

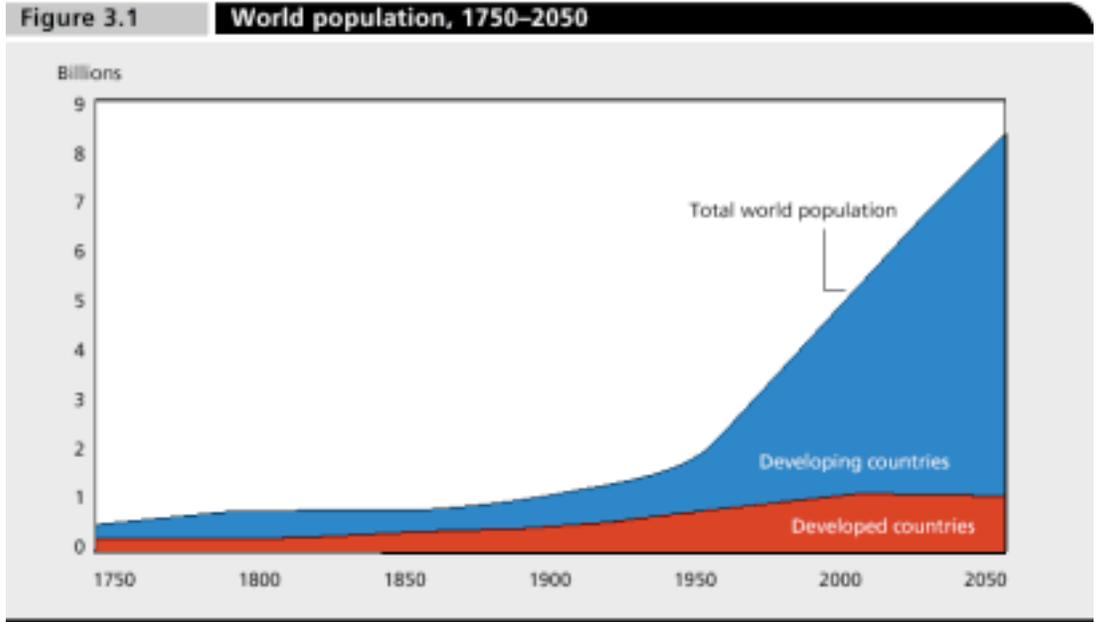
21st Century Challenges and Opportunities for U.S. Aquaculture

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***As presented at the NOAA Aquaculture Listening Session
held in Menlo Park, California, on April 29, 2010***

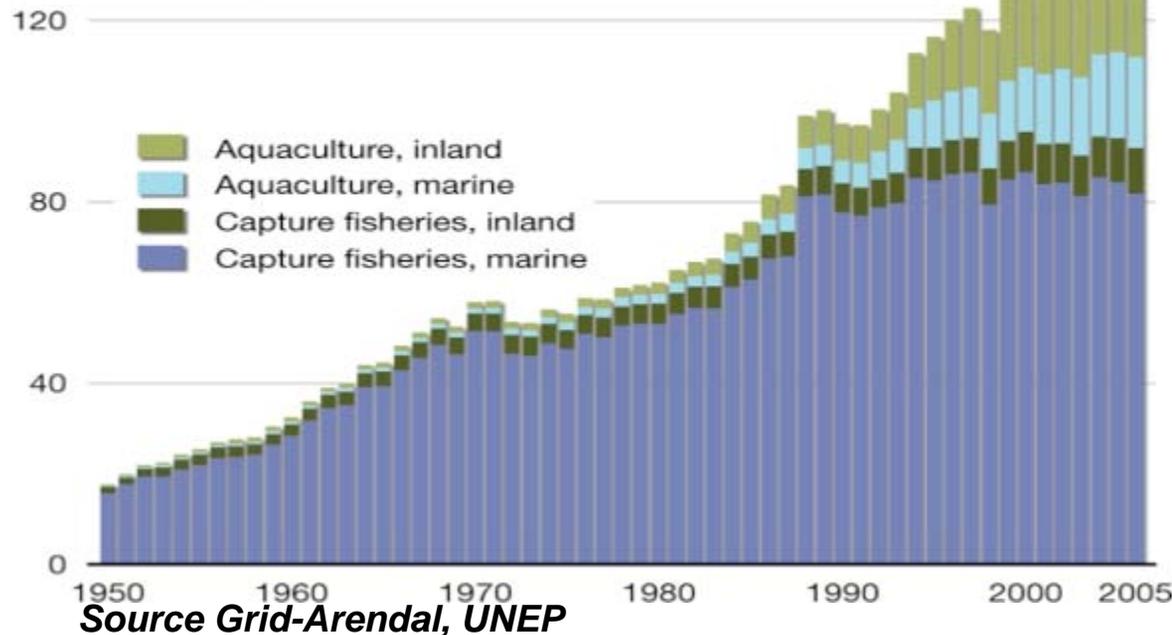
**DRIVING FORCES
FOR GLOBAL
EXPANSION OF
AQUACULTURE:**

