Fourwing Saltbush · Bush Muhly · Indian Grass · Big Bluestem · Black Grama · Blue Grama · Sideoats Grama · Indian Ricegrass · Curly Mesquite · Winterfat

Dreaming New Mexico
An Age of Local Foodsheds & A Fair Trade State

Churro Sheep

Corn, Maize, Blue Corn

Squash

Tomatoes

Apples

Beans

Peppers/Chiles

Criollo-Corriente Cattle

Wheat & Sorghum

Onions

Alfalfa

Melons

Peanuts

Organic Dairy

Poinsettias

Geraniums

FARMINGTON

San Juan River

GALLUP

Rio San Jose

TIERRA AMARILLA

Rio Chama

TAOS

CHIMAYO

SANTA FE

Jemez River

Rio Puerco

BERNALILLO

ALBUQUERQUE

LOS LUNAS

Rio Grande

RATON

Canadian River

CLAYTON

Mora River

SANTA ROSA

Pecos River

ESTANCIA

FORT SUMNER

CLOVIS

PORTALES

ROSWELL

Rio Hondo

LOVINGTON

ARTESIA
Rio Peñasco

HOBBS

CARLSBAD

SILVER CITY

Gila River

ALAMOGORDO

LAS CRUCES

DEMING

Drip or micro-mist irrigation saves water and energy, can be applied to difficult soils/slopes and delivers chemicals more accurately. Easily automated and popular for row crops.

Acequia irrigation: community operated waterways from snowmelt run-off. Traditional, most common in New Mexico's Rockies for hundreds of farmers, hundreds of years.

Zuni "waffle" gardens built up from clay still best irrigate the traditional squash/bean/corn gardens. A sanctuary still combining religion, ceremony and food production.

Mobile or stationary center pivot and similar spray irrigation from groundwater wells. The hi-tech, high energy use for large fields of almost any irrigable crop and can apply fertilizers and pesticides. Labor intensive.

Furrow irrigation for row crops, truck crops, orchards, vineyards and berries on gentle slopes is popular in the Arid Lowlands.

Dreaming New Mexico
A Bioneers Collaborative Project
Map of Current Farming and Ranching

Agro-Ecoregions

Southern Rockies
Upper Rio Grande
River Snowmelt

Colorado Plateau
San Juan River

Arid Lowlands
Lower Rio Grande,
Pecos River, Tularosa,
Roswell & Closed
Basin Aquifers

High Plains
Canadian River &
Ogallala Aquifer

Transition-Mountains
Gila River

Central Plains
Estancia & Santa
Rosa Aquifers

Irrigated Areas   Snow

BIONEERS

FARMERS MARKET
FARM FRESH   ORGANIC
FAIRTRADE
Local Corn
FAIR TRADE
HEIRLOOM
PAPRIKA
Crescit Eundo

SEASONAL CYCLES

SEASONAL CYCLES PLANTING & HARVESTING DATES
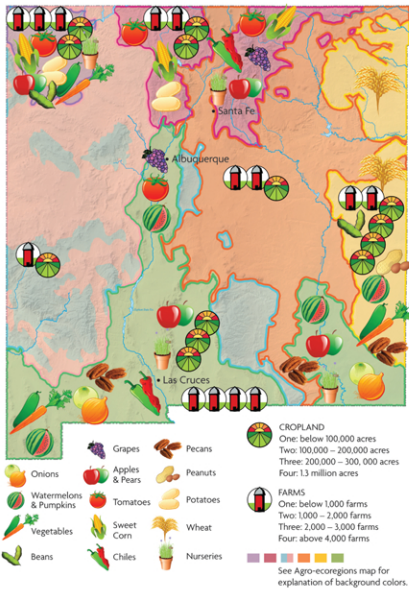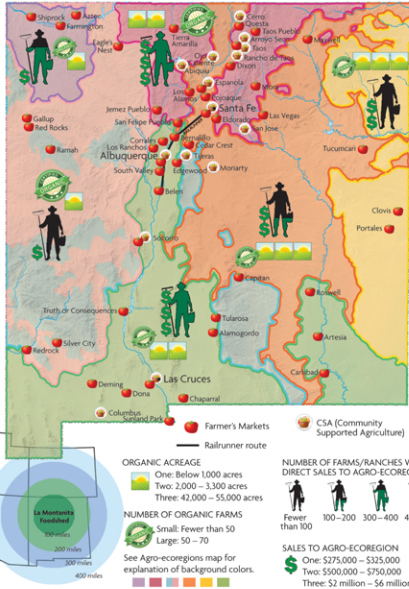
SEASONAL CYCLES PLANTING & HARVESTING DATES

