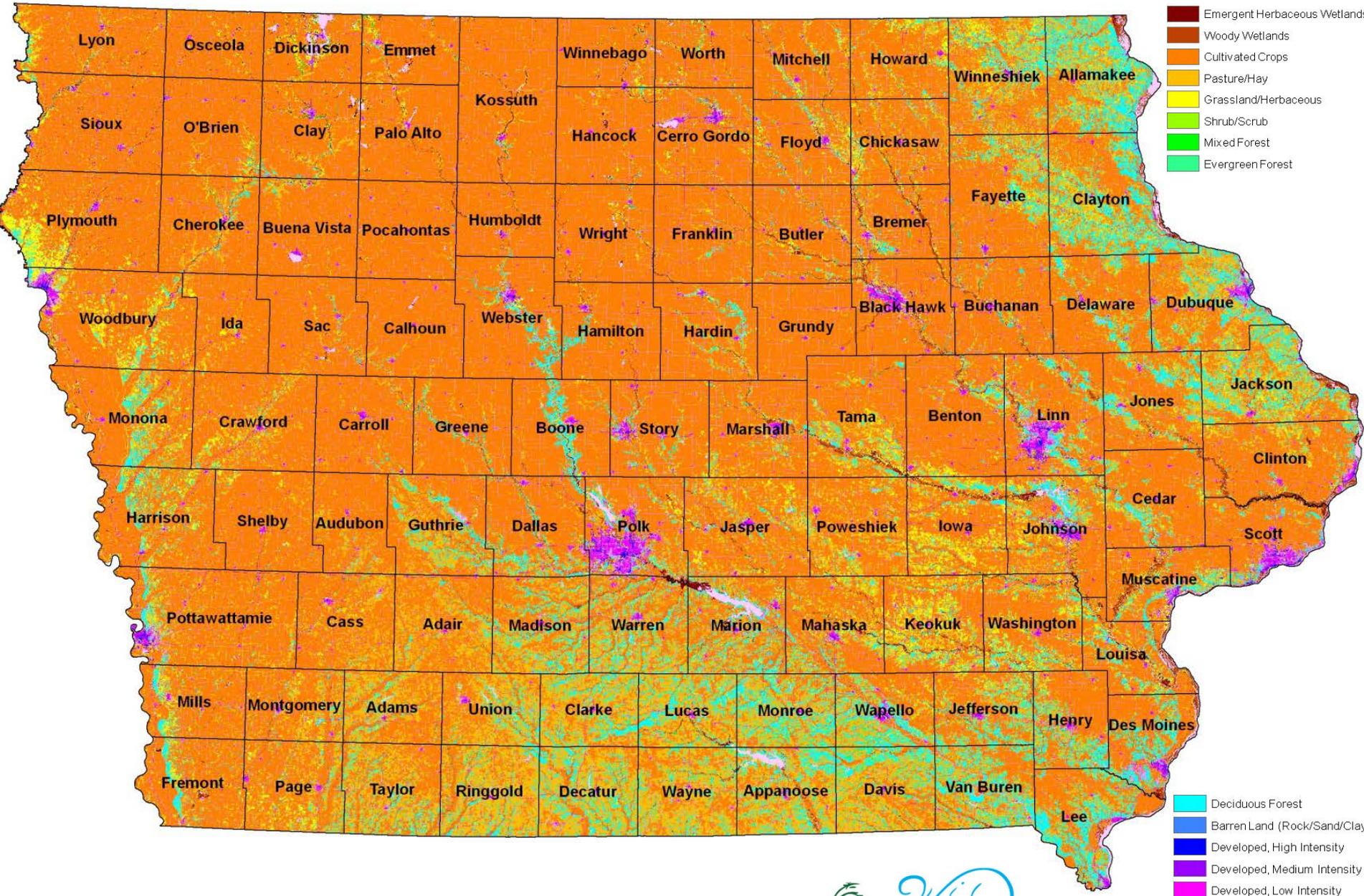


How to Ride a Rollercoaster: Success Stories Despite Uncertain Times ~ The Iowa Case Study ~

Wind Powering America
Illinois Institute of Technology
May 9, 2013
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Iowa's Natural Resources (Farmland in Tan and Orange)