- 1) GLOBAL POPULATION GROWTH
- 2) CAPTURE FISHERIES AT MAXIMUM HARVESTS



Source: World Bank

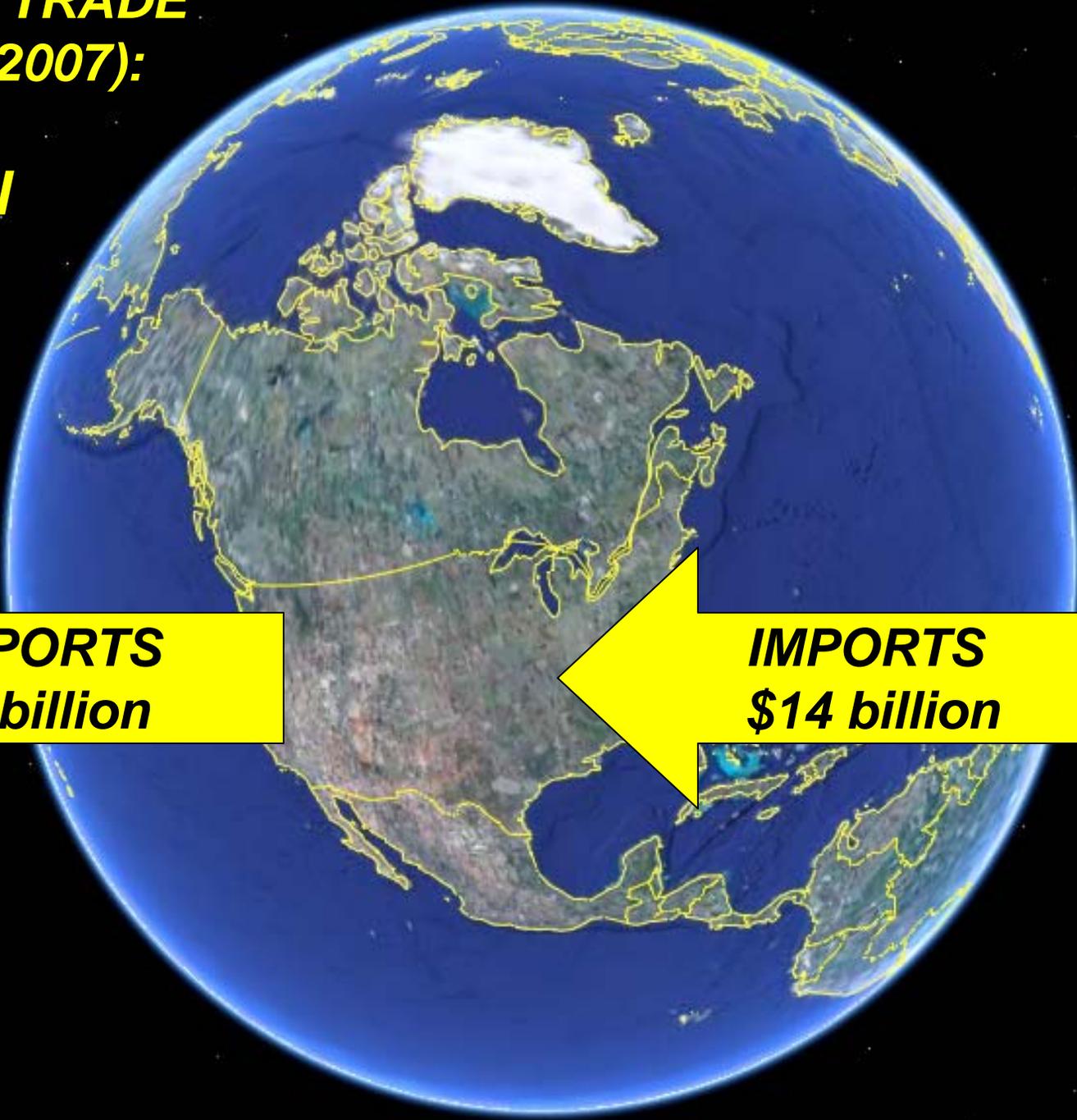
World fisheries and aquaculture production (million tonnes)



