crops are generally produced closer to population centers and near the coasts.
Agricultural subsidies amount to a large portion of the European Union’s annual expenditures. With a total budget of just over 130 billion euros, the EU spent over 50 billion on agricultural subsidies in 2008. The largest recipient of these funds was France, taking in around 10.1 billion euros.

Here, one can track where that money is going, observing the allotment of agricultural subsidies within the EU, in relation to the distribution of wealth, measured in gross domestic product (GDP) per capita. Data points are distributed across the major agricultural areas of each province, proportional to the amount of money the province receives.

International borders are not shown in order to demonstrate how economic differences can be more prominent than political boundaries. Enumeration areas are administrative regions as defined by each country. Due to a lack of available statistics, some countries do not have sub-national enumeration areas. All data is from 2008.

Sources: Europa.eu, Farmsubsidy.org.
### Protecting Food Specialities in the EU

Europe has many different regions and the conditions for agricultural production vary. The different regions have specific production methods and culinary traditions. European, global consumers and food trade are showing an increasing interest in the qualities of these foods.

The EU plays a major role in enhancing and safeguarding in many ways these high quality attributes and, for this reason, has developed three quality logos: PDO, TSG, and PGI.

**1102 REGISTERED PRODUCTS on July 31th 2012**

<table>
<thead>
<tr>
<th>Product Category</th>
<th>PDO</th>
<th>TSG</th>
<th>PGI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oils and fats</td>
<td>545</td>
<td>41</td>
<td>3.7%</td>
</tr>
<tr>
<td>Fruit, vegetables and cereals</td>
<td>46.8%</td>
<td>4%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Fresh meat</td>
<td>49.9%</td>
<td>4%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Meat products</td>
<td>49.9%</td>
<td>4%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Other foods</td>
<td>49.9%</td>
<td>4%</td>
<td>3.7%</td>
</tr>
</tbody>
</table>

A PDO gives status to a food product which is produced entirely within a defined geographical area using recognised skills and ingredients from the region and which is linked to its geographical origin. PDOs include many cheeses (e.g., Parmigiano Reggiano, Feta, Queso Manchego), meat products (such as Prosciutto San Daniele), olive oil (Kalamata, Montoro-Adairuz, Umbris), fruits and vegetables and many wines.

A TSG emphasizes a product’s traditional make-up or traditional production method. It is therefore not linked to a geographical region (Jamon Serrano is an example).

A PGI denotes a food linked by its recognition skills and ingredients which is produced entirely within a defined geographical area using traditional methods and culinary traditions.

### Registered Designations by Country

<table>
<thead>
<tr>
<th>Country</th>
<th>PDO</th>
<th>TSG</th>
<th>PGI</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>84</td>
<td>70</td>
<td>58</td>
</tr>
<tr>
<td>Greece</td>
<td>70</td>
<td>58</td>
<td>58</td>
</tr>
<tr>
<td>Italy</td>
<td>64</td>
<td>58</td>
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</tr>
<tr>
<td>Portugal</td>
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<td>54</td>
<td>58</td>
</tr>
<tr>
<td>Spain</td>
<td>58</td>
<td>48</td>
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</tr>
<tr>
<td>OC</td>
<td>107</td>
<td>54</td>
<td>58</td>
</tr>
</tbody>
</table>

**Source:** UE 2012

**By Giuliano Petrarulo (Researcher, Cartographer)**
Made in the Shade: Bird Friendly Coffee

The “Bird Friendly” certification (BFC) mark identifies organic coffees from around the world that are grown beneath a shade cover. This provides quality habitat for birds—both migrant and resident—and other organisms. The forest-like setting of Bird Friendly farms shows how managed lands can serve as a refuge for biodiversity.

Research at the Smithsonian Migratory Bird Center (SMBC) continues to explore ways that agricultural lands can have environmental value, ultimately linking conservation to the market place. Bird Friendly coffee’s third-party inspection and certification assures consumers that their habit is steeped in habitat.

Quick Facts
• BFC was created in 1996-1997 at the Smithsonian Migratory Bird Center.
• There are about 1,714 producers of BFC at farms and co-ops.
• There are about 9,100 hectares of land in production.
• BFC works with 16 importers and 49 roasters.

By Anika Rice

Source: Smithsonian Migratory Bird Center
Oenocarpus bataua: The Original Amazonian Superfood

Paul V.A. Fine, Sarah Lewis & Tarek Milleron

Existing inventory plots

- O. bataua tree density per hectare

- > 50
- 26 – 50
- 10 – 25
- < 10
- None found

Archaeological sites

- Dates (Before AD 1,451)

- Remains of O. bataua at these sites indicate that people have been enjoying its fruit for thousands of years and have likely been managing its high densities.

The known range of this species falls below 1,400 meters in elevation.

- < 1,000 m

Nutritious O. bataua milk is rich and smooth, likened to “hazelnuts and cream” by Richard Spruce, 19th century botanist and Amazonian explorer. In Iquitos and other cities, bataua pulp is also used as a key ingredient of ice cream.

Fruits from this common palm could be more widely utilized to improve people’s nutrition across Amazonia. One adult palm reliably produces about 25 kg of fruit annually.

Palms in old-growth forests can be 20 meters tall and 500-600 years old. Conservation of this species close to human settlements is important for human diets.

Wild harvests are sustainable as long as people climb palms to collect their fruit. In recent decades, many fruit harvesters have instead cut palms down. This reduces the availability of bataua fruit for people.

Ecuador

Pucallpa

Bataua pulp is also used as a key ingredient of ice cream.

Brazila

Manaus

Belem

Puerto Leticia

Ama z on  R.

665 BP

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Choose Organic
- BETTER TASTE
- LESS WATER CONSUMPTION
- NO PESTICIDE RESIDUE IN PRODUCE SOILS, STREAMS, GROUNDWATER
- PROTECTS FARMWORKERS
- SUPPORTS LOCAL BEE POLLINATION.

Barley
Buckwheat
Field Corn
Flax
FORAGE CROP
Oat
Rice
Rye
Sorghum
Soybean

Apple, Apricot, Asian Pear, Banana, Cattleya, Fig, Grapefruit, Grape, Guava, Honeydew, Jujube, Kiwi Fruit, Kumquat, Lemon, Lime, Mandarin, Nectarine, Orange, Passion Fruit, Peach, Pear, Pimiento, Pineapple, Plum, Plumcot, Pomegranate, Prickly Pear, Prune, Quince, Raisin, Tangsou, Tangarine and Mandarin, Watermelon

Artichoke, Asparagus, Avocado, Beans, Beet, Brussel Sprout, Broccoli, Brussels Sprout, Savory and Head Cabbage, Cauliflower, Celery, Celery, Chard, Chives, Collard, Cucumber, Squash, Eggplant, Endive, Kale, Kuhitab, Leek, Legume, Sprout, Lettuce, Leaf Vegetable, Mixed Vegetable, Mushroom, Okra, Olive, Onion, Parsley, Pea, Potato, Pumpkin, Radish, Rhubarb, Scallion, Radicchio, Shallot

Almond
Hazelnut
Macadamia
Peanut
Pecan
Pistachio
Walnut

Arugula
Basil
Cardoon
Cilantro
Fennel
Garlic
Horseraddish
Mixed Herb
Parsley
Umbels

By: Michele S. Forman, Terra N. Tice

Overseen by the United States Department of Agriculture, The California Agriculture Department's Organic Division, founded in 1979, has blossomed into a dynamic industry with 1,998 organic farms registered in 2011.

When organic sales reach $5000, official certification by an outside testing company is required. Fees of 1-2% of gross receipts is used to maintain the state inspection program.

Today, California produces more than 90% of all U.S. organic sales for 14 different commodities, including 99% of walnuts, lemons, figs and artichokes and 100% of almonds and dates.

The two largest crop yields are lettuce and grapes. 81% of organic sales are made to wholesalers with the rest to retail chains with only 7% of sales direct to consumers at farm stands or markets.

Organic produce is exported to Canada, the European Union, Hong Kong, China, Mexico, India, Australia, Taiwan and United Arab Emirates.

All 150 organic crops grown in California are represented on this map. In 2010, 32% of organic farmers stated their intent to increase production with 44% planning to maintain their current levels.

Organic produce currently costs more than non-organic produce but with growing public awareness and demand, prices will drop.
## Pork Production and Slaughter

- In general, pork slaughter seems to meet the demand – counties that raise the most pork tend to have more, and bigger, slaughter facilities.
- There is some concentration of pork production in the western and central regions.
- Some regions where pork is produced hovers mainly Southern Maryland and the Eastern Shore, lack slaughter infrastructure.

**Questions:** Where do hog farmers without nearby slaughter facilities take their livestock? Do they travel long distances or out of state, or slaughter on-farm?