Each crop has its own seasonal schedule of planting and harvesting dates. There are few generalizations, thus, the diagrams give examples of only a few New Mexico crops. Seasonal cycles also govern when pesticide, herbicide or integrated pest management tasks should occur; when soils should be tilled and amendments added; and when orchard trees should be pruned. Each kind of livestock has its own seasonal cycle of birth, movements and culling. Seasons determine when free-range livestock young need most protection from predators. New Mexico's agro-ecoregions each with many major growing (frost-free) agro-ecoregions, each with many more microclimates. New Mexico agronomists breed special varieties of crops and livestock for each region. **Dream.** A public that is more in tune with seasonal harvests, celebrates them, preferentially buys from the local foodshed and relies less on a seasonal imports and controlled-temperature storage. Climate change has already altered the harmony between cultural and seasonal cycles, and farmers may need special help as temperatures rise and rainfall changes.

Dreaming New Mexico
An Age of Local Foodsheds & A Fair Trade State

What is our dream relationship to food and the food system that feeds us? Imagine the year is 2025 and we've done everything right. What might New Mexico's food system look like? The Dreaming New Mexico project engaged with many involved citizens-experts, gathered data and researched neglected topics. We conjured the great map as a celebratory illustration of contemporary agrarian life, custom-designed a Big Picture of 'Food in the Land of Enchantment' and distilled a complex tangle of topics into a long, single-sentence shared dream.

DREAM. A future food system that nourishes all New Mexican citizens, especially the food insecure: with affordable, safe, fresh and nutritious food, seasonally grown and raised with eco-friendly, humane and climate-friendly methods, processed and distributed as close to home as possible (local foodsheds), benefiting rural and urban communities and revitalizing agrarian communities with legacy-defining crops and cuisine; with imported food from an alternative trade pattern (fair trade), that preserves long-term agrarian life by protecting lands, water and assures intergenerational states of farmers, supported by new government policies, rules, laws and payments to help transform the food system, create new jobs for local import substitution, sustain profits and ensure equitable working conditions at every step of the food chain.

NM has six **AGRO-ECOREGIONS**, encouraging eaters to ask: Where does my food come from? How did it arrive on my plate? Who grew it and how? Agro-ecoregions nourish regional identities through food. Chiles and apples. Sheep and the Three Sisters. Wheat and cattle. Pecans and onions. They engender respect for weather and land, for home as a productive place. Three milestones begin to describe success: teaching agro-ecoregions in schools and colleges; branding of local crops for niche markets, and creating research/extension services to help farmers adapt to climate change and find new profitable crops.

FOODSHEDS are a geographic area that can feed a region, provide eaters more reliable, tasteful and trusted food from local farms; the sense that purchasing food is more than a cash transaction; and the hope that local farms are less likely to abandon NM for cheaper-labor nations. **Milestones:** 25% of NM's consumed food is grown locally food by 2025; a resurgence of local meat processing; the reduction of freight distances to reduce greenhouse gas emissions; localized food-chain linkages; a higher percentage of foodshed owned by local operators; the growth of farm-to-table programs, farmer's markets, CSAs and food events; more banks making local agricultural loans; and the viability of co-op enterprises like La Montanita.

FAIR TRADE. While our State can produce some foods better than other locales, other regions produce certain desirable foods (chocolate, tea, coffee, rice and mangos) NM can't. Fair trade simply says "receive from others as you would give unto them," i.e. with biosafety, no child labor, gender equity, good working conditions, eco-friendly farming and living wages. **Milestones:** fair trade product certification for both State exports and imports; labels for supply chain so that every step is transparent, traceable and part of a moral economy, and State sovereignty laws and fair trade agreements.
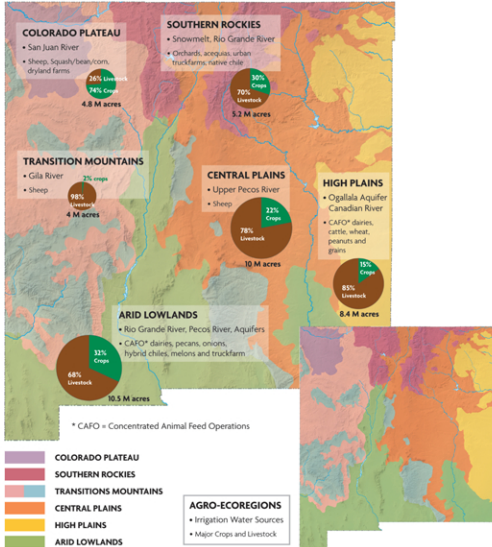
FOOD SECURITY dreams to aid the hungry, end hunger and provide fresh, nutritious food to the food insecure and those with nutrition-related diseases. Long-term food security requires