Global aquaculture production will have to at least double in the next 20 years to meet projected demand for seafood

**US SEAFOOD TRADE
IMBALANCE (2007):**

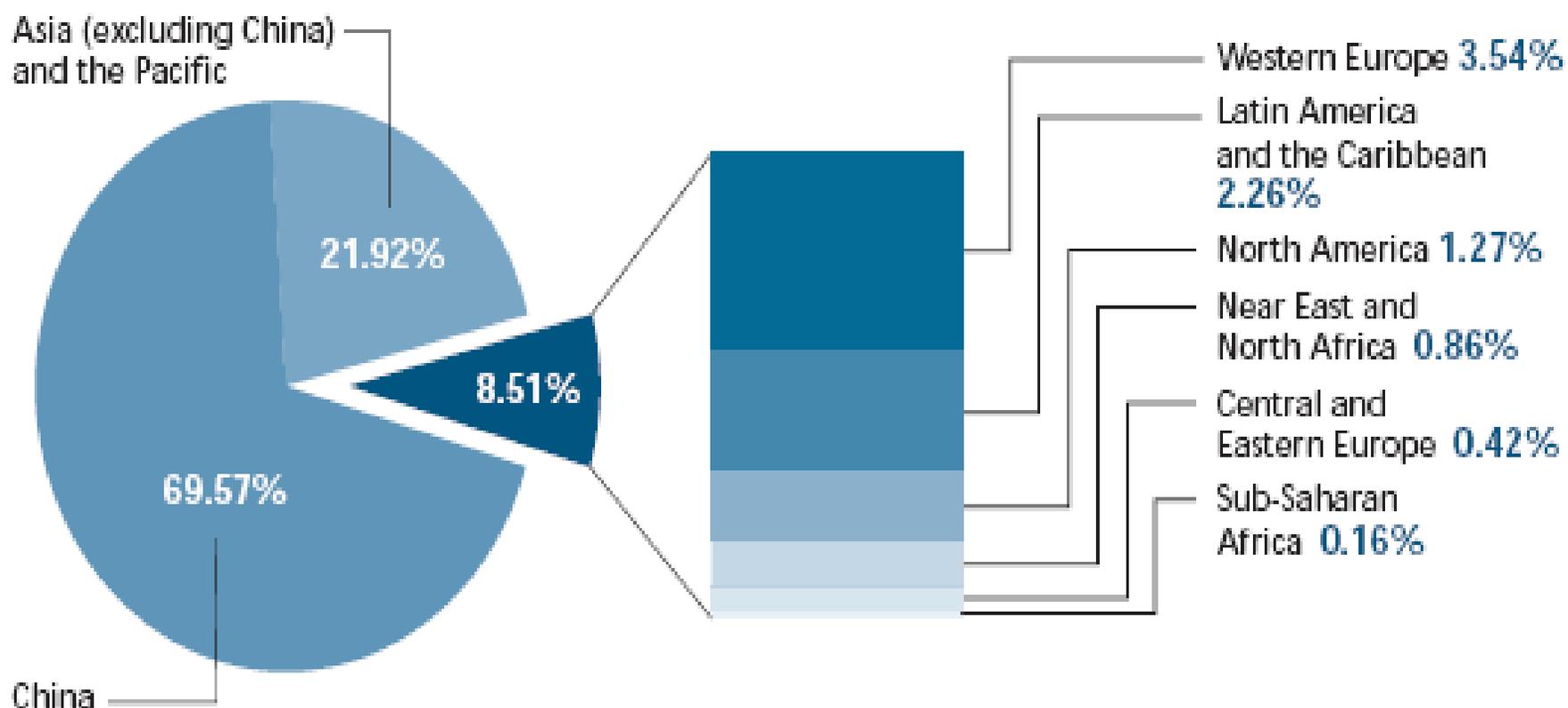
