

ADVANCING GLOBAL OFFSHORE CCS

Proposing a CSLF Task Force: International Initiative for CCS Subsea (iCCS_c)

Ramón Treviño

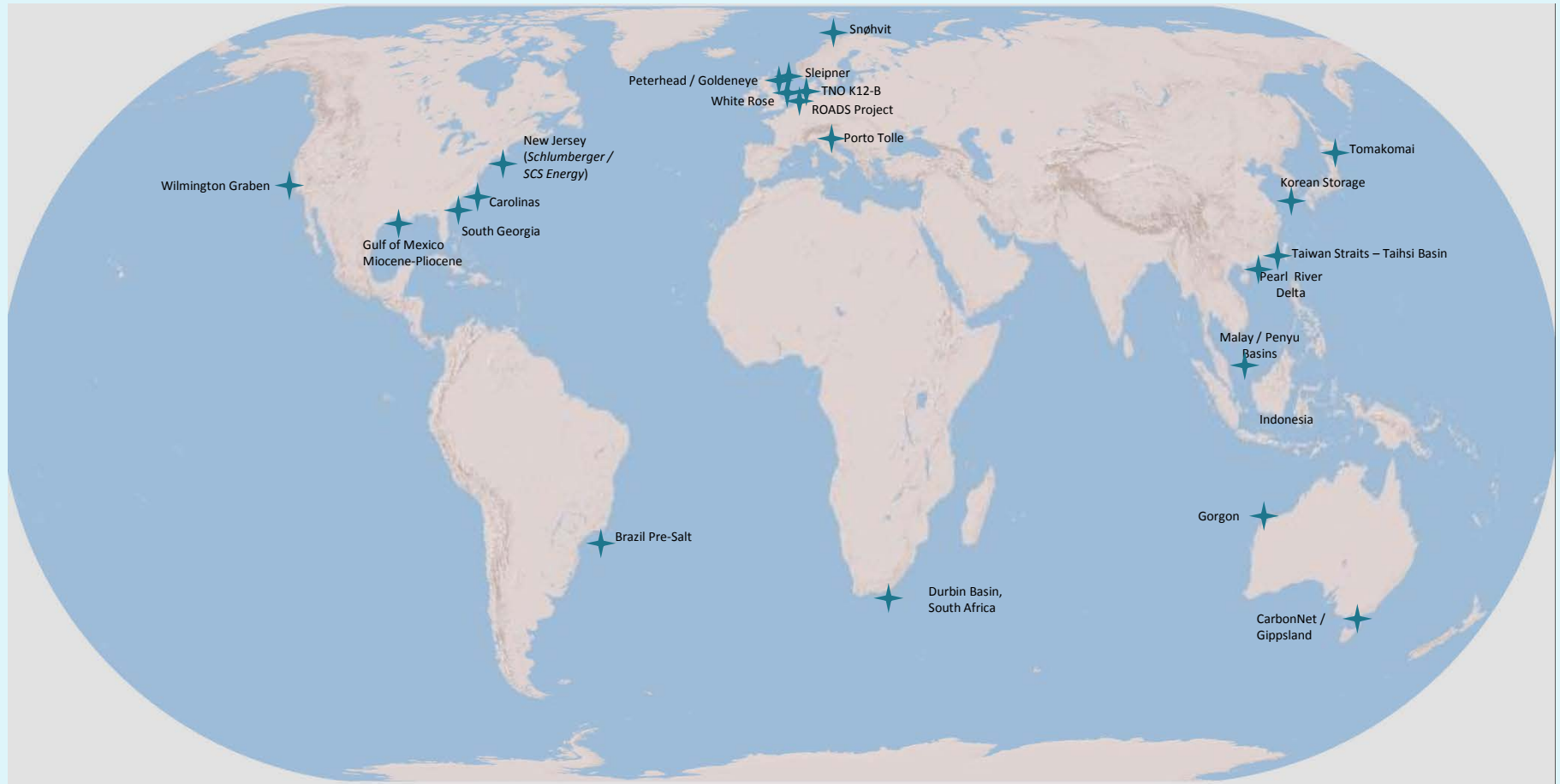
The University of Texas at Austin,
Bureau of Economic Geology

Proposal – A Task Force

- Support & Develop Field Test(s)
 - Demonstrate Global Feasibility – Offshore CCS
- Assess Barriers & Technology Needs
 - Would Serve Many Nations
 - Share (Synergize) Technology Strengths
 - Share Experience(s)
- Success Criteria
 - Accelerate Deployment of Offshore Field Test(s)

Studies of Offshore GS Resources*

(Not an Exhaustive List)