preserving farm/ranch landscapes as well as farmers and ranchers; preserving or regenerating the soils and water that support crops, orchards and grasslands; ensuring traceability of all foods to prevent food-borne illness and bioterrorism, and preparing for climate change impacts. **Milestones:** a reduction in obesity and diabetes; fewer New Mexicans needing emergency food aid; a greater proportion of fresh foods through food banks; land-use protection for the best farmland; a real-estate company specializing in the transfer of available farm operations from retired to new generations; source labels with the origin of green, leafy vegetables as well as meats, and payments for carbon-sequestration.

GOVERNANCE is essential to attain a "restorative" food economy. **Milestones:** compensation for on-farm ecosystem services like watershed and wildlife protection, new incentives and the removal of disincentives to level the playing field with industrial agri-biz — for both the niche-markets of local foodsheds and the embryonic, globalocal fair trade system; State and local government purchases of local foods for public institutions; and appropriate rules for small-meat processing and monitoring food-borne illness. In short, facilitating an age of Local Foodsheds and a Fair Trade State requires action by local, State, tribal, regional, federal and international governments — the most complex transition.
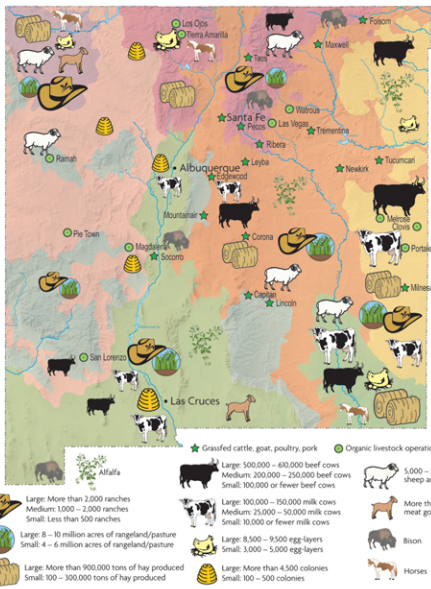
The dream is ultimately of a new moral economy. We'll have to learn new ways to live together and make conscious choices of "how" and "what" to feed ourselves. Food — good, healthy, fair and enough — connects us from local farms to the whole planet. Maps portray one do-able dreams. The Dreaming New Mexico pamphlet explores bridges and barriers to our food system future.

AGRO-ECOREGIONS

COLORADO PLATEAU
SOUTHERN ROCKIES
TRANSITION MOUNTAINS
CENTRAL PLAINS
HIGH PLAINS
ARID LOWLANDS

* CAFO: Concentrated Animal Feed Operations

AGRO-ECOREGIONS
- COLORADO PLATEAU
- SOUTHERN ROCKIES
- TRANSITIONS MOUNTAINS
- CENTRAL PLAINS
- HIGH PLAINS
- ARID LOWLANDS
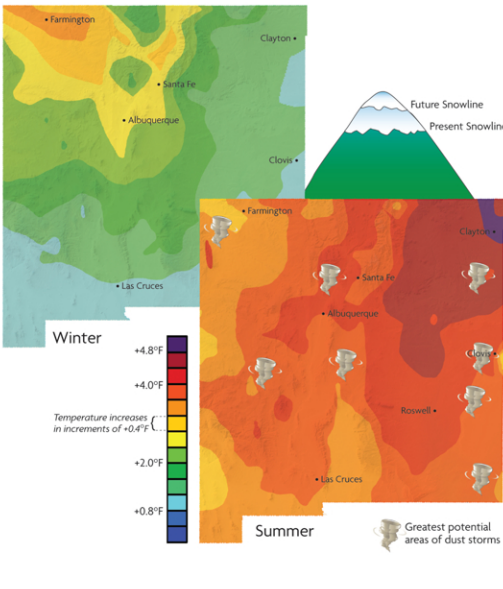
Agro-ecoregions — Irrigation Water Sources

Agro-ecoregions are human-managed ecosystems. The rainfall has been modified by irrigation, the temperature by greenhouses, the soils by adding fertilizers and other amendments, and the plants are, of course, mainly crops and livestock useful to us as food, fiber and fuel. New Mexico has a long history of farming and irrigation that greatly intensified with tractors, massive dams and piping, groundwater pumping; European sheep, goats, cattle and horses, petroleum-based fertilizers and pesticides, and industrial crop breeding. Today, there are six distinct agro-ecoregions each with many micro-climates. They extend into parts of other states as well as Mexico. For each agro-ecoregion, the map lists the main sources of irrigation and most profitable crops. Look at your agro-ecoregion and what grows best within it, and see which crops/livestock could be locally raised and processed. New Mexico agro-ecoregions include the Colorado Plateau, the Southern Rockies, the High Plains, the Central Plains, the Arid Lowlands and the Transition Mountains and Plateaus.

