BORDER ENERGY OPPORTUNITIES

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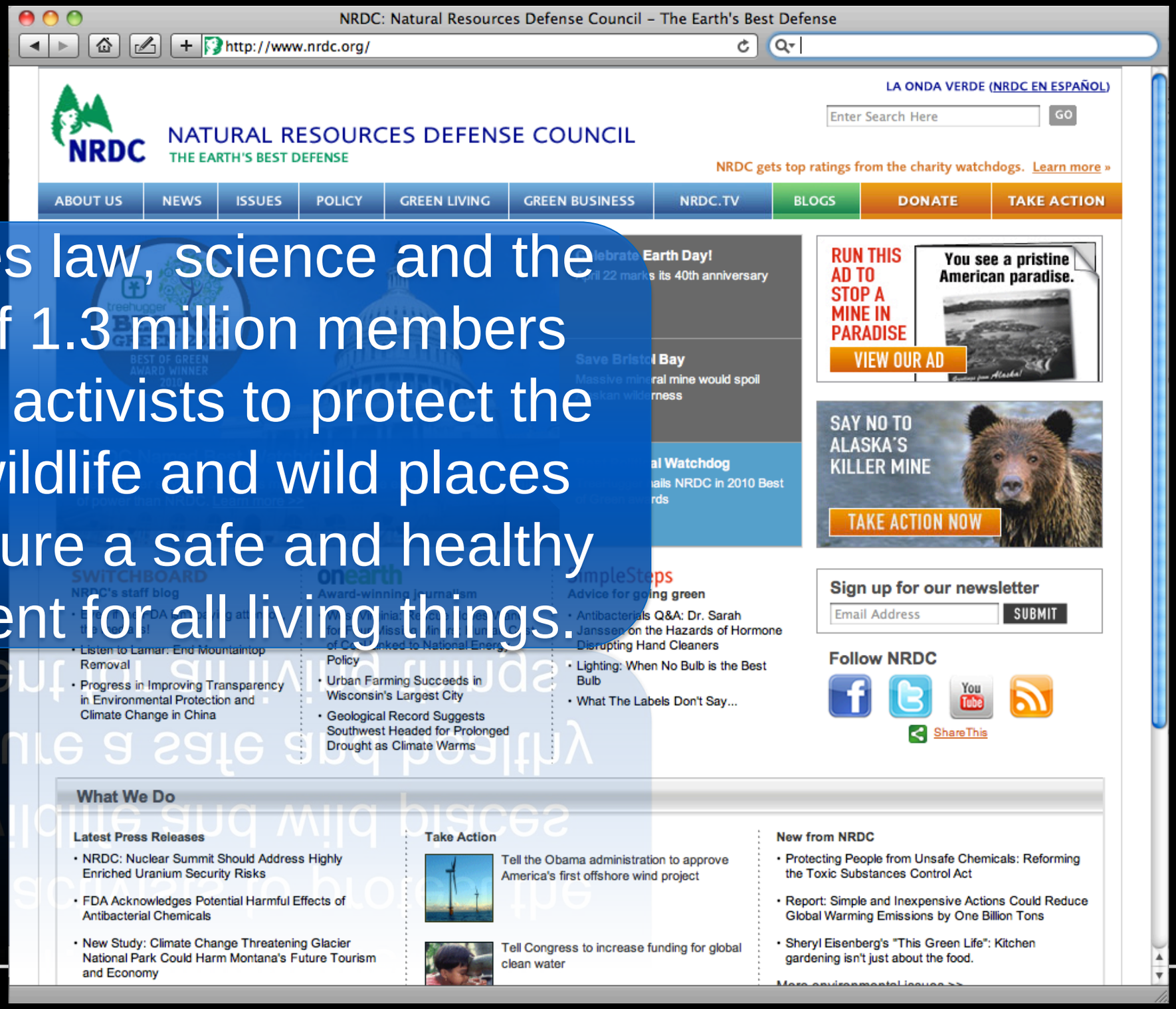
What is NRDC?



NRDC uses law, science and the support of 1.3 million members and online activists to protect the planet's wildlife and wild places and to ensure a safe and healthy environment for all living things.

Common goals and Opportunities

- Climate Mitigation
- Renewable Energy Integration
- Grid Optimization and Reliability
- Shared reserves, Real time market?
- Economic Development

Mexico's Climate Mitigation Strategy

Accelerate the energy transition toward clean energy sources

Reduce energy intensity through efficiency and responsible consumption schemes,

Shift towards models of sustainable cities with mobility systems, integrated waste management, and low-carbon footprint buildings

Promote best practices in agriculture and forestry to increase and preserve natural carbon sinks

Reduce emissions of Short-Lived Climate Pollutants (SLCPs), and promote co-benefits in health and well-being

The Grid we have today will not be the grid of the future.