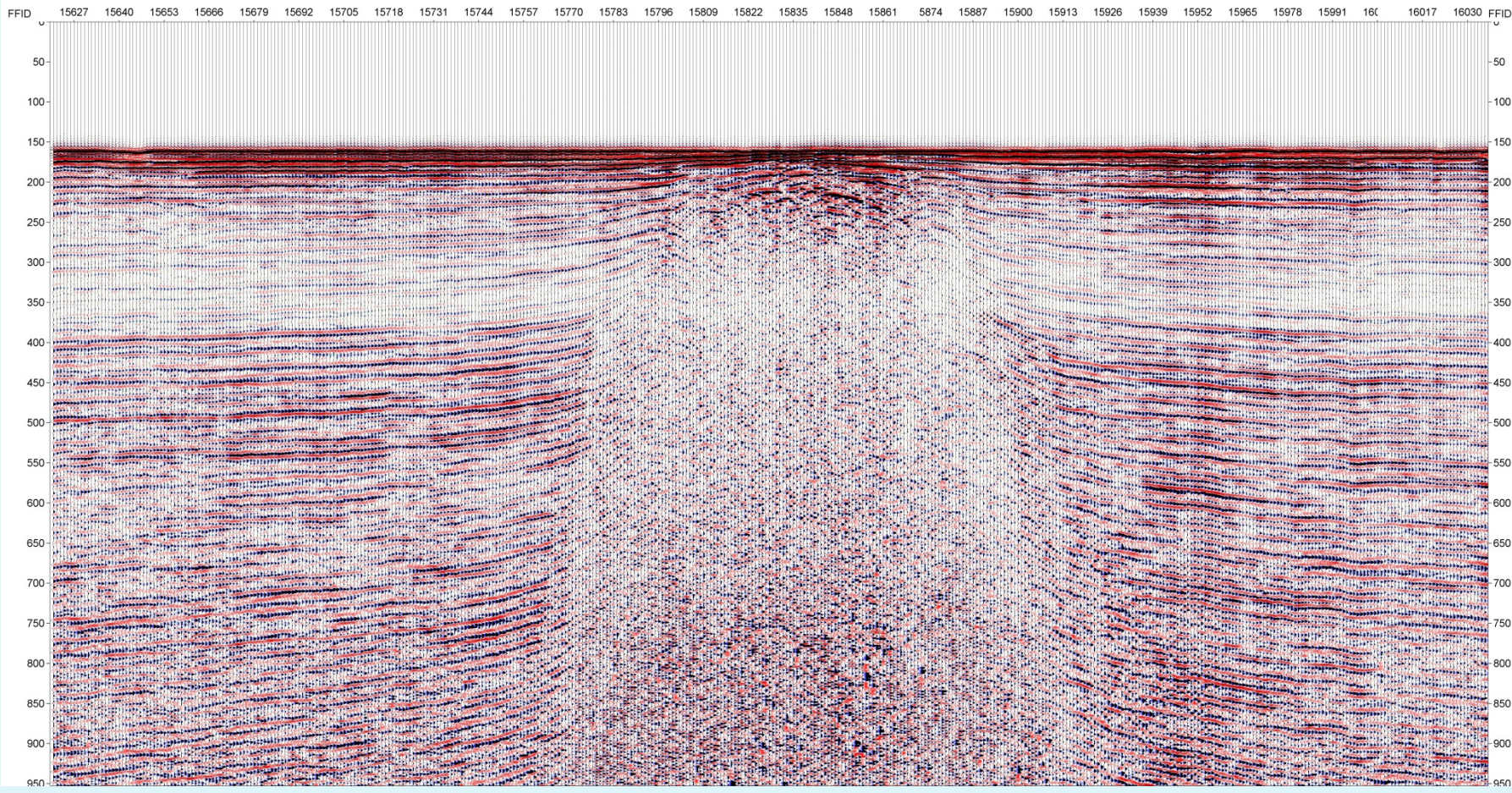
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*Only Porous Media Studies –
excludes coal-bed and basalts