## Beef Production and Slaughter

- Beef production is concentrated in the Central and Western regions of the state, as are beef slaughter facilities.
- Similarly, there is more beef production than hog production in Maryland.
- Similar to hogs, in Southern Maryland and the Eastern Shore, there is no beef slaughter infrastructure.

**Questions:** Again, where do beef farmers without slaughter facilities take their cattle? Did Southern Maryland and the Eastern Shore lose their infrastructure on was beef was processed why a large facility there?

## Poultry Production and Slaughter

- Maryland's poultry production is heavily concentrated on the Eastern Shore. It is the only animal agriculture that operates on an extremely large scale in the state.
- Three companies dominate the industry in Maryland, relying on contract farmers who raise the chickens. These companies operate the only commercial slaughter facilities there.
- Only one commercial facility is open to small poultry producers in the state. The other small facilities are valued and only sold to the farmers that raise the chickens.

**Questions:** If there were more publicly accessible poultry processing plants in Maryland, would more farmers raise chickens, without contracts? Where would the ideal locations for additional plants be?
Texas Seafood Landings, 2010

The part of the catch that is selected and kept during the on board sorting process and brought ashore dockside by commercial and recreational fishermen, seafood landings are measured in pounds and reported at the locations at which fish are brought ashore. These data were self-reported by participating seafood dealers. It includes commercial landings and marine fisheries, accounting for the landings in non-coastal counties.

Seafood Landings (in pounds)

- 0
- 200,000
- 400,000
- 600,000
- 800,000
- 1,000,000
- 1,200,000
- 1,400,000
- 1,600,000
- 1,800,000
- 2,000,000
- 2,200,000
- 2,400,000

Months

- December
- November
- October
- September
- August
- July
- June
- May
- April
- March
- February
- January

Seafood Landings by Type

- Shrimp
- Bait
- Blue Crab
- Oysters

Seafood Landings (in pounds)

- 10,000,000 pounds
- 2,500,000 pounds
- 500,000 pounds
- 50,000 pounds
- 10,000,000 pounds
- 2,500,000 pounds
- 500,000 pounds
- 50,000 pounds
- 10,000,000 pounds
- 2,500,000 pounds
- 500,000 pounds
- 50,000 pounds

Shrimp Category includes landings of Brown, Pink, Rock, and White Shrimp, and Atlantic Seabob. Data for monthly landings of shrimp intended for human consumption are not available.

Sources: Texas Parks and Wildlife Department, Coastal Fisheries; NOAA; US Census Bureau. Map by Robyn Metcalfe (Author, Researcher) and Jeff Ingebritsen (Cartographer).
The Garden City: Los Angeles, 1940

Alex Tarr & Rosten Woo

Before the Freeway... Los Angeles was the most productive agricultural county in the United States. In 1940, “Small Farm Home” owners grew much of their own food on weekends in Burbank, commuting to industrial jobs during the week. Japanese-American truck farmers grew the majority of LA’s fresh fruits and vegetables. In 1941, they were forced to abandon their farms and report to the Santa Anita Racetrack to be shipped to internment camps. The current site of the Cedar Sinai Hospital was a dairy complex, adjacent to the oil fields that the Beverly Center now sits atop. Exposition Park is named for the agricultural expositions and markets that once took place there. Palm trees once framed the runways of LAX, now rows of beans, carrots, and cabbages. In the first rough years of the Great Depression, their surpluses kept thousands in South LA from starving.

A Lost Agrarian Landscape

Looking around Los Angeles in 1940, you would have seen a lot of new factories, houses, and roads. But in between and all around them, thousands of acres of farms, gardens, orchards, and natural ecosystems filled the landscape. The Works Progress Administration (WPA) and Regional Planning Commission found just this when they divided the county into 30 Statistical Areas and completed an exhaustive survey of land use from 1936-1940. This map, based on the data collected by the WPA, suggests just what a different place LA was and could be.

THE GARDEN CITY
LOS ANGELES, 1940

MAP BY
ALEX TARR & ROSTEN WOO
BASED ON W.P.A. PROJECT L9785

Small Farm Homes
General Agriculture
Tree Crops
Vegetables and Dairy

Agricultural Regions
Other Agriculture
Orchard Crops

THE GARDEN CITY
LOS ANGELES, 1940

MAP BY
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BASED ON W.P.A. PROJECT L9785

Small Farm Homes
General Agriculture
Tree Crops
Vegetables and Dairy

Agricultural Regions
Other Agriculture
Orchard Crops
There are hundreds of gardens and farms in New York City where food is being produced. Most of these exist thanks to the legacy of the community gardening movement, which has been active since the 1970’s. More recently, larger-scale food production has taken root, under the guise of urban farming. While there may be no clear distinction between a community garden and an urban farm, this map shows commercial and non-profit operations that identify themselves as farms.
Compost Green Map of Manhattan: Worms in the Green Apple

Wendy E Braver, Carlos Martinez, Anja Farczalt, Jane Barber, Risa Ichikawa, Andrew Sass, Aaron Reiss

Why Compost in NYC?
The average NYC household discards two pounds of organic waste each day. Citywide, that's 1.5 million tons a year! Composting turns this mountain of material into a renewable resource that helps green up NYC, indoors and out. Composting is the most energy-efficient kind of recycling, and helps reduce the number of garden garbage truck trips, too.

What can I Compost?
Every day, many fresh products are thrown away—almost 30 pounds of food waste per person. But food waste is material that is rich in nitrogen—what you need to make compost! Here's a list of materials that are great for making compost:

- Tea bags
- Coffee grounds & Filters
- Fruit and Vegetable scraps
- Materials that are rich in nitrogen
- Bread and grains
- Sawdust & Wood shavings
- Wood ashes
- Feathers
- Napkins
- Wood
- Paper
- Food-soiled Paper (towels & Napkins)
- Inorganic materials
- Pet waste
- Vegetable and fruit waste
- Grass clippings
- Coffee grounds & Filters
- Paper
- Food-soiled Paper (towels & Napkins)

Worms in the Green Apple

Worm composting (vermicomposting) is an indoor method for recycling food waste into rich compost. Fill a container with shredded newspaper and water, then continually add feed and plant waste. Red wiggler worms (Eisenia fetida) feed each day and leave worms sitting (or, compost) behind, as it's really effective even for busy New Yorkers!

Explore the movement in 65 countries at GreenMap.org

OpenGreenMap.org/compostNYC

Sources: Green Map System, Lower East Side Ecology Center, GrowNYC, Manhattan Borough President’s Office, NYU Sustainability, Green Thumb Grow Together participants and others.

Ishikawa & Andrew Sass (Graphic Designers) and Aaron Reiss (Book Layout)
Toronto’s Eco-Schools: From Food Waste to Food Gardens
Asya Bidordinova, Tammyra Soma, Vick Narensh

In Toronto, the Eco-school certification acknowledges schools that integrate environmental awareness and action into their everyday school activities. Schools can be certified as a bronze, silver, gold or platinum level Eco-school. The four components of Eco-school certification are energy conservation, school grounds greening, ecological literacy, and waste minimization. Within the category of waste minimization, many schools are tackling the issue of food waste by participating in an on-site composting or green bin program.

This map highlights gold and platinum level Eco-schools in Toronto that have demonstrated commitment to a sustainable food system by way of on-site composting, recycling organic waste, and using local foods. These schools are identified by the small red dots with white fill below in the path of environmental stewardship.

Managing food waste appropriately in school is important as it diverts food waste from the landfill and turns food waste into a resource.

Important Fact

1/3 of waste going to landfill is organic. Composting reduces the greenhouse gas emissions in landfills and turns waste into a resource.

TORONTO’S ECO-SCHOOLS
FROM FOOD WASTE TO FOOD GARDENS

EXAMPLE OF A CLOSED LOOP FOOD SYSTEM IN SCHOOL

MAP & TEXT: Asya Bidordinova & Tammyra Soma
GRAPHIC DESIGN: Vick Narensh
DATA SOURCE: Open Data - City of Toronto, www.toronto.ca/open
“Would you like that for here or to go?”

Unless you’re a back-to-the-lander or live in a 100% self-sufficient village, you rely on various means of food distribution to get your daily bread. Even farmers market produce travels around 100 miles to reach your neighborhood stall. An intricate network of farmers, processors, stevedores, and middlemen all play their part in a vast system of food distribution and transport that now implicates the entire world. From the redundant trade of tomatoes in Europe and the world conquest of the California almond industry to farmers markets’ food miles and the availability of fallen fruit, this chapter explores the travels of food.
Food in Flux: The World of Imports

Chelsea Guerrero

Percentage of Food Imports to Total Food Available

These percentages indicate the extent to which a country depends upon imports to feed its population:

- 0–25%
- 25.1–50%
- 50.1–100%
- 100.1–150%
- > 150%
- No Data

Food in Flux: The World of Imports

No Data


When food becomes a global commodity, individual survival depends on global trade. Dependence on food imports is dictated by a number of factors. Too little farmland within a country results in too little food for its people. International trade rules and tariffs force some to buy cheap goods from others rather than grow it themselves. A people’s changing diet may demand foreign products. The map below gives a snapshot of this dynamic global food trade.