"Most people who don't see this high renewables future as possible are thinking about the current grid and adding in a small amount of renewables. But the grid we want is one where we deploy energy efficiency first, then renewables, and then back them up with storage and back that up with natural gas."

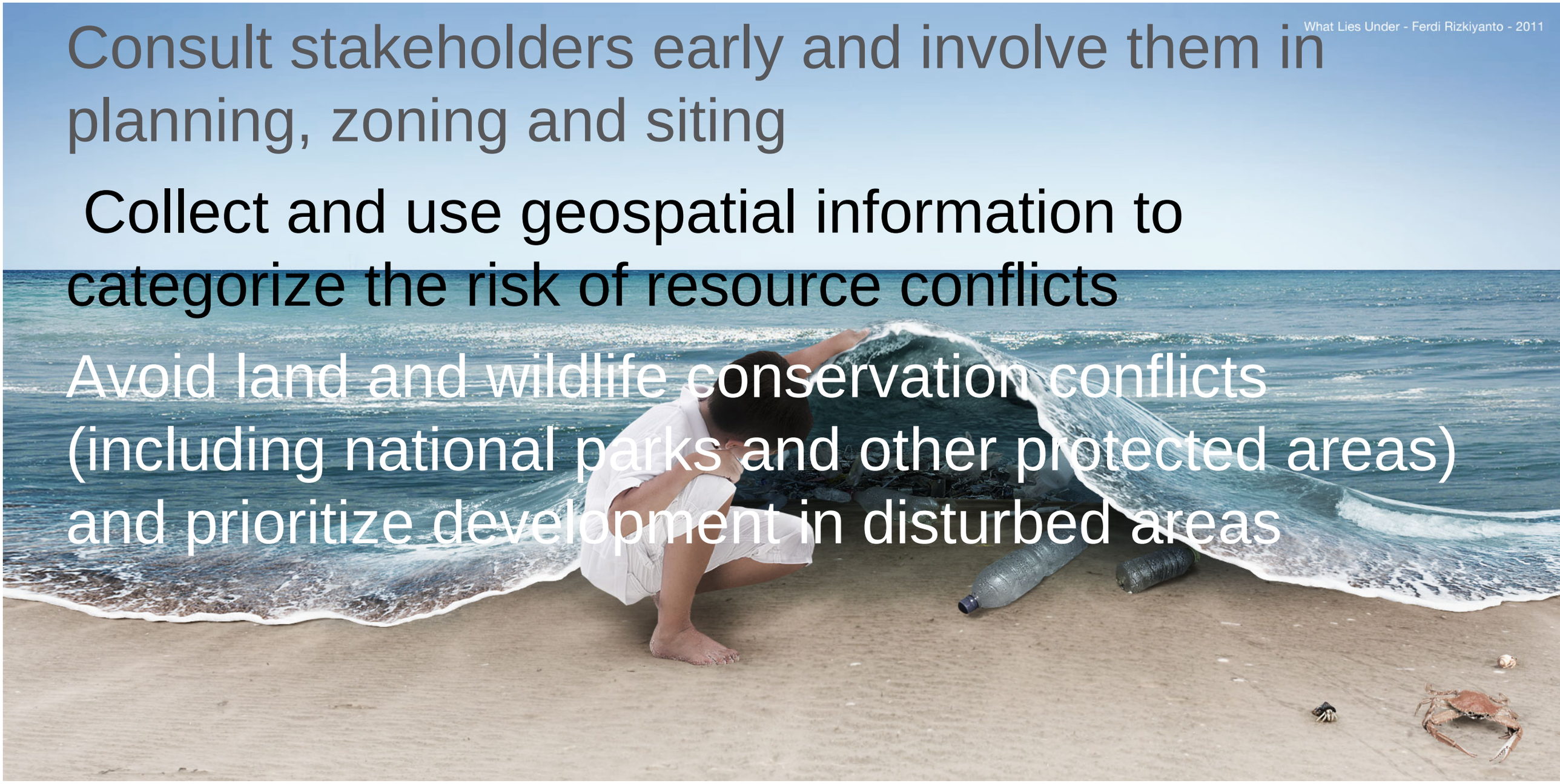
-- *Dan Kammen, UC Berkeley*

NRDC

3 Key Points for Attendees

- Smart From The start
- Development Zones and Transmission together
- Optimize the system as it expands

Be “Smart from the Start”