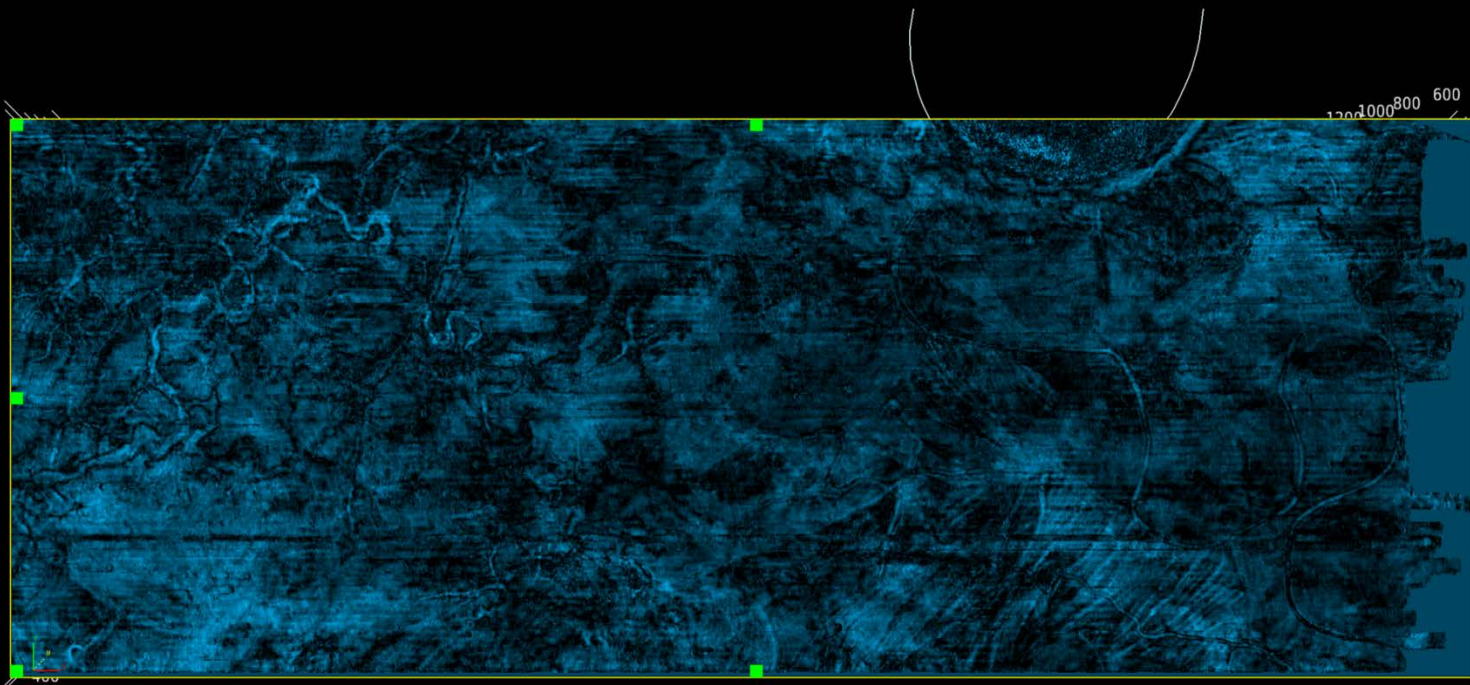
Gulf of Mexico Hi-Resolution 3D-Seismic Data Acquisition: 21 - 29 October, 2013



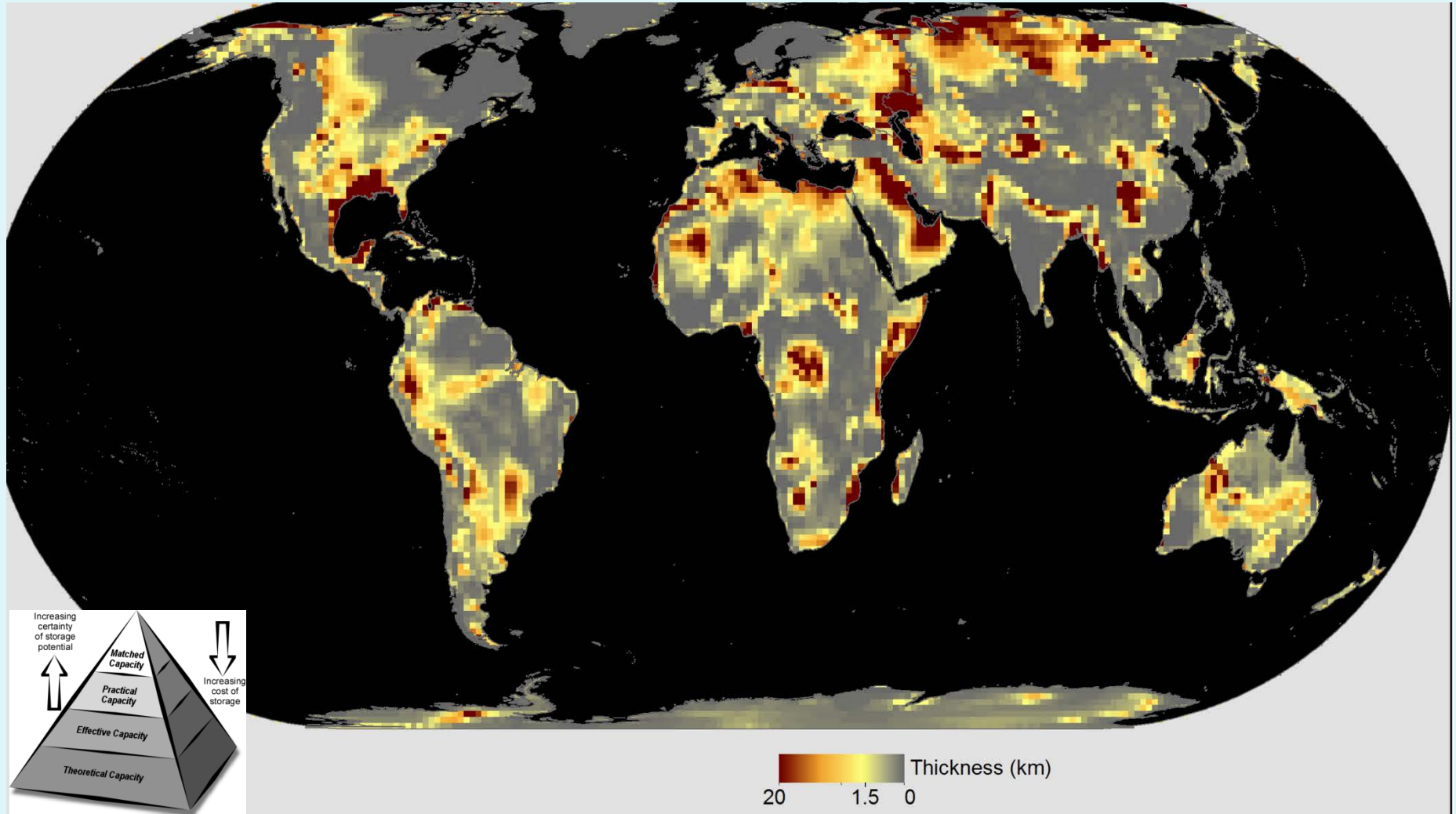
Gulf of Mexico Hi-Resolution 3D-Seismic Data Field Record – 27 October, 2013