Top World Agricultural Imports

- Wheat
- Maize
- Soybeans
- “Soy Cake” for fodder
- Palm Oil
- Rice
- Raw Sugar
- Barley

Per Capita Food Supply: Balance of Trade (exports - imports)

- Israel: 3611 kg/day (negative)
- Portugal: 3582 kg/day (negative)
- Iceland: 3564 kg/day (negative)
- Norway: 3487 kg/day (negative)
- Denmark: 3314 kg/day (positive)
- Spain: 3269 kg/day (negative)
- U.A.E.: 3211 kg/day (negative)
- Saudi Arabia: 3082 kg/day (negative)
- Malaysia: 2881 kg/day (negative)
- Djibouti: 2321 kg/day (negative)

Highly Import-Dependent Countries

There is a lot of variation among import-dependent countries. Even seemingly ‘well off’ countries (those with high per capita food supplies) can be just as import-dependent as those with lower per capita food supplies. In addition, some of the most import-dependent actually export more food to the rest of the world than they import (indicated by a “positive” balance of trade).


Food becomes a global commodity, individual survival depends on global trade. Dependence on food imports is dictated by a number of factors. Too little farmland within a country results in too little food for its people. International trade rules and tariffs force some to buy cheap goods from others rather than grow it themselves. A people’s changing diet may demand foreign products. The map below gives a snapshot of this dynamic global food trade.
Global Almond Trade and California

California leads the world in almond production. In the 2010-2011 crop year, the state produced 80.1% of all almonds grown worldwide. As a high-value crop, almonds have become an attractive nut to many California growers and orchards, with over 825,000 acres planted in just the last 20 years. Industrial, scale, irrigated orchards have made this possible at the expense of native pollinators, small-scale farmers, and historically land farmers in the Mediterranean and the Middle East.
A Tomato’s European Tour

Lucia Argüelles & Jennifer Lara

Differences in climate and consumption patterns make the movement of food a reality in this globalized world. These movements, commonly in form of transboundary imports and exports, have a relevant environmental impact as well as an economic influence in the countries involved. International trade treaties influence the direction of these movements, often to the detriment of the environment or the poorest countries.

TOMATOES EUROPEAN TOUR

TOMATOES EUROPEAN TOUR

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TOMATOES EUROPEAN TOUR

Some countries import and export raw tomatoes. This is the case of Spain, which is a net exporter but imports raw tomatoes from Morocco and France among others. The reasons behind these imports are diverse (climatic, economical) but mainly political (commercial treaties). In some cases, countries import from and export to another country. This leads to situations like the ones reflected by the exports chain in the map. A tomato grown in Spain, could be, consecutively, exported several times and end up in Spain again.

Harm to the environment by air and noise pollution and resource depletion could be reduced by only consuming fruits and vegetables of the season and minimizing transportation distances. These issues are addressed by the Slow Food Movement, which call for a responsible food consumption.

Percent of tomato consumption satisfied by domestic production, by country*

- No data
- 0-20
- 20.1 - 35
- 35.1 - 50
- > 50

Exports volume of raw tomatoes*

1 million tons

Transport route

*Data from 2005

Source: FOODAT (www.foodat.org)

By Lucia Argüelles (Author, researcher) & Jennifer Lara (Cartographer)
The Distance Your Food Will Go to Be Eaten: A Food Mile Comparison

Diana Martin

The Sustainable Food Center in Austin defines ‘local’ as falling within 150 Food Miles of the city. A Food Mile is the distance an edible product travels from producer to consumer. Farmers and vendors who participate in Sustainable Food Center (SFC) farmers markets must meet this standard. Each Food Mile produces energy and emits pollutants.

A comparison between two Austin food systems is illustrated. Identical baskets of food were chosen from vendors in close proximity to one another, an SFC farmers market and an Austin grocery chain.

The U.S. Congress definition of “Local Food” was originated in 2008 as part of establishing the Food, Conservation, and Energy Act (2008 Farm Act). “Food produced, processed, and distributed within a particular geographic boundary that consumers associate with their community.”

The 16 basket items were compared based on their food origin data. All items were available at both vendors. The grocery chain carried two items that were grown within 150 miles of Austin. All 16 items at the farmers market traveled just an average of 107 miles.

FOOD MILES
Farmers Market  107
Grocery Chain  1,202
Total  912  24,690
A Geography of Illinois Wheat
Sarah Kavage

Fresh Catch: Community Supported Fishery in Massachusetts
Farm to Table: Community Supported Agriculture in Massachusetts
Steven E Silvern & Milan Budhathoki
The first Community Supported Fishery (CSF) was formed in Port Clyde, Maine in 2007. Since 2007, the number of CSFs has increased to 31 across coastal areas of the United States. CSFs, modeled after Community Supported Agriculture, create direct connections between fishermen and consumers. Consumers buy a “share” upfront from the CSF and then receive delivery of a specific quantity of fish on a weekly or bi-weekly basis during fishing season. CSF customers express concern about the sourcing of their seafood and a desire to support a local, sustainable fishing economy. For fishermen, the benefit is greater revenue and profits through the elimination of wholesalers, auction houses and other middlemen. The map shows the location and delivery network for CSFs located in Massachusetts. The Cape Ann Fresh Catch CSF in Gloucester is the largest CSF in the United States with 650 members. The delivery sites on the map include farmers markets and CSA farms.

**Why People Start a CSA?**

- Love of fresh fish
- Local support
- Quality

**What do CSA Farmers Consider Local?**

- One hundred New England
- Local
- Sustainable
- Healthy
- Land
- Cost
- Members
- Demand
- Many

**What are Major Challenges Identified by CSA Farmers?**

- CSA Growth: Community Supported Agriculture in Massachusetts

Community Supported Agriculture (CSA) in the United States began in Massachusetts in 1985. In the CSA model, consumers receive food directly from local farms that produce vegetables, berries and more recently meat, grains and flowers. Mirroring national trends, the number of CSAs in Massachusetts has grown dramatically over the last few years from 74 in 2006 to 165 in 2011. The map above depicts the locations of CSAs in Massachusetts and the distribution network connecting farms to shareholders, showing how food flows across the state in a west to east direction with a focus on the metropolitan Boston region. CSA farmers deliver produce, often boxed, to shareholders at designated drop-off/pick-up sites in the Boston area.

Hampshire and Middlesex Counties stand out as having large clusters of CSAs and the largest number of shareholders. The shareholders pattern depicted on the map to the left may be explained in part by higher levels of income, education and the local culture.

Data Source:
- Salem State University Survey of CSAs, December 2011.
- Local Harvest, Northeast Organic Farming Association Massachusetts Department of Agriculture

Steven E. Silvern, Ph.D. (Author) and Milan Budhathoki (Researcher and Cartographer)
Alicia Fisher, John-Mark Hack, Ryan Cooper, Benjamin Golder

Food Labels: Branding Place of Origin

Sources: ASAP, US Census 2010, Natural Earth

Southern Appalachian Mountains.

outside of state political boundaries, a new wave of grassroots activism across the U.S. has resulted in the growth of community-based organizations. These strategic, regional networks have formalized to organize and to mobilize resources to address economic, social, and environmental issues. Food system localization and sustainability are now central goals for many organizations of the alternative agriculture movement.

Appalachian Sustainable Agriculture Project (ASAP) is one example of the grassroots efforts to localize food through a network of producers, food processors, direct marketers, food services (restaurants, schools), agri-tourism, and retailers. ASAP was founded in 2002 and designed a branding and certification program marketing local foods, local farms, and healthy communities and currently serves 700+ members. (4) ASAP’s label is third-party certified because ASAP develops its own rules and assures consumers that it meets its own claims. The ASAP label signifies food origin—farm products are grown or raised in Western North Carolina and the Southern Appalachian Mountains.

Food Labels: Branding Place of Origin

In the U.S., state-sponsored agricultural marketing programs have given rise with the increase in consumer demand for high-quality, value-added products. Since the 1980’s, states have been involved in marketing and differentiating agricultural products, such as Washington apples, Idaho potatoes, and Georgia peaches. By the 2000’s a surge of states launched agricultural state-branding programs, with as many as 48 states today using a logo to brand state-wide agriculture.

Outside of state political boundaries, a new wave of grassroots activism across the U.S. has resulted in the growth of community-based organizations. These strategic, regional networks have formalized to organize and to mobilize resources to address economic, social, and environmental issues. Food system localization and sustainability are now central goals for many organizations of the alternative agriculture movement.