FARMS AND CROPS

CROPLAND
One: below 100,000 acres
Two: 100,000 – 200,000 acres
Three: 200,000 – 300,000 acres
Four: 1.3 million acres

FARMS
One: Below 1,000 farms
Two: 1,000 – 2,000 farms
Three: 2,000 – 3,000 farms
Four: above 4,000 farms

Grapes / Pecans / Onions / Apples & Pears / Peanuts / Watermelons & Pumpkins / Tomatoes / Potatoes / Sweet Corn / Wheat / Vegetables / Beans / Chiles / Nurseries

See Agro-ecoregions map for explanation of background colors.

NM has over 5,500 farms growing edible crops, and the number has been increasing each year. Many are small (median size of 1 to 9 acres in Arid Lowlands and Colorado Plateau, 10 to 49 acres in the Rockies). Top commercial crops for human consumption are: pecans, onions, nursery crops, winter wheat and chile. Secondary crops include: peanuts (about 10,000 acres), potatoes (about 5,500 acres), sweet corn and dry beans (about 7,500 acres each). There are many farms growing apples (over 900 totaling over 2,000 acres), and over 1,000 acres each of grapes, pistachios, pumpkins, and watermelons. Most of the top crops are exported. **Dream.** By 2025, in-State sales of locally grown and value-added foods (like pecan butters) equal 20 to 25% of all food sales; deploy a mobile harvesting/processing vehicle(s); create legislative incentives for increased acreage for crops that can substitute for imports (e.g., tomatoes, cabbage, cantaloupes, spinach) and for off-season crops grown in greenhouses (e.g., tomatoes, lettuce, mushrooms); and develop new commercial crops (e.g., pomegranates, sweet potatoes).

RANCHES, DAIRY AND LIVESTOCK

Grassfed cattle, goat, poultry, pork / Organic livestock operations

Alfalfa

Large: More than 1,000 cattle
Medium: 1,000 – 2,000 cattle
Small: Less than 500 ranches

Large: 8 – 10 million acres of rangeland/pasture
Small: 4 – 6 million acres of rangeland/pasture

Large: More than 900,000 tons of hay produced
Small: 200 – 5,000 tons of hay produced

Large: 500,000 – 600,000 head
Medium: 200,000 – 250,000 head
Small: 50,000 or fewer beef cows

Large: 60,000 – 700,000 milk cows
Medium: 25,000 – 50,000 milk cows
Small: 10,000 or fewer milk cows

Large: 8,500 – 9,500 sheep
Medium: 5,000 – 8,000 sheep
Small: fewer than 1,000 sheep