Gulf of Mexico Hi-Resolution 3D-Seismic Data Processed Volume – July, 2012



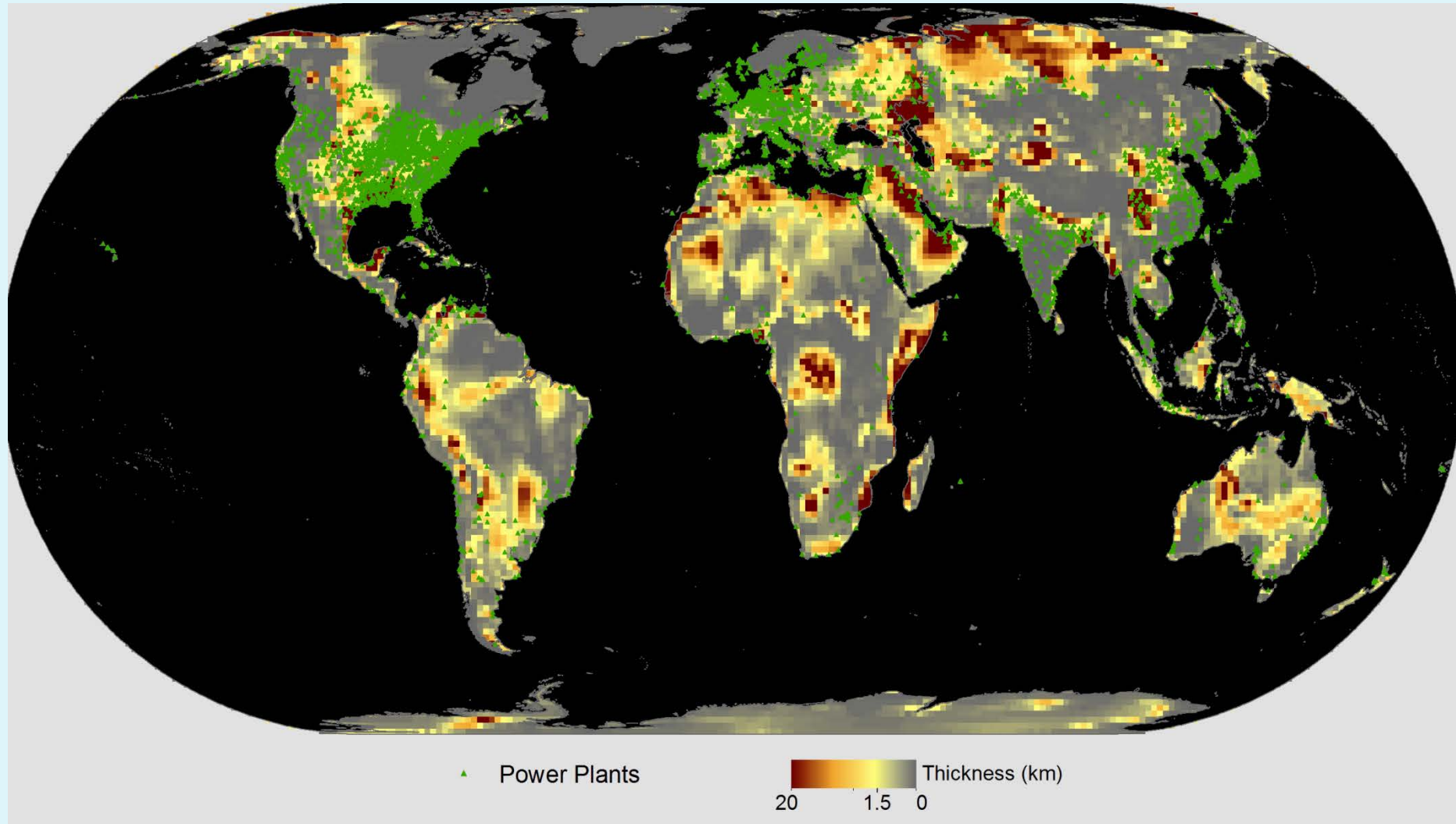
Onshore Potential Prospective Sedimentary Thickness