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Sources: ASAP, US Census 2010, Natural Earth
The City of Berkeley, California, hosts 3 weekly farmers’ markets that attract more than 80 diverse vendors. Most of these vendors are from within 100 miles, a distance commonly used to determine a city’s local foodshed. Alameda County, in which Berkeley is located, features the largest number of vendors that serve the city. The markets are great places to find fresh local produce, dairy, meat, baked goods, and more.

**BERKELEY’S FARMERS’ MARKETS**

By Cameron Reed

Source: The Ecology Center

Berkeley, CA
Hospicio Cabañas, founded in 1791 in the center of colonial Guadalajara, Mexico, was a hospital for the people and a home to orphans, the elderly, the poor and handicapped. All of its many courtyards are planted with ever-bearing fruit trees to feed the sick and hungry.

Christiana, on the outskirts of Copenhagen, is part of a decommissioned military base. In the early 1970s, socialist radicals declared the area free from government control and seceded from the country of Denmark.

Fallen Fruit's Public Fruit Maps create a treasure hunt for public fruit that grows in, or hangs over, public space. These three maps are walking guides to neighborhoods that demonstrate ideas of goodness, generosity and abundance; free fruit lines the streets of the most populous cities of the world.

These three maps have another history: they reference social spaces born from communal ideals. Sharing has always been considered a way of life in these magical neighborhoods.

There are more maps at fallenfruit.org

Chautauqua is just outside of Boulder, Colorado. A summer retreat for educated women in the 1890s, it became part of the largest educational movement in the history of the United States of America.
Across language, class, religion, and race, food is a connection we all share. For some, eating is a benign daily ritual. For others it’s a point of activism. For still others it’s an expression of sensuality or a touchstone of identity. For too many, food is a point of contention. Nearly nine hundred million people in the world suffer from malnutrition and hunger, 200 million of them children.1

This chapter’s maps explore a range of issues tied to food security, or access to adequate food. If I’m food secure, I don’t have to think about where my next meal is going to come from, and face no challenges in procuring sustenance. If I’m food insecure, I don’t have enough food to eat, or perhaps I must rely on emergency food resources, lack funds to purchase food, or don’t have easy access to food shops. This chapter maps issues of food security, posits some potential solutions to food insecurity, and shines light on organizations working for food justice.

As we barrel towards a projected nine billion people in the world by 2050, pundits and policymakers continue to ask whether food production can keep pace with our growing numbers and changing food preferences.2 Time will tell. One truth is plain: confronting these challenges, and keeping our world healthy and fed, will require serious engagement with the interrelations between class, history, economic development, and the health of our ever-growing population.
Global Imbalance of Nutritious Food

Lucía Argüelles & Jennifer Lara

While the risk of undernutrition can reach the point of hunger, the global South still faces the problem of food availability for a variety of reasons. The availability of nutritious food is crucial for promoting good health and preventing diseases such as obesity. The global imbalance of food availability affects both developed and developing countries, but the impact is more significant in regions with higher populations and less resources. The diagram illustrates the distribution of food availability around the world, highlighting areas where deficiencies exist. Further research and international cooperation are necessary to address these imbalances and ensure equitable access to nutritious food for all.
Land For Sale: The New Trend of Commercial Pressures on Land in Sub-Saharan Africa

Lucia Argüelles & Jennifer Lara

Top 10 investor countries in Sub-Saharan Africa in agriculture and livestock sectors
1. China
2. Israel
3. USA
4. United Kingdom
5. Republic of Korea
6. India
7. Sweden
8. South Africa
9. Saudi Arabia
10. Norway

Top 10 crops
1. Jatropha
2. Corn
3. Oil Palm
4. Sugar cane
5. Sunflowers
6. Rice
7. Cassava
8. Cereals, all
9. Oil seeds
10. Castor Oil Plant

The climate, financial and energy crisis which are taking place during the first decades of the 21st century boosts the interest on land and resources. Those resources (oil, minerals, wood) are often found outside the countries where the consuming population is, and are the chief marketing products, such as food or biofuels.

The dimension of this trend remains unclear due to the secrecy surrounding the land concessions, but there is no doubt about the large scale of this global phenomenon. The new investor countries has attracted much attention during the last 5 years. This attention is partly due to the social conflicts or environmental burdens associated to these land acquisitions, which deservedly are often referred to as land grabs.

FOOD VERSUS FUEL DEBATE
The high pressure on land was a major cause of the food crisis in 2007/2008, when food prices soared, depressing the food scores of millions. Biofuels played an important role in this crisis: millions of hectares were dedicated to energy crops rather than food. Consequently, the availability of food decreased and the prices soared.

Biofuels also hampers the access to food directly; with investors seeking land in the global South the evictions of locals are common. Subsistence farming is substituted by industrialized agriculture and food harvests are replaced with non edible energy crops.

According to Vandana Shiva “from the richest countries in the North to the poorest countries in the South, food security is being forgotten in order to keep the energy infrastructure well-oiled”.

Source: Land Matrix at LANDportals.info
By Lucia Argüelles (Author, researcher) & Jennifer Lara (Cartographer)
Threats to Indigenous Food Traditions in North America

Threats to Indigenous Food Traditions in North America

Annita Lucchesi

Lake Athabasca

- Fish populations have declined due to industrial pollution, and water levels have fluctuated, impacting the traditional food sources for First Nations communities.

Lake Huron

- Commercial and recreational fishing are regulated, affecting traditional food sources and cultural practices.

St. Lawrence Island

- Soil erosion, pollution from human activities, and the introduction of non-native species have disrupted local food sources and traditional hunting grounds.

Kuskokwim River

- The traditional practice of salmon fishing is threatened by industrial pollution and the construction of dams, affecting the availability of a staple food source.

Klamath River

- The Klamath River is crucial for salmon migration, but water diversions for agriculture and hydroelectric projects have disrupted the life cycle of salmon, affecting traditional food sources.

Puget Sound

- Changes in the marine environment due to climate change and pollution are affecting traditional seafood采集 practices.

Bristol Bay

- The Bristol Bay watershed is a critical habitat for salmon, which are an important food source for Native communities. However, mining activities are threatening the salmon populations.

California Coast

- Coastal communities rely on marine resources for food, culture, and livelihood, but pollution and overfishing are threatening traditional food sources.

Tewa Pueblo

- Pollution from nearby uranium mining has degraded the soil, affecting agriculture and traditional food sources.

Mexico City

- Urbanization and industrialization are affecting traditional agricultural practices, reducing the availability of local food sources.

Lake Superior

- Climate change is impacting the traditional cycle of hunting and fishing, affecting the availability of food sources.

About This Map

Indigenous peoples across North America are fighting to maintain their ways of life, and access to traditional foods continues to be threatened. This map offers a small glimpse of the array of ongoing issues, illustrating the importance of preserving ancestral culinary traditions.
Food Insecurity & Indigenous Communities in Canada’s North

Though indigenous peoples have fought for equitable access to healthy foods since the imposition of colonial rule, 2010 was a landmark moment in contemporary struggles of this nature for Indigenous Northern communities. The replacement of existing Food Mail programs with Nutritions North, a subsidy program, had many worried about escalating food prices, and a year later, a United Nations Right to Food Enquiry named the conditions in which Northern Natives were living “desperate.” Soon after, Northern indigenous people created what is now the internationally known grassroots organization Feeding My Family, which is dedicated to protesting food insecurity and hunger in Northern communities.

<table>
<thead>
<tr>
<th>Item</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread</td>
<td>$0.99</td>
<td>$5.69</td>
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<tr>
<td>Milk</td>
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</tr>
<tr>
<td>Chicken</td>
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<td>$60.99</td>
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</tbody>
</table>

The data presented here was collected with the help of numbers of Feeding My Family, as well as other indigenous rights activists. Though it is not exhaustive, it demonstrates the stark difference in rates of consumption between Canada’s North and South. As the map demonstrates, Northern communities not only pay substantially higher prices for basic necessities, but are primarily comprised of indigenous populations. This protects an endangered species to provide adequate support for Northern residents and address ongoing colonial violence.
Which Came First, Food Policy or Food Hub?
Alicia Fisher, Gabriele Ciciurkaita, Benjamin Golder

The map illustrates the spaces of influence where food policy and food hubs operate to potentially create new solutions to spatial gaps in emerging small food hubs, rural areas, or urbanized areas. The first food policy centers (FPCs) in the U.S. started roughly 15 years ago, while most have only popped up in the last decade. Food policy centers are coordinated through state or local government, or grassroots, collaborations or a range of stakeholders to shape policy and increase access to healthy foods in local communities. One of the primary areas on FPCs works to expand the food hub network. A food hub is defined by the United States Department of Agriculture (USDA) as a centrally located facility with a business management structure facilitating the aggregation, storage, processing, distribution, and/or marketing of locally produced food products. A hub-like space for system-to-system production can be found throughout the global food system in the U.S. or abroad back to the 1960s, and still exist in various forms today. Today, this space is both physical and virtual and includes a range of strategies to distribute local foods. Growing a food hub is part of the more recent and growing sources in " Lowell, MA: FEDCO, 2013."
The Food Chain Workers Alliance is a coalition of worker-based organizations whose members plant, harvest, process, pack, transport, prepare, serve, and sell food, organizing to improve wages and working conditions for all workers along the food chain.