Large: More than 1,000 meat goats

Large: More than 4,500 colonies
Small: 500 – 1,000 colonies

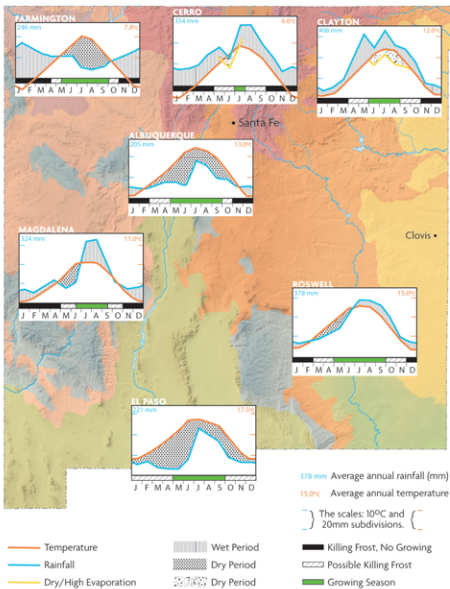5,000 – 16,000 sheep and lambs

Hogs / Horses / Bison

New Mexico's top three food-related cash receipts are: dairy (about 40% of all ag receipts), beef (over 30%), and hay and silage (over 10%). About 120 dairy "factory farms," concentrated in the High Plains and Lower Rio Grande, supply most of New Mexico's fluid milk with controversial health and environmental consequences. There are about between 9,000 and 9,500 beef ranches of all sizes, and 85 feedlots (both finishing and complete feeding) concentrated in High Plains and Arid Lowlands. Over 90% of dairy products (dry powder milk, cheese, whey) and beef cows leave the State. New Mexico has only one organic dairy, and no more than a total of ten goat dairies and organic/grassfed beef and lamb ranches. **Dreams:** 15% of dairy products come from in-State organic dairies, and 50% of the beef eaten in-State is grassfed, natural or organic; local facilities process the dairy and beef products (e.g., mobile meat processors, yogurt and cheese manufacturers, packing plants), and all CAFOs (concentrated animal feeding operations) follow strict health, environmental and humane animal treatment rules.
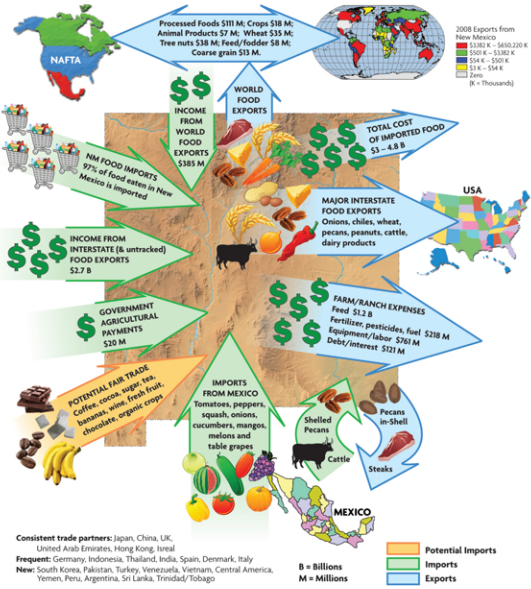
CLIMATE CHANGE

Future Snowline
Present Snowline

Winter

Temperature increases in increments of +0.4°F

+4.8°F
+4.0°F
+2.0°F
+0.8°F

Summer

Greatest potential areas of dust storms

Maps show the likely minimum temperature increase in both winter and summer over the next 75 years. Rising **temperatures** will impact growing seasons, crop choices and irrigation requirements, especially on the Colorado Plateau and upper Central and High Plains. Predicting **rainfall/snowfall** change is difficult (not mapped), but it's certain less snow will fall. Snowmelt farming in the southern Rockies will require adjusting crops and irrigation. Climate change will increase: evaporation from reservoirs and rivers (reducing agriculture's water supply); growing seasons (while water availability decreases); and the number, intensity and length of inter-storm droughts. It will increase groundwater supplies that compensate for higher evaporation rates; magnify the virulence of warm-temperature pests, heat damage and invasive plants; increase wind erosion and soil erosion, and more. Agriculture contributes about 10% to NM greenhouse gas emissions. **Dreams:** reduce emissions (especially from CAFOs and plowing), maximize carbon-sinks, localize the food system, create "green" greenhouse year-round production, and help farms and ranches adapt to the inevitable climate changes.

AGRO-ECOREGION WEATHER

FARMINGTON / CERRO / CLAYTON
ALBUQUERQUE / SANTA FE
MAGDALENA / ROSWELL
EL PASO

Average annual rainfall (mm)
Average annual temperature (°C)

The scales: 10°C and 20 mm subdivisions.

- Temperature
- Rainfall
- Dry/High Evaporation
- Wet Period
- Dry Period
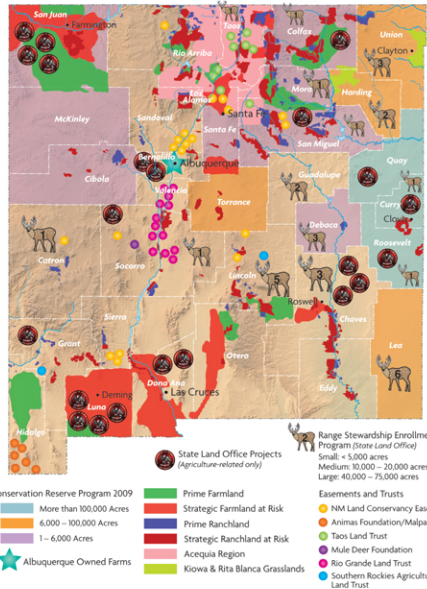- Killing Frost, No Growing
- Possible Killing Frost
- Growing Season

"Climatograms" portray the weather in each agro-ecoregion, the crucial conversation of agrarian life. Two graphic lines (the rain/snowfall line and the temperature line) define dry and wet periods (see legend). When rain exceeds temperature, the soil moisture can support plant growth. When the temperature exceeds rain, soils dry quickly, plants transpire large volumes of water, and the crops may wilt. Below the climatogram, the solid black line covers months with many days at or below freezing. Gross hatch (when data were available) represents months above freezing, but with one or more days below. Green bar is months without freezing (safe growing season). Note the "true" growing season shrinks going north and up in elevation; summer rains in Roswell and the winter/snow on the Colorado plateau define their wet seasons; aridity is year-long in NM near El Paso; summer drought can occur in the north-east through high evapotranspiration, despite good rainfall. Farming has partially overcome weather constraints by irrigation and greenhouses. Grass for livestock still depends almost completely on weather.