\$10 BILLION



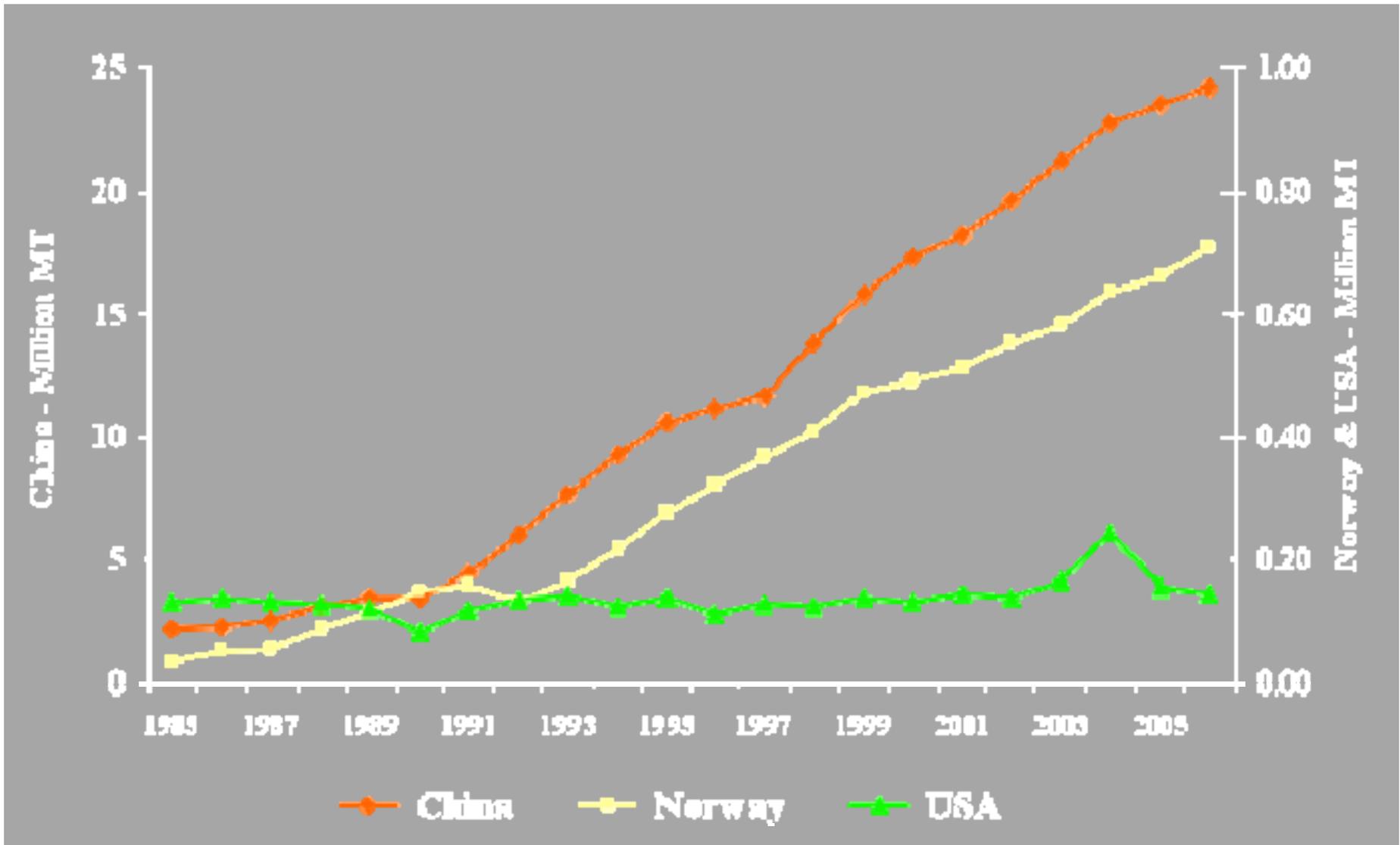
**EXPORTS
\$4 billion**

**IMPORTS
\$14 billion**

Aquaculture production from USA, Canada, Mexico combined is ONLY 1.27% of global production