A full report on food worker organizations is available at www.foodchainworkers.org.

Sources: Food Chain Worker Alliance Research.

Cartography & design by John de Goede with Alex Tarr.
Farmers markets across the United States are increasingly offering opportunities for low-income citizens to benefit from fresh, local, and healthy food options. Those who qualify for food stamps, or specifically the Supplemental Nutrition Assistance Program (SNAP), are benefiting from their neighborhood markets that accept the program. This geographic representation of the acceptance of SNAP at farmers markets nationwide showcases metropolitan areas with 50,000+ total households (as defined by the U.S. Census Bureau) in which the program is both needed and utilized.
Unlike the United States and Canada, where food banking has had a historically high profile, this has not been the case in England. However, the last eight years have seen the rise of the country’s single largest food banking initiative and with it, increasing attention on the work of food banks. Since being established in 2004, the charitable food banking franchise – Foodbank – run by the Trussell Trust has grown at a phenomenal rate. Starting out with two projects in the South West of England, there are now 221 launched throughout the whole of England. Last year – between April 2011 and March 2012 – Foodbanks fed 110,291 people in England alone. This map visualises the geography of Food banks in England, charting their pattern against unemployment rates – an important factor impacting on food security. From this map, the growth up to March 2012 appears to be uneven both socially and spatially. Foodbanks are localised charitable initiatives, aimed to assist people in need in their communities. They are not an official national response and as such their emergence has not necessarily followed in line with patterns of poverty and inequality. The proliferation of this initiative and the rising numbers of people assisted by Foodbanks highlights the pressing need for comprehensive policy responses to the issue of hunger across England today.

Mark A. Green and Hannah Lambie-Mumford

Sources: Office for National Statistics, Trussell Trust
SECURING FOOD and FRONTIERS IN OKINAWA, JAPAN

“Most important, I think, is that we raise our level of food self-sufficiency. To solve the basic problem... we should produce ourselves more of the food we eat.”

Hukinok Adaihime

Securing Food and Frontiers in Okinawa, Japan

Emma Tome
Collecting Food Surplus in Northeastern Italy

Giuliano Petrarulo

Another Pampa Is Possible!!!

Iconoclastistas

The Fondazione Banco Alimentare (the Italian Food Bank) collects the production surplus of the agro-alimentary chain, redistributing it to over 300 charity organizations engaged in offering alimentary help to the poor and the outcast. The Banco Alimentare network collects foodstuffs which are still very good but, having lost their commercial value, would otherwise be destroyed.
**COLLECTIVE MAP** OF THE ARGENTINE HEART OF THE SOY MODEL (2010)

Another Pampa is possible!!

Sickness, destitution, water contamination and wealth for a select few, in a region that contains more than 50% of the Argentine population and that is suffering from lost “soy-ization”

More than half of the whole land in Argentina is planted exclusively with transgenic soy due to high profit margins driven by international demand. The profits generated from soy cultivation benefit only transnational agrochemicals, large producers of companies and producers of herbicides and biopesticides (most of the Societas Farmaceuticas Argentina, etc.). It is this entire market that the farm is designed to exploit and to which the land is sold. In addition, the farms are8 children and work with other institutions and movements to address social and environmental problems, working especially towards democracy and other elements...

**Food & gasoline**

The production of biofuels, such as soy in Argentina, makes sense only if the soy model is viable. In this context, it could be argued that the only place in the world where the soy model is possible is the Argentine Pampa, where a large number of small producers are forced to emigrate to urban centers. In the most pressing local problems, vomiting, respiratory diseases, and other ailments.

In resistance to this model of monoculture, contamination and the placing at risk of both food sovereignty and small producers, the actions of indigenous peoples and campesinos stand out. These include the Campesino-Movement of Santiago del Estero (CEMASE-SC), the United Campesino Organization of Northern Córdoba (APENC), the Western Mountain Campesino Union (UCOS) and the Campesino Union of the North (UCAN), as well as dozens of neighborhood groups organized against agribusiness. Collectively, they struggle to create another way of life through organization and environmental practices.

**Mercosur’s monoculture**

The map is the result of the systematization of the following collective mapping workshops (2008-2009): Pañuelos en Rebeldía / Buenos Aires. Escuela de Ciencias de la Información y Casa 13 / Córdoba. Facultad de Ciencias Económicas

This is the result of an collaborative mapping workshop (2008-2009) implemented by the iconoclastas network, an association of artists and activists who seek to challenge the dominant representations of the world that act as a barrier to understanding.

Regional Food Resilience: Mapping Potential Adaptations to San Francisco Bay Area’s Food System

Using a transect of four urbanized areas in the San Francisco Bay Area, the following criteria related to food resilience are mapped: productive capacity of private home open space, distance to a full-service supermarket, and fuel necessary to deliver food to a full-service supermarket using a water-based distribution network. The map asks - how much food can these communities grow at home? What portion of their annual food needs does that represent? Could a person walk to a store if they do not have access to a car, or to fuel? Are these communities advantageously sited if a water-based distribution network were utilized? The map seeks to create an open-ended - that is, rather than prescribe which is the most resilient community - it leaves the reader to sift through the competing factors and decide for themselves. The map may also raise more questions than it answers, broadening the complexity of thinking on the issue of food resilience and the built environment. The goal is to inspire planners and designers to consider food resiliency as a factor in the design and location of new communities.

Sources: San Francisco Bay Conservation and Development Commission, USGS, Farmland Mapping & Monitoring Program.
As a source of fresh, healthy, locally grown food, Healthy Food Resources (HFR) are increasingly being promoted as important community features that can support public health, reduce environmental pollution, and promote economic vitality and self-sufficiency. However, not all communities in Santa Clara County have equal access to HFRs. Low-income households face barriers to access when considering such factors as location, service, affordability, and policy. Such barriers contribute to public health inequities experienced by low-income communities and communities of color.


Local Food

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Percent of Low-Income Households within Walking Distance (1/2 mile or less) of Local Food

Local Food Sources
- Community Garden
- CSA Farm
- Farmers Market

Land at Risk of Development
- High Risk (likely developed within 10 years)
- Medium Risk (likely developed within 20 years)
- Low Risk (likely developed within 30 years)

Local Food in Santa Clara County

Brian Fulfrost
The food environment includes:
- The physical presence of food that affects a person’s diet,
- A person’s proximity to food store locations,
- The distribution of food stores, food service, and any physical entity by which food may be obtained, or
- A connected system that allows access to food.

Planning for improvement in overall community health should include access to affordable and healthy food.

Growing evidence demonstrates a strong relationship between our health and the built environment.

MODIFIED RETAIL FOOD ENVIRONMENT (mRFEI) IN SANTA CLARA COUNTY

The modified Retail Food Environment Index (mRFEI) measures the number of healthy food retailers as a percentage of the total number of healthy and unhealthy retailers in a given area. For this indicator, healthy food retailers include supermarkets, supercenters, and smaller produce stores. Less healthy food retailers include convenience stores, fast food, and small corner stores.

Strategies to improve the community food environment include increased access and availability to healthier food retailers. The mRFEI is one of the tools used to promote “Healthy Planning” in addition to tools that promote active transportation and mixed land use patterns.

Sources: Center for Disease Control and Prevention (CDC), California Nutrition Network (2011); USDA (2011).
Baltimore City Food Swamps
Amanda Behrens, Julia Simons, James Harding, Michael Milli

Wherever healthy food is lacking, unhealthy food tends to be abundant

What is a food swamp?
A food swamp is a place where unhealthy foods are more readily available than healthy foods. (Unhealthy foods include those that are dense in calories, high in sodium, and high in sugar.) Food swamps typically exist in food deserts, where there are limited options for purchasing healthy foods. On this map, food swamps are represented by the dense clusters of circles and triangles. For example, a food swamp might be an area where there is a predominance of small corner stores and carry-ouats, but no healthy food sources, such as supermarkets or farmers markets.

What is a food desert?
A food desert is a low-income neighborhood that lacks easy access to healthy, affordable food. Because healthy, affordable food is usually found in supermarkets, most food deserts lack proximity to a supermarket. In Baltimore, we developed a more specific definition of “food desert” was developed that includes four factors.* On this map, food deserts are represented by the red-shaded areas.