Bachu et al., 2007
CSLF, 2007

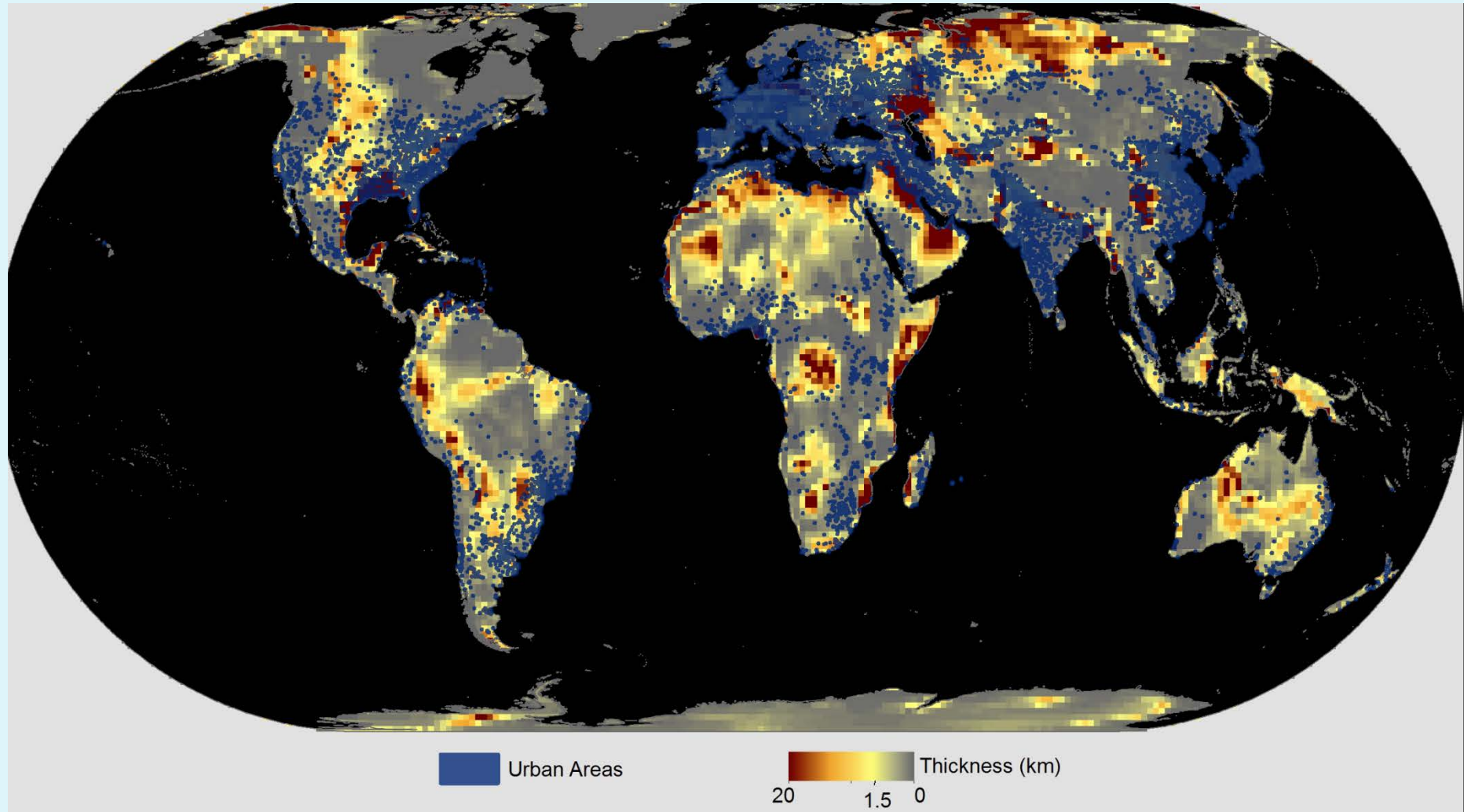
Exxon Production Research Company, W.M.P.A.A.o.P.G.F., 1985
Laske and Masters, 1997
Schneider, et al., 2003