LOCAL FOODSHEDS/LOCAL PROSPERITY

Farmer's Markets
Railrunner route

ORGANIC ACREAGE
One: Below 1,000 acres
Two: 2,000 – 3,300 acres
Three: 42,000 acres

NUMBER OF ORGANIC FARMS
Small: fewer than 50
Large: 50 – 70

See Agro-ecoregions map for explanation of background colors.

NUMBER OF FARMS/RANCHES WITH DIRECT SALES TO AGRO-ECOREGION
Fewer than 100 / 100 – 200 / 200 – 400 / 400 – 500

CSA (Community Supported Agriculture)

SALES TO AGRO-ECOREGION
One: $275,000 – $325,000
Two: $500,000 – $750,000
Three: $2 million – $6 million

A **foodshed** is a geographic area where vegetables and fruits, nuts and oils, meat and grains feed citizens within the region. Foodsheds make it easier to answer: Where does my food come from? Foodsheds include farmers markets, community supported agriculture, sales to local restaurants and institutions, and farm-to-table programs. La Montanita Co-op has a foodshed of 100 to 300 miles from Albuquerque. Foodsheds are also a strategic frame for action. They encourage a local food economy, favor organic, diverse and low-input farming over high-input and factory farms, work for seasonal extension of production, and strive to keep all steps in the **food system** (growers, processors, wholesalers and retailers) within the foodshed. Foodsheds operate seasonally unless storage facilities exist. Most food today comes from trade outside the foodshed. Map displays the **direct sales** of food that stay within the agro-ecoregion (now less than 3% even in the best region). **Dream.** Sell 20 to 25% locally grown and value-added foods by 2025.

TOWARDS A FAIR TRADE STATE

NAFTA / USA / MEXICO

2008 Exports from New Mexico

WORLD FOOD EXPORTS
Processed Foods $35 M, Crops $38 M Animal Products $57 M, Wheat $35 M Tree nuts $58 M, Feed/fodder $38 M Coarse grain $33 M

INCOME FROM WORLD FOOD EXPORTS

NM FOOD IMPORTS 97% of food eaten in NM is imported

TOTAL COST OF IMPORTED FOOD $5 – 6.8 B

INCOME FROM INTERSTATE FOOD EXPORTS $2.7 B

MAJOR INTERSTATE FOOD EXPORTS Onions, chiles, wheat, pecans, peanuts, cattle, dairy products

GOVERNMENT AGRICULTURAL PAYMENTS $20 M

FARM/RANCH EXPENSES
Feed $12 B
Fertilizer, pesticides, etc $230 M
Equipment/repairs $91 M
Debt/interest $131 M

POTENTIAL FAIR TRADE Coffee, cocoa, vanilla, sugar, bananas

IMPORTS FROM MEXICO Tomatoes, peppers, squash, onions, cucumbers, mangos, melons and table grapes

Shelled Pecans / Pecan in Shell / Cattle / Steaks

Consistent trade partners: Japan, China, UK, United Arab Emirates, Hong Kong, Israel
Frequent: Germany, Indonesia, Thailand, India, Spain, Denmark, Italy
New: South Korea, Pakistan, Turkey, Venezuela, Vietnam, Central America, Yemen, Peru, Argentina, Sri Lanka, Trinidad/Tobago

B = Billions
M = Millions

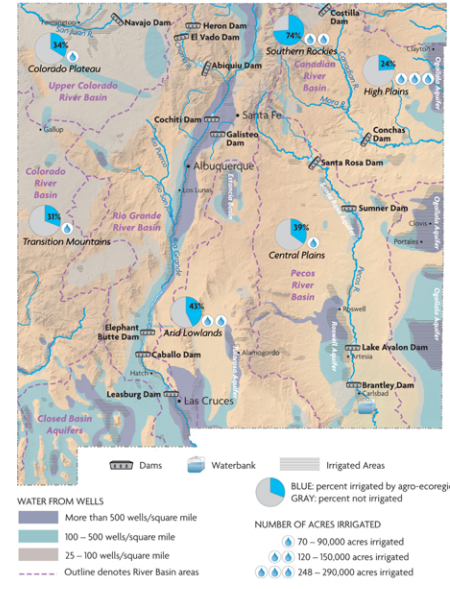**Potential Imports / Imports / Exports**