*Food Desert: An area where the distance to a supermarket is more than ¼ mile, the median household income is at or below 185% of the Federal Poverty Level, over 40% of households have no vehicle available, and the average Healthy Food Availability Index score for supermarkets, convenience and corner stores is low.

Contributors: Amanda Behrens & Julia Simons (authors), James Harding (cartographer), Michael Milli (designer)
Data sources: American Community Survey, Baltimore City Health Department, Center for a Livable Future, ESRI
STARVING FOR FRESH FOOD
Food Deserts in Los Angeles

FOOD DESERT
Areas with little availability of fresh foods.
One way to define a food desert is to see if there are enough fresh food sources, like grocery stores, in areas of high population density where there would be a greater need to fill.

Food Desert Issues
Supermarkets and grocery stores are not the only sources of fresh foods. Farmers markets, community gardens, fruit and vegetable markets, restaurants, and specialty or gourmet stores also provide healthy alternatives.

Corner stores and convenience stores, which are often more accessible, generally carry foods like chips, candy, and sodas because they are easier to sell and have a longer shelf life than fresh produce.

In South L.A., high development costs, presumed lack of skilled workers and high crime rates and urban decay have discouraged new supermarkets from entering.

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Food Swamps in Los Angeles
Areas with a high density of fast food restaurants or convenience stores and a lack of healthy food choices.

Lower-income households are the most vulnerable in these areas, as fast foods may be financially or physically out of reach, making the nearest fast food place or corner store a more convenient choice.

NEIGHBORHOODS
These maps use neighborhood boundaries as defined in the Los Angeles Times, “Mapping L.A.” project.

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Areas with a high density of fast food restaurants or convenience stores and a lack of healthy food choices.

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Percent of Adults Diagnosed with Diabetes

South L.A. region

10.8

South-Central L.A.

22.2

Starving for Fresh Food

Farmers markets, community gardens, fruit and vegetable markets, restaurants, and specialty or gourmet stores also provide healthy alternatives.

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San Francisco Urban Agricultural Projects

Noah Christman, David Peters, Terra N Tice, Eli Zigas
Despite being the most densely populated large metro area in the U.S., there are thousands of vacant or otherwise underutilized sites in New York City. The vacant land shown consists of parcels with no active use or structures, and presents the most obvious opportunities for transformation through urban agriculture into productive spaces that serve their surrounding community. For the purposes of this map some sites deemed environmentally sensitive were not included, and while not all of these remaining parcels are suitable for agriculture, there is ample evidence of the potential for this activity to expand and flourish in New York City.
There are 1,201 acres (486 hectares) of arable public land in Oakland, California. 330 acres (486 hectares) of this land has a slope under of 30%. Devoting even 100 acres (40.5 hectares) to urban agriculture could supply the city with as much as 3% of its current vegetable consumption levels.
City Slicker Farms’ mission is to empower West Oakland community members to meet their basic need for fresh, healthy food by creating sustainable, high-yield urban farms and backyard gardens. Since its inception in West Oakland in 2001, City Slicker Farms’ programs have addressed food insecurity in the most fundamental ways: helping people grow food where they live and access fresh food in places where it did not exist. This work doesn’t merely transform broken food systems; by advocating for policies that foster health and empowerment, by providing training and educational opportunities, and by cultivating underutilized, blighted urban spaces—turning them into places of civic pride, they also transform communities.
FOOD: exploration

You are what you eat eats.
— Michael Pollan

We’ve partnered with Mission:Explore to include a number of their interactive food-exploration missions aimed at engaging the next generation of guerrilla cartographers. Big and little kids alike will relish time spent completing these food-related challenges—answering questions about foraged-food sources, considering cuts of meat, and taking on off-the-map tasks like growing brea mold and baking cookies.

By encouraging us to explore culture and tradition, these mapping activities ask us to rethink our notions about what is edible and how we experience food. They also make us think solidly about what we know of our local food system. Along the way, readers who indulge in this interactive part of the atlas are sure to learn a thing or two about cartography as well as arrive at a few new answers about the age-old question, “What’s for dinner?”

Mission:Explore Food is created by The Geography Collective. This special extract has been crafted by the Collective’s Helen Steer, Tom Morgan-Jones, and Daniel Raven-Ellison.
11 MF042
Do a marathon harvest

Only buy food that’s been grown, harvested and produced within a marathon (26.2 miles or 42.195 km) of your home.

What foods are inside the allowed area?

What foods are outside the allowed area?

Which shops are best for sourcing local foods?
Learn your cuts

Ask your local butcher about the different cuts of meat on animals. Is there a big difference in their taste, texture, smell, healthiness or appearance? With the help of your butcher label the different parts of those other animals, just like has been done for Bary Bear below.

Culinary cartography

Draw a map of where your local free food supplies are.
**Cut country cookies**

Make and bake cookies that look like countries.

100g butter or margarine, softened  
100g soft brown sugar  
100g self-raising flour  
i tsp vanilla extract  
75g oats  
1 egg  
Extras - raisins, chocolate chips, chopped nuts...

1. Set your oven to 170°C/  
350°F/gas mark 4.

2. Cream the butter and sugar in a bowl, then mix in the eggs and vanilla extract.

3. Stir in the flour, oats and extras (if using) to form a soft dough. Add some more flour if it’s too sloppy.

4. Shape the cookie dough like real or imaginary countries and place them on a lined baking sheet with room to spread out when they are in the oven.

5. Bake for around 15 minutes and let the biscuits cool for 5 minutes before tucking in.

Serving suggestions use your cookies to demonstrate continental drift.
13 MEF121
Where has your bum been?
Mark all the places on this map where you’ve deposited a poo.

11 MEF122
Mold mapping
Leave a piece of bread on the windowsill and draw the mold pattern that develops over the week.

Tip! Don’t touch or eat mold.
Tell me what you eat, and I will tell you who you are.
— Anthelme Brillat-Savarin

All maps in Food: an Atlas were provided by cartographers who seek to expose the truth about what (and how) we eat. In no chapter are the maps more personal—or more conceptual—than in this one. Where preceding chapters have focused on how humans produce, transport, share (or don’t share) food—about how we create food—this chapter is about how food creates us.

Humans find community through what is eaten or not eaten, in the ways we grow, prepare, and celebrate food. Hence, these maps conceptualize food through memory, identity, and relationship to the landscape. Food as a touchstone of the human experience. These maps forge meaning by focusing on the fusion of food and place. They demonstrate the beauty of our interconnectedness.
The task of compiling the national dishes of the world yields only one conclusive finding: that it is impossible. The potential to create a map showing patterns of most dishes in traditional cuisine across the globe was too alluring to deny, so we present you with the first unofficial map of national dishes of the world.

What makes a national dish is ambiguous. In a tidy flat food (kitchen, China), or a heritage food with limited appeal beyond its nation of origin (ketchup, homestyle). What is the most popular dish eaten in the country, or the nest? Does a national dish represent the intention to be consumed far from the country? What is the goal of the people? Is it a reflection of postcolonial mixing and migration (currywurst, West African “rice fish” with tomato sauce)?

The task of compiling the national dishes of the world yields only one conclusive finding: that it is impossible. There are too many opportunities for discussion and debate. We have tried to include as many countries as possible, and to provide as much detail as possible.

Through this map, we hope to inspire hungry explorers to venture into new territories.
Fermented Foods of the World

Sandor Katz, Alex Cole-Weiss, Heather Sparks

Global Gastronomy

Sophia Hussain, Sasha Wizansky

Drinks
16. Jepache, Mexico
Pineapple beverage
17. Chicha, Andes
Grain-based "non-alcoholic"
18. Masty, Caribbean
Buckthorn-Tree Bark Beverage
19. Kvas, Russia
Sourdough beverage
20. Sorghum Beers, Sub-Saharan
Beer made from malted sorghum
21. Teq, Ethiopia
Honey wine
22. Coffee, Ethiopia
Coffee-beans beverage
23. Wine, China, Iran, Egypt, Greece
Fermented fruit or grape juice
24. Tea, China
Camellia sinensis leaf drink
25. Sake, Japan
Rice beer

Staple Foods
1. Pa, Hawaii
Taro root staple porridge
2. Cherokee, Europe, Central Asia, Middle East
Firm/soft milk-based foods
3. Sauerkraut, Korea, Germany, France, China, Korea
Shredded-cabbage dish
4. Yogurt, India, Iran
Bacterially-fermented milk
5. Kefir, Central Caucasus Mountains
Pregnant-milk
6. Injera, Ethiopia
Fermented grain bread
7. Dosa, South India
Thin, lentil/vegetable pancake
8. Idly, South India
Steamed lentil cake dumpling
9. Natto, Japan
Gory soybean staple dish
10. Tofu, Japan
Japanese pickles
11. Tempeh, Indonesia
Firm soybean “patty”

Condiments & Sweets
12. Chocolate, Mesoamerica & Central America
Sweet cacao bean product
13. Soy Sauce, Korea, China
Soy wine condiment
14. Fish Sauce, Thailand, Cambodia, Vietnam, Indonesia
Salt-and-fish condiment
15. Miso, Japan, China & Korea
Soybean paste condiment

How global is spaghetti? Apparently more than Van Gogh! A Google search returns 117 million pages on “spaghetti” but only 86 million pages for Van Gogh. The search volume reported by Google trends for spaghetti stems from the worldwide diffusion of pasta consumption.