Onshore Potential Relative to CO2 Sources



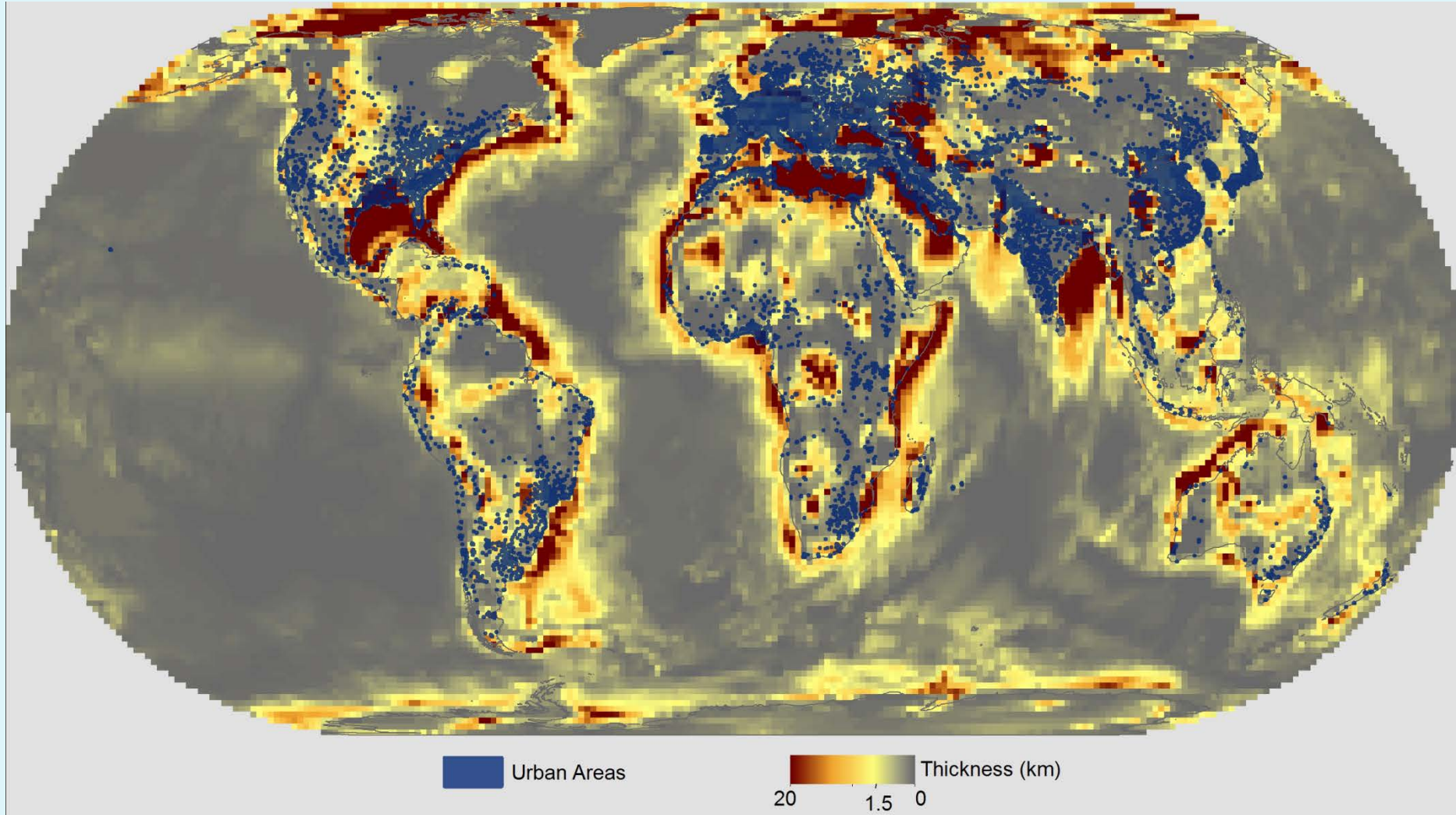
Exxon Production Research Company, W.M.P.A.A.o.P.G.F., 1985
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Onshore Potential Relative to Population Centers