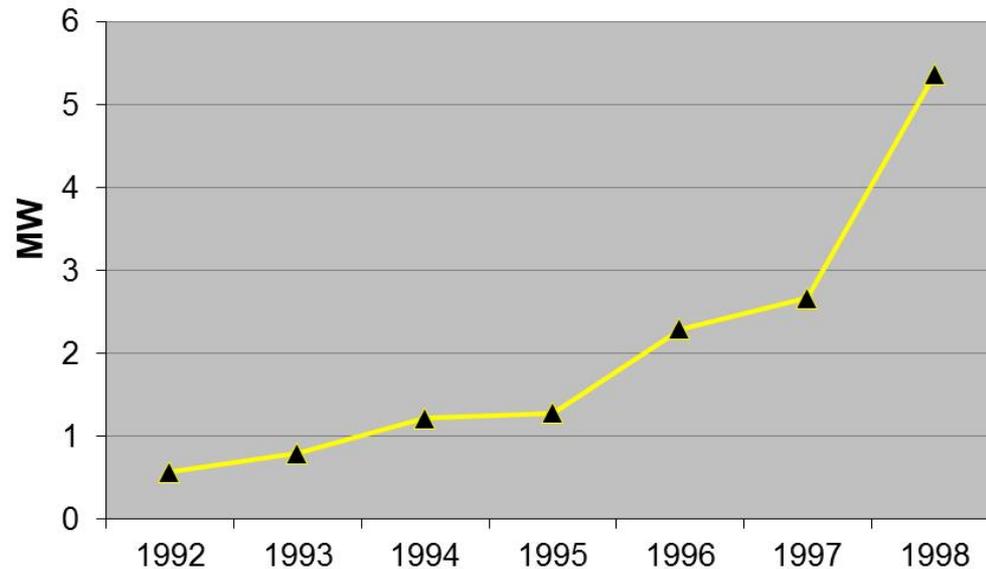
This map shows the detailed land cover types and is from United States Geological Survey.



Energy Crisis Spurred Action

- First energy crisis in 1974
- Iowa Legislature responded
- 1983 Renewable Energy Portfolio – required 2% of energy to come from renewable energy (about 250 MW)
 - The legislature did WHAT???
 - What happened next?
- Period of “discussion”
- First utility scale turbine was installed in 1992

Wind Generation Capacity in Iowa



How Did Iowa Eventually Get to 2%?

- Iowa Utility Board – Long regulatory process
- Legislative challenges
- Legal challenges
- Legislature passed incentives
 - Reduction in property taxes
 - Eliminated sales tax
 - Exemption from “Power Plant Siting” regulations
- Three wind farms were installed in 1999 using 750 kW wind turbines by private developers, totaling 230 MW
- What happened next was “Magic”
 - 2001 a fourth wind farm of 80 MW was installed
 - 2002 a fifth wind farm totaling 98 MW
 - 2003 a sixth wind farm totaling 43 MW, GE 1.5 MW turbines
 - All of these were by private developers



More Policy Changes

- Siting and construction of 34.5 kV electric transmission lines became exempt from franchise process
- Legislation to allow utilities to own the wind generation
- Pre-approval of utility wind generation investment for rate recovery
 - All of this resulted in MidAmerican Energy investment in wind generation
- Iowa provided incentives for community wind generation projects, 10 year 1.5 ¢ per kWh saleable state tax credit
- Iowa Power Fund invested in demonstration, research, and education
- Today Iowa has over 5000 MW of wind generation
- Well over 25% of Iowa's electricity will be generated by wind power this year.