The data show that pasta is part of several cultures’ diets, in particular in North and South America and in central and southern Europe.

Why so global? Well, more than immigration flows and tourism, the “soft power” of the Mediterranean diet accounts for the globalization of “spaghetti”. Namely, it is the seduction exerted by the Mediterranean cooking culture which has made “spaghetti” root in different places and embed in local cooking cultures.
Food may establish a cultural identity of an ethnic group, religion, or nation. Food taboos are prohibitions against consuming certain foods and they may strengthen cultural identity while establishing differences between various groups. Food taboos may have originally been established to protect human health, express empathy or form group cohesion or identity. This map shows only those foods that are banned by major religious institutions.

Of course, in our current world of global mobility, there will be people belonging to all of these mapped religions observing these food restrictions in all parts of the world. There are also other religious-based food taboos that don’t appear on this map because they are observed by a religion apart from the local dominant religion. Examples include vegetarian restrictions by Indian Jains, caffeine restrictions by Utah Mormons, as well as many local food taboos practiced by indigenous religions.
On Wednesday the 5th of September, class 1.a. of the Rybners Gymnasium in Esberg, Denmark, was asked to participate in an experiment of mapping the origins of their lunchboxes. All students, age 15-17 (6 male, 21 female) were handed 3 maps; one of Denmark, one of Europe, and a world map. They were then asked to show on the map where in the world they thought the different parts of their lunch were originally sourced. The students were then instructed to investigate their observations further at home. The next day the class got together and drew this map as a mash up of their previous work.

The map is a curious blend of awareness and unawareness of agricultural products and industrial outputs. The products labeled on the map are wheat, cinnamon buns, ham (as part of a toast) and beef cattle. Other images and drawings clearly illustrate Greek yogurt, Italian mozzarella cheese, pomegranate and watermelon from Turkey, with the exception of the toast, which apparently originates in Germany.

There are many things that can be understood by this map including the students’ awareness of the origins of their lunches, the context of their daily food intake while at school, and also a spatial orientation for high school students in a globalized, commoditized food chain.

To learn more about this project, contact N.C. Nielsen, ncn@rybners.dk
Fruity London: Mapping Where London Gets Its Fruit From, With Fruit

The Geography Collective & Kaitlin Jaffe

To celebrate the release of their new book, Mission: Bermondsey Food, the Geography Collective decided to go on a little adventure in London. A group of them went on an Oxfam's Journey Before Splashing into these teams. The mission was to harvest as many different varieties of fruits as they could, costing just $5 hours, later on Speaker's Corner in Hyde Park. The team went to markets in East London, another to Battersea and the last one at Borough Market. As we were going to the markets we went into some well-known "local" supermarket too. Together they managed to gather nearly 100 varieties of fruit from 29 countries. A lot of fruit was

The plan was to arrange the fruit into a street-map that represented where in the world London gets every bit of its fruits from. They were not trying to create a world map of where food is grown, but rather in what different places and consumed by the capital, but rather how many different things come from different places.

The map was inspired by Worldmap and from the World cartographers with everything knocked up and "pizza". When fruit did not come from a growing top, then a map was stretched underneath to match the "projection" of the fruit. Africa looks very different. The geography is the obvious way most, and you should be able to see Britain at the top of the map with Europe to the north, a French motel to the southeast and Holland above that. Below Europe, West and Central Africa are empty but East and South Africa were the source of many fruits, including lots of apples. A cherry and a couple of oranges come from North America, very little compared to the pomegranate, banana, apple, mango, pineapple and much more from South America. Can you spot this East? Can you spot Southeast?

When doing a mission like this it's virtually impossible to not reflect on the people who produce fruits and question the food system that we're a part of.
Undersea Migration: Where Tuna Goes When You're Not Eating It

H.R. Smith & Audrey Nieh

Throughout time, human curiosity concerning the travel patterns of the creatures of the ocean has focused on how to best find the most delicious ones and eat them.

Then, at the beginning of the millennium, TOPP, an interdisciplinary research group dedicated to acoustics, biologists, ichthyologists, and satellite technology, set out to understand the migration patterns of the worlds largest fish. The result is an enormous web of data on their journey until their last catch by a fishing boat and the tag was cut off and mailed in for a reward.

The fate of tuna is not unique. The ocean runs undersea highways. Here, the paths of four different types of ocean life, between the years 2000 and 2005.
**Dulce de Leche**

Dulce de leche, manjar blanco, *cajeta,*... these sweets bearing several different names and characteristics are widespread in Latin America and are made from condensing milk and sugar until caramelized.

Originally home-produced in temperate cattle raising areas (mid-altitude tropical mountains and pampas) colonized in the 16th to 18th centuries, dulces de leche have been commercialized in towns of the same regions since the end of the 19th century.

Dulce de leche, served as a liquid paste, similar to condensed milk, is widely consumed. It was officially declared as national heritage. Many Argentinians think it was invented here.

**A Culinary Tradition**

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The basic recipe is the same, but the proportion between milk and sugar, the cooking time and the added flavors vary in each region, giving a particular taste, color, and texture. Even when bearing the same name, the sweet is different from one country to another.

So diverse are these treats, many consider them local specialties. By creating uniform products, large food companies cannot compete with handicraft products in the market.

**A Short History**

Sugar cane and milk-producing livestock came to Latin America by Spanish and Portuguese colonizers. The Arabs bring sugar cane and sugar processing techniques to Spain, borrowed from India.

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Over the past two centuries, immigrants from throughout the Balkans and Middle East brought a number of unique dishes to America, where they have cohered into a unified “Middle Eastern” or “Mediterranean” cuisine. These foods span a wide area, crossing religious, national, and linguistic boundaries. Yet in an era when almost everything can be found everywhere, charting the areas in which certain foods are widely available and regularly consumed helps define a variety of culinary, cultural, and geographic regions.

Based on my time in the region and my conversations with its residents, it is possible to conclude, for example, that the practice of drinking strong coffee, in small cups, with grounds reaches from the Balkans to North Africa. Octopus is consumed where octopus live. Hummus, for less obvious reasons, is quite rare in Greece and Turkey. Like falafel, its northern limit is strangely co-terminus with that of the Arabic language. I have not speculated on the origins of contested foods like baklava, nor tried to map tendencies, like the mustache, that are prominent throughout the region. In these maps I treat food as a form of cultural practice that treads the line between stereotypes and genuine markers of ethnic identity.
Craft breweries are small, independent, and known for making delicious and distinctive beers. They use traditional ingredients like malted barley, but may also experiment with other ingredients like fruits and spices to create unique brews. While large breweries still control nearly 95% of the US beer market by volume, the craft brewing industry has been growing, with the number of operating brewers doubling since 2005.
Annie Brulé, Roger Fernandes, Valerie Segrest

The Muckleshoot Traditional Food Map represents the food system of the Muckleshoot Tribe of Indians in Washington State. Breaking free of GIS-based mapping methodologies, the cartography team opted early on for more culturally appropriate ways of representing a food system, recognizing that in order for the information to resonate with a majority of tribe members (the intended audience), it would need to feel like the place it represents—not only “resources,” but “home.”

The map is both an historical view of traditional hunting, fishing, and gathering areas the tribe has utilized for millennia, and also, most importantly, an envisioning of new community food resources that can serve the tribe in their current quest for greater food sovereignty and connection with the traditional diet that has sustained and kept their culture healthy for thousands of years. It is innovative in its use of map-making as a dynamic tool for change and jointly envisioned community development. This is a reflection of what has been called a “cultural renaissance” among many Northwest tribes, who are recovering their traditions and culture through hunting, gathering, preparing, and sharing their native foods.

The map is a key piece of the Muckleshoot Food Sovereignty Project, a multi-year, intergenerational effort to increase knowledge and access to traditional foods through celebrations, classes, garden projects, and more. A Traditional Food Bank, led by Valerie Segrest, an enrolled Muckleshoot tribe member, brought in community-based cartographer Annie Brulé to lead the mapping work, and native storyteller and artist Roger Fernandes to weave story into the process. The map is produced under the guidance of Muckleshoot community members by the team of Annie Brulé (community mapping specialist), Roger Fernandes (Lower Elwha S’Klallam), and Valerie Segrest (Muckleshoot), with funding from the Northwest Indian College, the United States Department of Agriculture, and the Honor the Earth Foundation.
The Salt War of 1540 and the Pope’s Bread: A Cartographic Refutation of a Perugian Urban Legend

The traditional bread in the central Italian city of Perugia is locally known as pane scoperto (unsalted bread), and is made without salt. According to inhabitants of Perugia, their ancestors stopped putting salt in their bread after the imposition of a burdensome new tax on salt by Pope Paul III in 1540. Perugia was at the time part of the Papal States, a swathe of territory controlled by the medieval and Renaissance popes. Is this a historical event turned cuisine, or just another food myth? Cartography can provide us with an answer to this riddle.