GROWTH OF AQUACULTURE IN THE USA IS FALLING BEHIND OTHER NATIONS

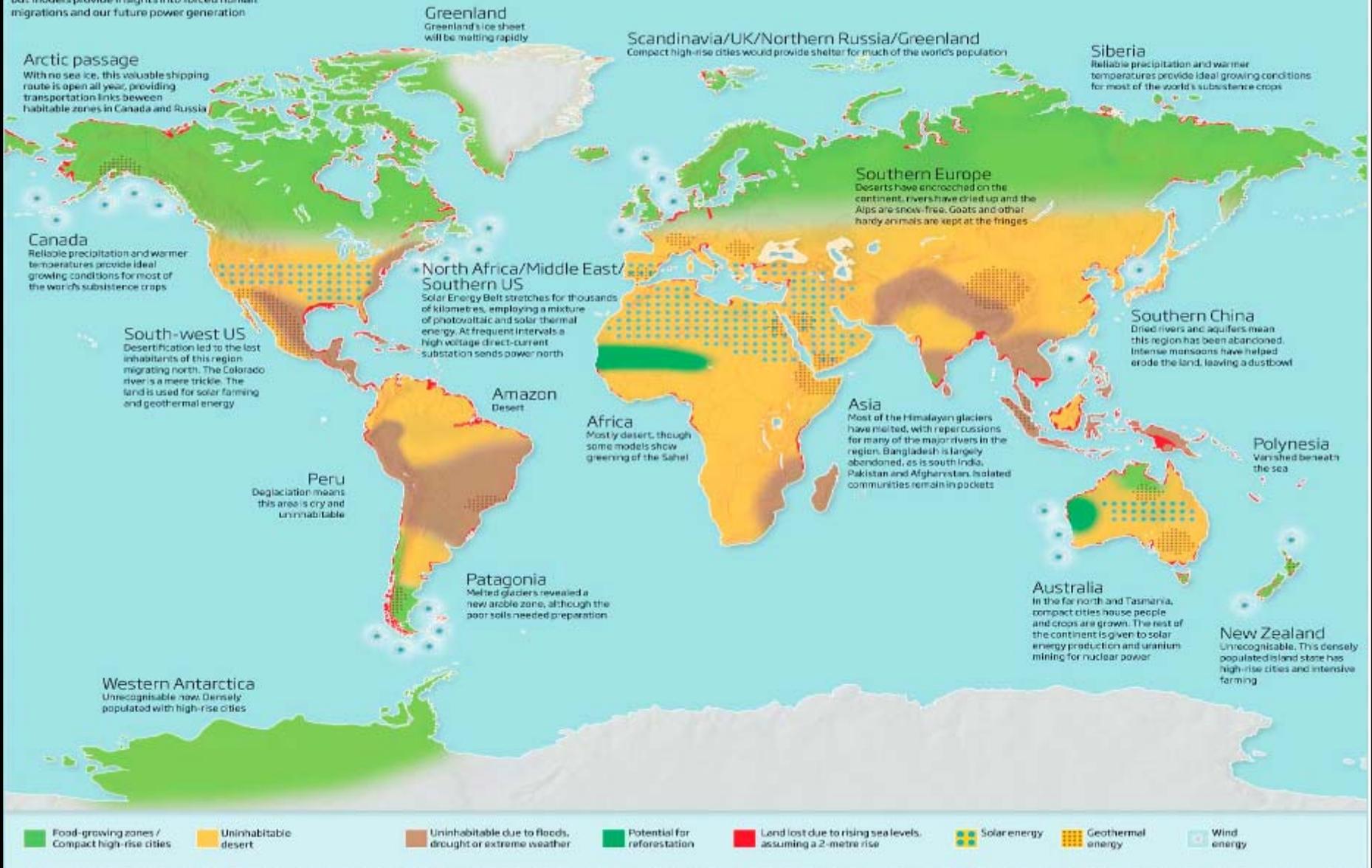


SOURCE: FISHSTAT 2008

GLOBAL WARMING – LESS LAND SUITABLE FOR FARMING?