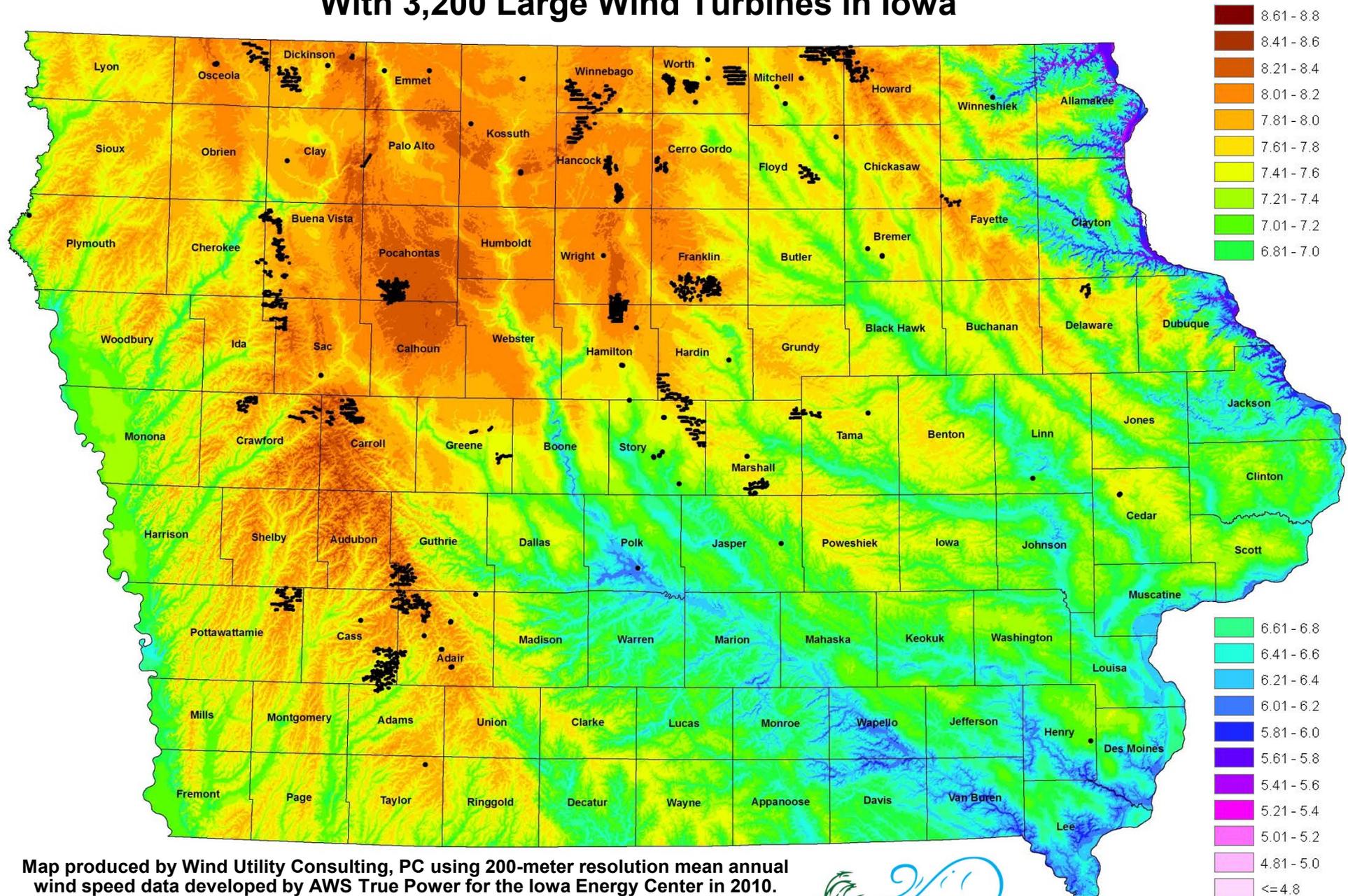


What Does Iowa Do To Support Wind Power?

- Iowa Wind Energy Association started 5 years ago
 - Very active in promoting wind energy
 - Lobbyist at the state legislature
 - Supports federal policy initiatives
- Legislature is divided politically
- Iowans see a lot of wind turbines every day



Mean Annual Wind Speed in Meters per Second at an 80-Meter Height With 3,200 Large Wind Turbines in Iowa



Map produced by Wind Utility Consulting, PC using 200-meter resolution mean annual wind speed data developed by AWS True Power for the Iowa Energy Center in 2010. There are approximately 3,200 large wind turbines plotted on the map. Single large turbines have larger black dots so they can more easily be seen on the map.



Wind Utility Consulting, PC March 2013
Andrew T. Coil

Small Wind turbines in Iowa (1 – 100 kW)