If Perugians turned to unsalted bread after the imposition of the salt tax in 1540, we would expect to find unsalted bread only in the area that the city controlled in 1540. It’s possible, though, that other residents of the Papal States reacted the same way to the 1540 tax: in this case we would find unsalted bread in all of the territory the Vatican controlled in 1540.

As is evident, there is a very large swath of territory where one finds unsalted bread as the principal bread. Does this match the ‘territory of unsalted bread’ cartography makes it clear that the boundaries of unsalted bread don’t match up with Perugian territory or the Papal States in 1540.

“The bread here is made with a tiny amount of salt, as Umbria belonged to the pope, and vended by taxes the city responded like this to a tax on the consumption of salt which in 1540 set off a war.” — Rita Boir
Throughout its history, Panama has emphasized its Spanish cultural roots. This is in spite of the various non-Spanish peoples that call Panama home. One such population, the Afro-Antilleans (a.k.a. West Indians), are concentrated in the Archipelago of Bocas del Toro on Panama’s northwest coast. From the 1850s through the early 20th century more than 200,000 Afro-Antilleans came to Panama as labor migrants to work on the construction of the Panamanian Railroad and Panama Canal. Major sources of Afro-Antillean migrants were Jamaica, Haiti, and Barbados, but their heritage can be traced back to the islands throughout both the Greater and Lesser Antilles. After these infrastructure projects ended many Afro-Antillean migrants moved to Bocas del Toro.

There are Afro-Antilleans in Panama City and Colon who maintain Pan-Caribbean traditions, but Bocas del Toro presents an interesting case because the Afro-Antillean community there has remained relatively isolated until recently. It is in Bocas del Toro that Afro-Antillean identity can perhaps best be observed, totally through food. This Afro-Antillean cuisine generally consists of a base of rice, beans, and coconut milk along with other essential ingredients and condiments.
East Oakland is famous for its Taco Trucks. While these trucks are on four wheels, their locations are mostly stationary. They are often located in parking lots in areas with few established restaurants - bringing life to the street - though there are a few that are adjacent to restaurants that bear the same name.

Serving street-style tacos (soft corn tortillas topped with meat, onions, cilantro and salsa) and other Mexican specialties. From early in the morning to late into the night, these trucks are favorite cheap-eats spots for Oaklanders.
MAPPING MOVEMENT THROUGH FOOD PURCHASE 2012

This map depicts in these pages survey the extent to which shopping for food has migrated from a city centre experience in the 1950s to the edge of city supermarketers that now line the arterial routes of the city of Dundee, Scotland.

Movement above, visualises the centre-city pattern of movement of a group of elderly people over the course of a week, when shopping for food. The elderly people all lived in sheltered housing accommodation within suburbs of the city structure separate from the shops of the city centre that were where the elderly use and engage in social activity. What is significant about this map is that it illustrates how separate the elderly people of Dundee visited the city centre to buy their food. Most socio-economic transport or retail given locations to travel by car, and one participant used a mobility scooter to visit the local supermarkets. Margaret, although, being more centrally located to the supermarkets on the outer ring road of the city.

If we contrast the map with Memories in the opposite page we can observe the change that has occurred in Dundee when people shop for their food. Memories of food were gathered at 8 focus groups held within the community lounges. Mapping the memories of the elderly people who contributed to the research, communicates the spatial and temporal dimensions that were contained within their remembrance. Using a map of Dundee City Centre from 1960 as a base layer, the memories recalled by the elderly were plotted at the exact locations where the food shops had once stood. To ensure that this mapping was checked with a Dundee Street Directory, published by Burns & Ibbany in 1960.

Obtaining the contemporary and historical patterns of movement through food purchase, and through memories, highlighted the differences in place and present consumer habits, whilst locating the significance of place within the temporal dimensions of memories for the elderly people of Dundee.

by Jackie McDonald
Allmende-Kontor Community Garden

Dörte Martens, Lisa Welsby, Elisabeth Bledesch, Severin Halder, Matthias Jung, Fabian Singelnstein

Allmende-Kontor (AK) is the result of a long-lasting commitment to community gardening by activists from various gardening projects in Berlin. AK supports participatory city development at all levels and seeks reclamation of the city for public use. The AK is active in local and global education and networking. It supports self-sufficiency and cooperation between gardening projects in Berlin and beyond. By practising subsistence farming AK aims at raising awareness of food sovereignty and urban gardening and agriculture movement.

The AK community garden began on April 16th, 2011 and is now home to over 300 beds and 170 gardeners. The community gardeners and all participants of the project are asked to share the ideas and the guidelines for social and ecological cooperation.

This map is the result of a collective mapping workshop of the collective Organikaprop, which included gardeners and AK organizers at an exhibition event after the first gardening season on November 21st, 2011. AK is a voluntary and non-profit in a monetary sense, project, relying on donation and solidarity. Expenses include the gardening area, soil, bed construction material, tools, workshops, etc. Any kind of support is greatly appreciated.

Thanks to all participants!

Guidelines for Social and Ecological Cooperation

To all:
- Please do not leave any trash.
- Do not steal - instead participate.
- Please do not build new raised beds.
- Get active, but do not destroy anybody.
- Participation is at your own risk.
- Donations are appreciated.

To gardeners:
- Protect and care for the plants.
- Do not dig into the ground.
- The gardening plots are only given away.
- No use of pesticides.
- Rapid bed rotation? See information signs.
- Avoid any risk of injury when building plots.
- Do not store any construction material.

Do not do the park rules...

Social guidance:
- Every plot can only be used by one person at a time.
- Please do not interfere in other plots or take care of plots you do not know.
- Be aware of biodiversity and take care of all plants.
- Do not feed the animals, or their nature.

Ecological guidelines:
- Try to garden as environmentally as possible.
- Please do not use organic detergents, but use soap and water.
- Avoid using toxic substances such as pesticides.
- Be aware of recycling processes such as water, soil, and waste.
- Raised beds can be built of recycled material, but please use "natural" material whenever possible (no styrofoam, treated plants).
Mar y Montaña | Mountain and Sea: is a traditional dish from the northern coast of Spain which combines fish and ingredients from the land and sea.

Mugaritz recipe: Loin of blue mackerel, coated with an infusion of crushed sesame seeds and milk skin, in a vegetable broth from onions, chickpeas, carrots, and leek. Olive oil and salt.

A recipe is more than the food it is made of, it is made of the geography of our dinner plates.

Mugaritz Rest. Herrenteria. Basque Country. Spain
Authors: Seth Denizen & Tat Bonvehi.
This map represents the locations of 747 Kickstarter backers and 120+ guerrilla collaborators, the places of guerrilla mapping activity and support.
A greenhorn is a new farmer.

Greenhorns is entering its sixth year as a non-traditional, grassroots organization for young farmers. Their mission is to promote, recruit, and support new entrants into American agriculture.

Agriculture’s decline is apparent in every rural town in this country: farmers are retiring, farms are closing and consolidating, and the farming practice that predominates is a monoculture of commodity crops. Meanwhile, local healthy food has become difficult for people to find and afford. This is the injustice our movement seeks to repair.

We need many new farmers in this country to steward the land, to build a new food system that is regionally focused, just, and sustainable. These farmers will work to build a new food economy and a new farming economy by starting and running family-scale farms that produce vegetables, fruits, meats, and grains within sustainable systems.

The social, informational, and network support Greenhorns provides through their events, blog, books, radio show, and documentary film, are designed to help farmers coping with the business and personal challenges of starting out. Their toolsite Farmhack.net is a place for technology sharing and open-source designs for labor-saving devices. Their map at ServeYourCountryFood.net is a place to find other farmers in the network. And a new series of films at Ourland.tv address some of the critical dysfunctions of our current food systems and point to people who are solving them: one farm and enterprise at a time.

Find out more and join the Greenhorns!
FOOD: an atlas

is a crowd-sourced and crowd-funded collaborative project of guerrilla cartography and publishing. The atlas endeavors to map food in its myriad contexts and conditions at many scales of research and geography.

Scores of cartographers and food researchers fuse traditional cartography, poster art, infographics, and journalistic text-blocking to render the map as a narrative device. In all more than 120 collaborators came together in the spirit of knowledge-caching to create FOOD: an atlas.