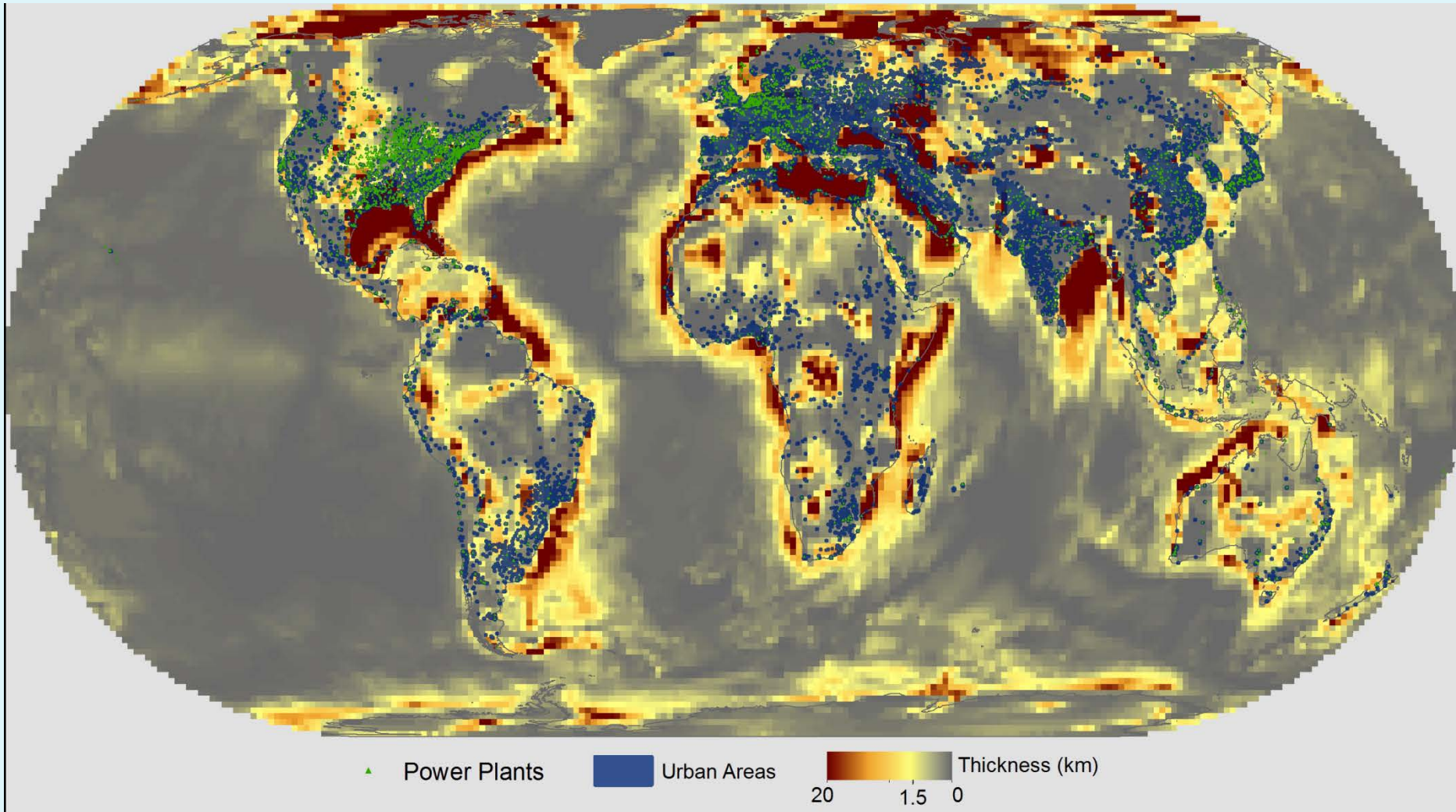
Exxon Production Research Company, W.M.P.A.A.o.P.G.F., 1985
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Offshore Potential Relative to Population Centers



Exxon Production Research Company, W.M.P.A.A.o.P.G.F., 1985
Laske and Masters, 1997
Schneider, et al., 2003

Offshore Potential Relative to Population Centers & CO2 Sources



Exxon Production Research Company, W.M.P.A.A.o.P.G.F., 1985
Laske and Masters, 1997
Schneider, et al., 2003

Offshore Injection To Date*

There seem to be barriers to actually *doing*...



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*Brazil Pre-Salt and Gorgon
injection soon?

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Scope

Technical

- Offshore Geologic Characterization Issues
 - Advantages & Disadvantages
- Offshore Monitoring Issues
- Viability of Offshore EOR
- Collaboration Opportunities with Existing/Emerging Projects?

Policy

- Assess Cost Issues
- Strategic Deployment Optimization
 - (Techno-Economic Modeling)
- Offshore Up-scaling Policy Issues
- Economic Drivers – What is Business Case?

Technical & Policy

- Assess Global Expertise Centers (e.g., Research / Academic)
- CO2 Transport Challenges (Ship vs. Pipeline)
 - International Trade
- Recommend Next Steps

REFERENCES

Bachu, S., D. Bonijoly, J. Bradshaw, R. Burruss, S. Holloway, N.P. Christensen and O.M. Maathiasen, 2007. CO2 storage capacity estimation: Methodology and gaps. International Journal of Greenhouse Gas Control, v. 1, no. 4, p. 430-443.