The world: 4°C warmer

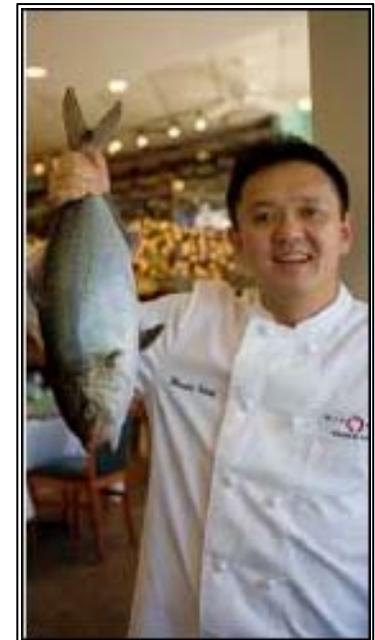
No one knows exactly what this world will look like, but models provide insights into forced human migrations and our future power generation



WHAT IS AQUACULTURE?

GROWING FISH, SHELLFISH AND MARINE PLANTS FOR:

- **FOOD, PHAMACEUTICALS AND OTHER COMMODITIES**



SOURCE: NOAA

WHAT IS AQUACULTURE?

GROWING FISH, SHELLFISH AND MARINE PLANTS FOR:

- FOOD, PHAMACEUTICALS AND OTHER COMMODITIES
- **RECREATION, AQUARIUM INDUSTRY, HOBBYISTS**

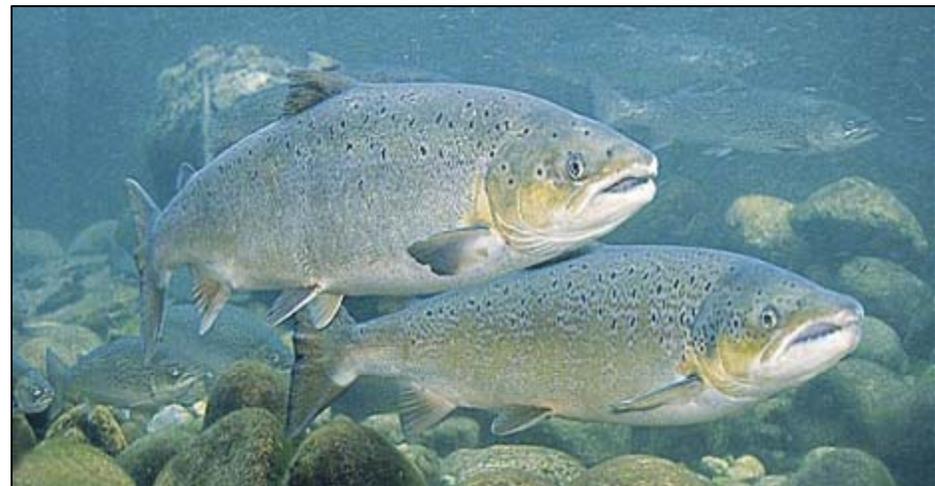


SOURCE: PETS1000.COM

WHAT IS AQUACULTURE?

GROWING FISH, SHELLFISH AND MARINE PLANTS FOR:

- FOOD, PHAMACEUTICALS AND OTHER COMMODITIES
- RECREATION, AQUARIUM INDUSTRY, HOBBYISTS
- **RESTORATION OF DEPLETED STOCKS AND IMPACTED HABITATS**



CHALLENGES FOR THE 21st CENTURY:

How can opportunities be created to expand aquaculture in the US to:

- 1) complement society's core values,
- 2) be sustainable - benefit or have neutral environmental effects,
- 3) create economic opportunities, profitable companies and jobs,
- 4) ensure long-term food security of the US?