World and interstate exports help boost NM farm income, and support jobs on-farm and for food processing, storage and transportation. About 12% (2008) of all NM ag cash receipts come from world exports. Mexico and NM have many reciprocal trade agreements (e.g. in-shell pecans are shelled in *maquiladoras* and re-sold to the US). *NM imports 97% of its food*, and "free trade" has undermined NM's chile industry. **Dream.** The State/Tribes carve out laws (**state sovereignty**) favoring: local purchasing; minority-owned businesses; rewards for eco-friendly farming practices, and culturally iconic foods that can withstand attack by global trade and investment agreements. **Fair Trade and Green/Sustainable Farm Certification** are strategies to help disadvantaged farmers in both NM and poorer nations. Disadvantaged farmers profit from: integrative supply chains, product certification, scaled food-safety rules, and alternative trading patterns. **Dream.** state security, long-term contracts with pre-payments during hard times, market access, preserving family farms, growing capacity through new infrastructure, technology and technical assistance; and eco-friendly rewards.

FARMS AND RANCHES FOREVER

Conservation Reserve Program 2009
- More than 100,000 acres
- 6,000 – 100,000 acres
- Prime Farmland
- Strategic Farmland at Risk
- Prime Rangeland
- Strategic Ranchland at Risk
- Acequia Region
- Kiowa & Rita Blanca Grasslands

Albuquerque Owned Farms

Range Stewardship Enrollment Program (State Land Office)
Large = 5,000 acres
Medium: 10,000 – 20,000 acres
Small: 40,000 – 75,000 acres

Easements and Trusts
- NM Land Conservancy Easements
- Animas Foundation/Malpais Group
- Taos Land Trust
- Valle Vidal Deer Foundation
- Rio Grande Land Trust
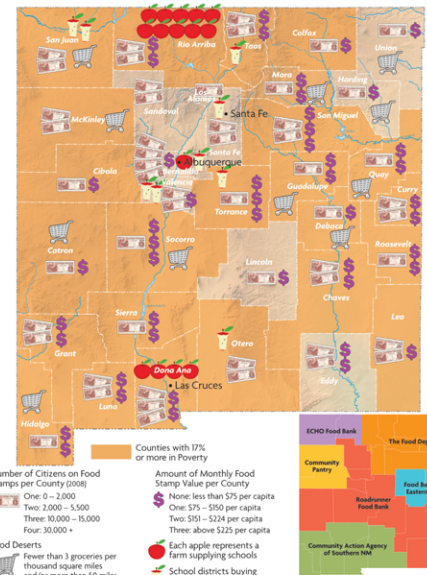- Kiowa Agricultural Land Trust

State Land Office Projects

Local food security requires farms and ranches. NM farm and ranches disappear each year. Between 1997 and 2007, NM lost about 3 million farm/ranch acres. Over 2.6M more acres are at risk from low-density developments. Farm and ranchlands are an owner's sole asset and may be sold for retirement finances. Intergenerational inheritance may trigger land subdivision, or speculators may buy land to convert it to homesites. Young growers usually cannot afford farm land. Over 2.6M more acres are at risk from low-density developments. The map shows many of the conservation easements and land trusts protecting agriculture (about 100,000 acres of NM's 45 million acres of farm/ranch lands). In addition, acequia organizations actively pursue farm/water protection. The federal Kiowa grasslands protect native pastures (over 130,000 acres), and the State and federal governments work with farmers and ranchers to enhance working landscapes. (Not shown are EQIP and NCRS programs). Albuquerque is one of the few cities to buy farms to preserve them. **Dream.** A State-wide program to preserve all farmland and most high quality ranchland.

NEW MEXICO'S LIFELINE: WATER

Dams / Waterbank / Irrigated Areas

BLUE: percent irrigated by agro-ecoregion
GRAY: percent not irrigated

WATER FROM WELLS
More than 500 wells/square mile
100 – 500 wells/square mile
25 – 105 wells/square mile

Outline denotes River Basin areas

NUMBER OF ACRES IRRIGATED
70 – 90,000 acres irrigated
120 – 150,000 acres irrigated
215 – 290,000 acres irrigated

In recent years, 8,250 to 10,200 farms and ranches diverted about 75 to 78% of New Mexico's water supply (3 to 4 million acre-feet of water). The years vary widely with anywhere between 830-875,000 acres requiring irrigation. In 2005, 32% came from surface water, 53% from groundwater, and 15% from a combination. During droughts, only those farms that have access to groundwater continue to harvest high yields. **Dreams:** Water rights and supplies are safe from municipal/subdivision appropriation, conserved water can be used or banked, and groundwater supplies are managed sustainably. Agro-ecoregion water sources: High Plains relies on the Ogallala and Roswell aquifers, plus the Canadian River for irrigation. Arid Lowlands irrigates from the lower Rio Grande and Pecos Rivers as well as the Tularosa Basin, closed basins and limestone aquifers. Central Plains relies on the Upper Pecos River and Santa Rosa aquifer. The Southern Rockies depends on Rio Grande and Canadian Basin surface waters, although some local wells exist. The Colorado Plateau relies mostly on diversions from the San Juan River.