Consult stakeholders early and involve them in planning, zoning and siting

Collect and use geospatial information to categorize the risk of resource conflicts

Avoid land and wildlife conservation conflicts (including national parks and other protected areas) and prioritize development in disturbed areas

Resource Zoning

For excellent resource values

Facilitate transmission upgrades

To avoid environmental and cultural resource conflicts

To Optimize grid and renewable resource performance

Reduce costs for electricity customers

Lay of the Land

How significant is "significant"? Following are the researchers' calculations for how much open land in each region receives incoming solar energy of more than 2,000 kWh/m²/y:

Africa – 12.96 million square kilometers
Australia – 6.08 million square kilometers
Middle East – 2.59 million square kilometers
Central South America – 1.19 million square kilometers
China – 1.19 million square kilometers
US – 985,005 square kilometers
Other parts of developing Asia – 703,577 square kilometers
Mexico – 368,108 square kilometers
Central Asia/Caucasus – 159,939 square kilometers
India – 112,497 square kilometers
EU 27+ – 23,975 square kilometers
Other parts of eastern Europe – 211 square kilometers

Global Horizontal Irradiation

Mexico

Average annual sum, period 1999-2012

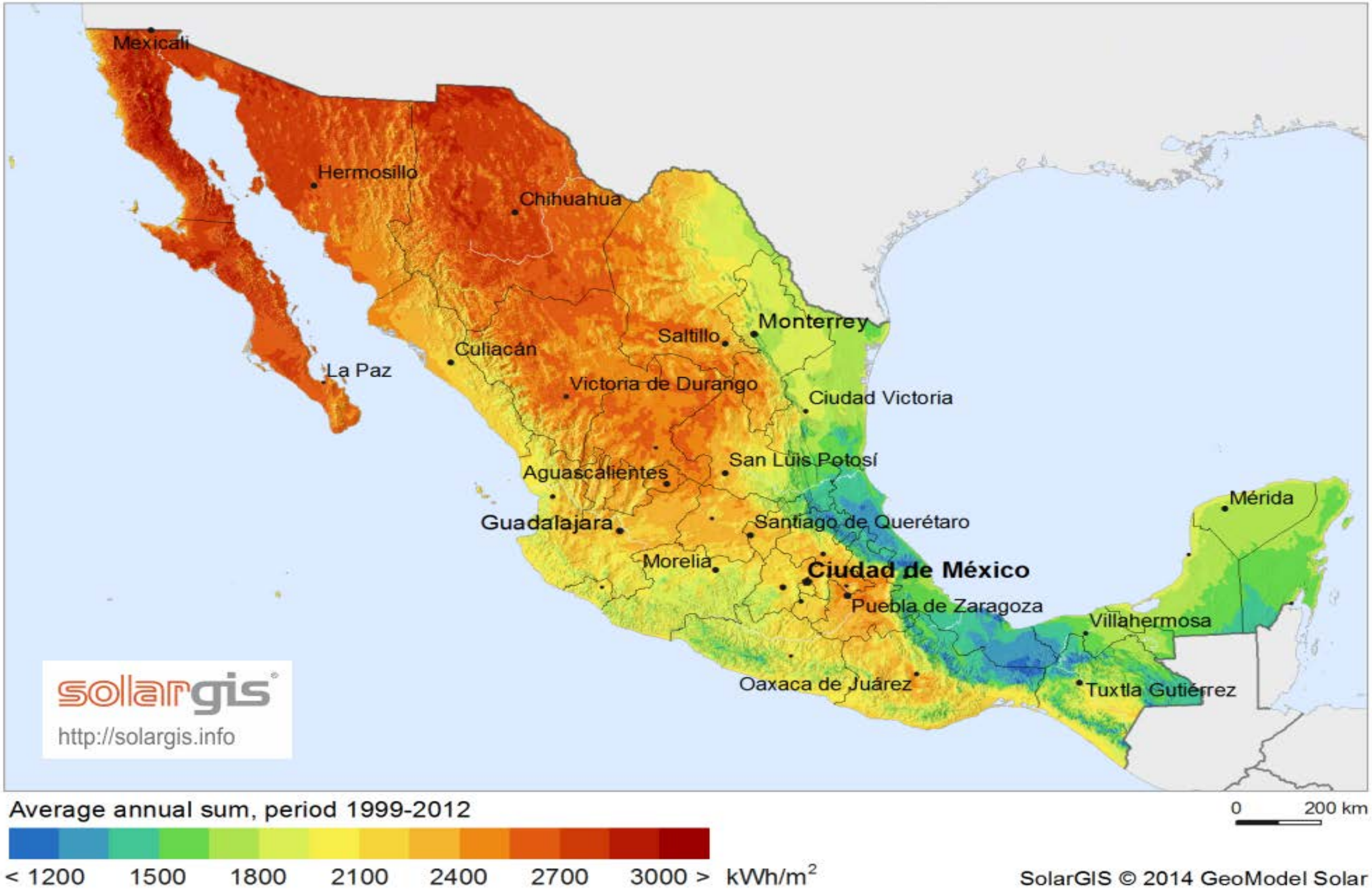
0 200 km

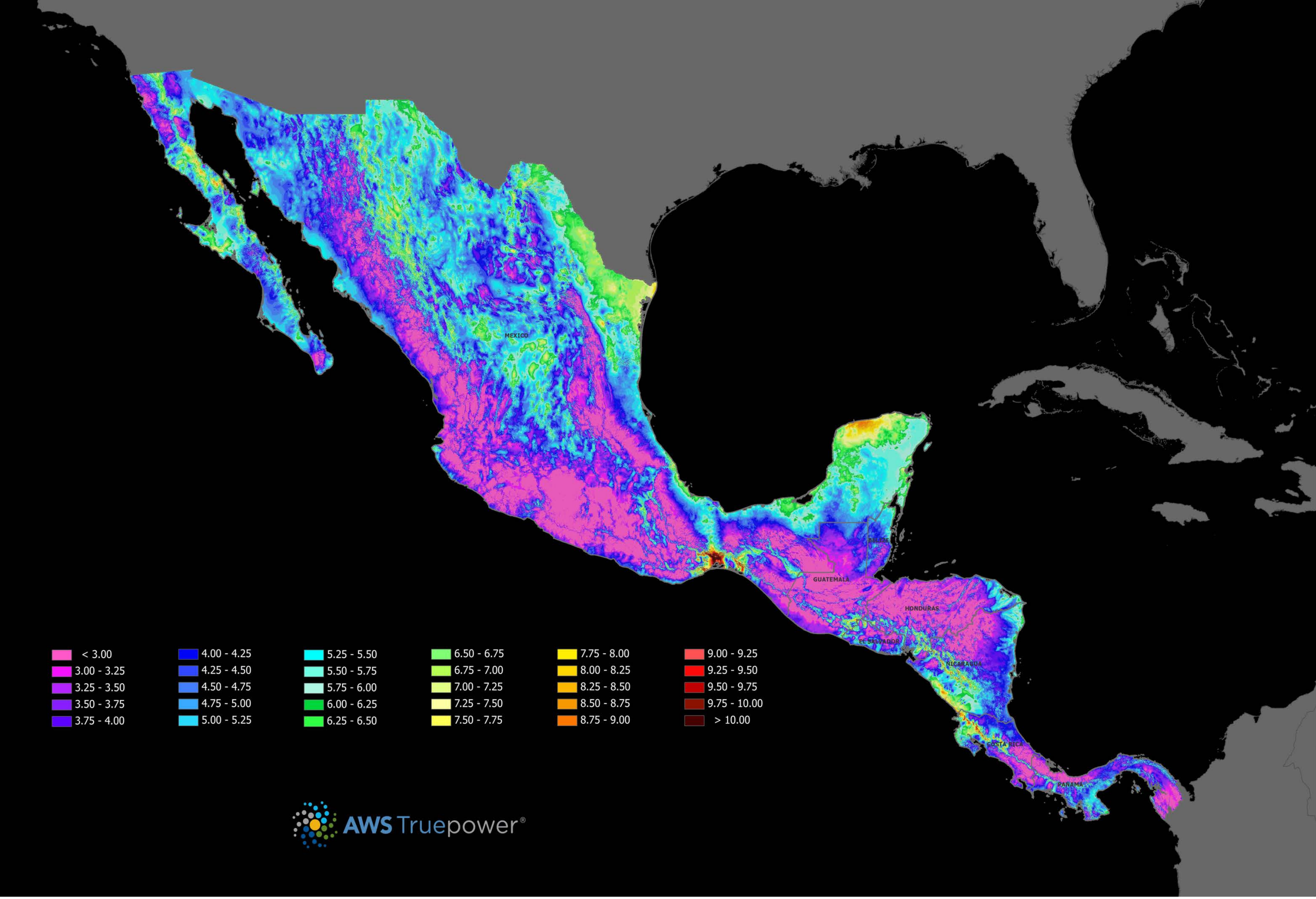
< 1550 1700 1850 2000 2150 2300 > kWh/m^2

SolarGIS © 2014 GeoModel Solar

Direct Normal Irradiation

Mexico

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THANK YOU!

¡MUCHAS GRACIAS!