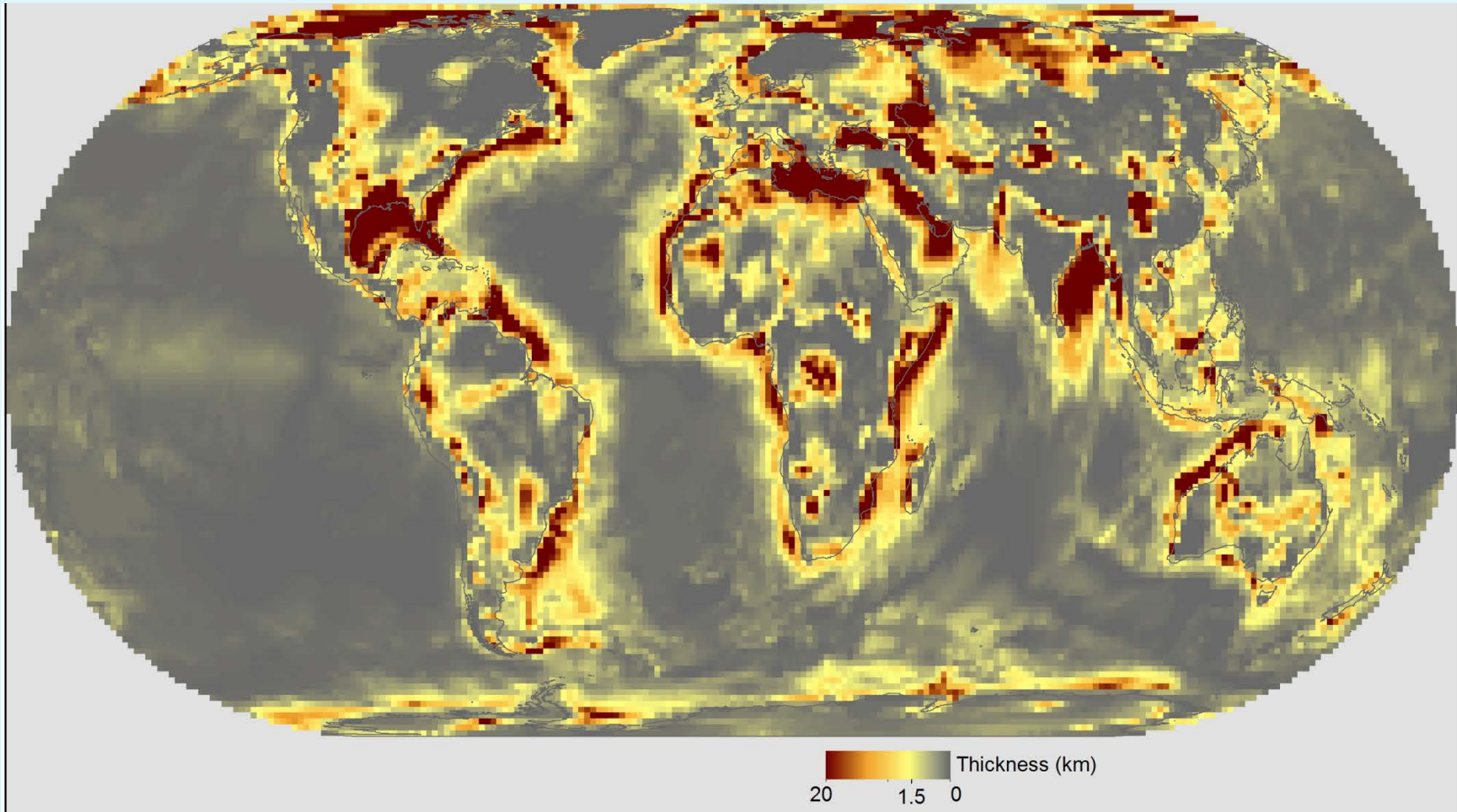
CSLF (Carbon Sequestration Leadership Forum), 2007: Estimation of CO2 storage capacity in geological media, June 2007, 43 p.
<http://www.cslforum.org/documents/PhaseIIreportStorageCapacityMeasurementTaskForce.pdf>

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Schneider, A., M. A. Friedl, D. K. McIver, and C. E. Woodcock (2003) Mapping urban areas by fusing multiple sources of coarse resolution remotely sensed data. Photogrammetric Engineering and Remote Sensing, volume 69, pages 1377-1386.
<https://koordinates.com/layer/1285-world-urban-areas-110-million/>

Global Offshore Potential is Great We Must Take Advantage of it



Exxon Production Research Company, W.M.P.A.A.o.P.G.F., 1985
Laske and Masters, 1997
Schneider, et al., 2003

“There seem to be barriers to actually *doing...*”

We take a lesson from the collaborative model that was successful in getting the Frio pilot kick-started and from the model that DOE used in the Partnerships program.

The Frio Pilot Project’s Collaborators included:

DOE NETL

DOE LBNL

DOE LLNL

Australian CO2CRC (CSIRO)

Alberta Research Council (Canada)

University of Texas at Austin, Bureau of Economic Geology

U.S. Geological Survey

Texas American Resources

Schlumberger

Praxair

Core Laboratories