BIOCULTURAL LEGACIES

Corn / Yucca / Pinon/Juniper Woodland / Acequia Region / Traditional Dryland Agriculture / Native American Reservations & Pueblos / Bison / Criollo Cow / Churro Sheep / Seed Banks

Crops pictured around map, listed clockwise from upper left

Food is a critical part of community revitalization. Many NM communities want to recover the skills of self-reliance and the culture of mutual support that are central to an "informal economy." Revitalization can support healthy diets and reduce hunger. In the long arc of NM history, local and invading cultures swapped crops and livestock. Traditional meat supplies — elk, bison and deer — grew with the addition of Spanish criollo cattle, churro sheep, goats, and now Angus, Herefords, and Holsteins. Native Americans gathered mesquite beans, acorns, agave, wild greens and piñon nuts, added the Three Sisters (beans, corn, and squash), then chiles, apples, wheat and other European crops. **Dreams:** agro-ecoregional brands, "food events" that augment traditional ceremonies; seed banks and libraries to complement hand-me-down traditions, co-ops building new markets for traditional, medicinal and staple crops, and inter-generational agricultural education. These dreams conflict with: water, land and seed losses, genetically engineered crops; urbanization, and food preferences based on cost, convenience and advertising.

ECO-FRIENDLY AGRICULTURE

- Concentrated Animal Feed Operations
- GMO Chile Research
- Impaired Surface Waters
- Vulnerable Aquifers
- Groundwater Pollution

Threatened Species (see website for specific names)

See Agro-ecoregions map for explanation of background colors.

Eco-friendly agriculture preserves as much soil, water and biodiversity as possible with as few harmful side effects as possible. Eco-friendly farming and ranching play a crucial role in long-term food security. Map shows barriers: threats caused by water diversions and land clearing, dairy and feedlot pollution, predator management, and harms to human health. **Dreams:** More lower input, diverse and organic crop farms, and grassfed, pasture-fed and organic livestock raising; species- and habitat-friendly farming and ranching that share in-river water with other creatures, and habitat for sensitive plants and animals; and specific strategies for pathogens, pests, and invasive plants targeted to avoid collateral damage to the environment. **Livestock industry dreams:** Ranches manage herds to allow better protection-related diseases II and obesity overlap in food deserts. **Dreams:** eco-friendly beef and dairy cows limit and remediate their groundwater pollution, livestock nutrition minimizes methane emissions, and CAFOs limit dust and bioaerosols that cause asthma and worsen respiratory diseases and allergies. Both farms and ranches become carbon sequesters.

HEALTHY FOOD FOR ALL

Number of Citizens on Food Stamps per County (2008)
- 0 – 2,000
- 2,000 – 5,000
- 30,000+

Counties with 17% or more in Poverty

Amount of Monthly Food Stamp Value per County
- None: less than $75 per capita
- Two: $75 – $150 per capita
- Three: $150 – $224 per capita
- Above these: $225 per capita

Each apple represents a farm supplying schools

Food Deserts
Fewer than 3 grocers per thousand square miles and/or more than 10 miles to nearest grocery.

Schools districts buying from local farms

ECHO Food Bank / Community Pantry / Food Bank of Eastern NM / Community Action Agency of Southern NM

COUNTIES SERVED BY FOOD BANKS

Food security requires two tasks: Feed the hungry now, and end hunger ASAP. Food security includes health care and job quality issues. New Mexico Association of Food Banks provides emergency food for an estimated 210,000 people annually. NM ranks 49th in children's food insecurity (120,000 or 24% of all children are unsure of their next meal). Seventeen percent of all NM households are food insecure; 6% undergo daily chronic hunger; 18% live below the poverty line, limiting their ability to purchase enough and healthiest food. Many citizens lack access to healthy diets because of school and food-to-elder programs, school gardens, tax credits for good groceries in food deserts, more local and fresh food from food banks, combine jobs with food access, bio-safety in the food chain, and nutrition education tied to health care.