HPC and Humanities

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Obstacles

-Math

-Computational thinking

-Size of data

The good news

-Complex systems

-Questions that scale

-Pattern recognition

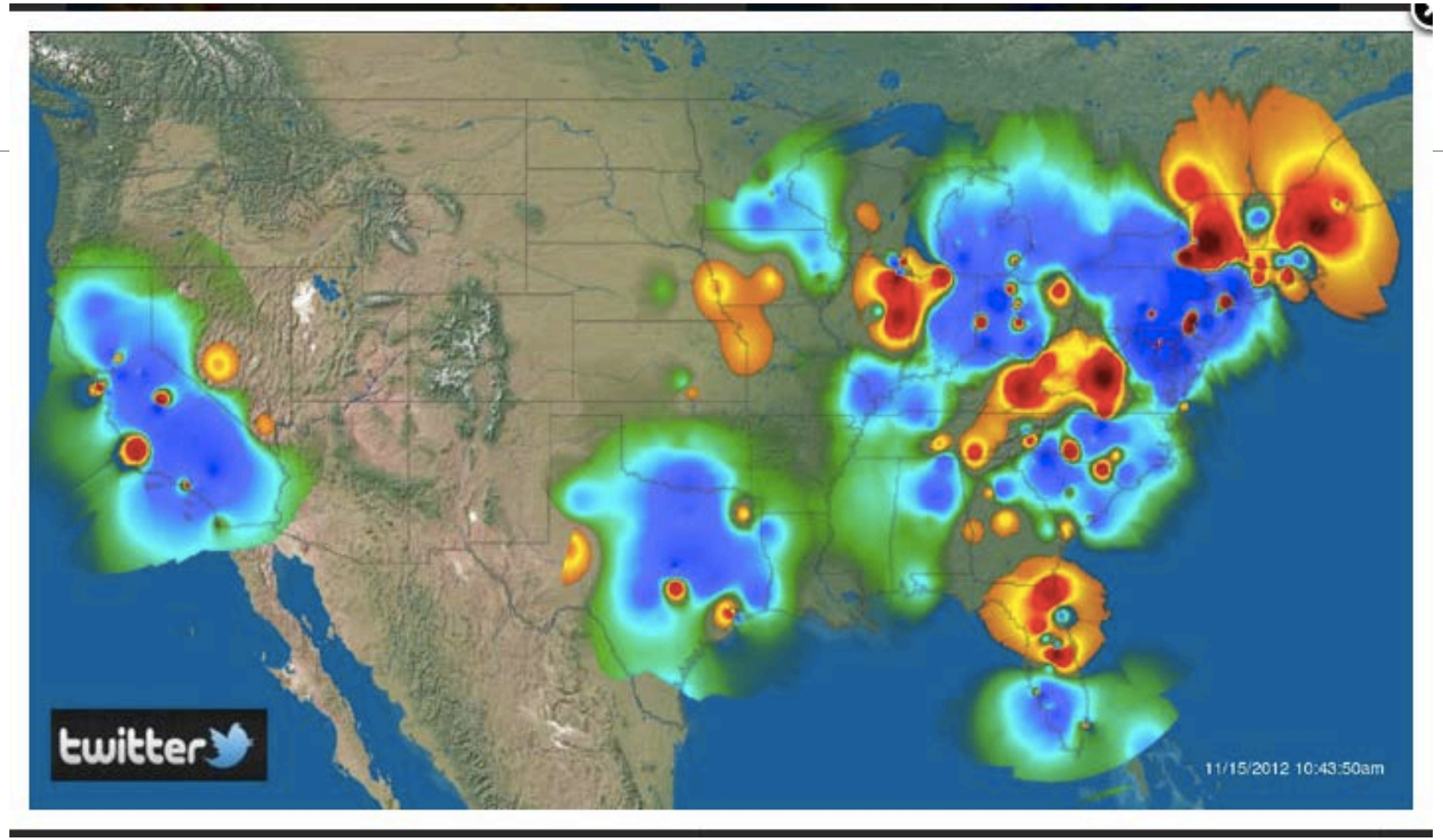
Use cases

-Oral history

-Video analysis, analytics

-Climate history and modeling

-Text mining


twitter
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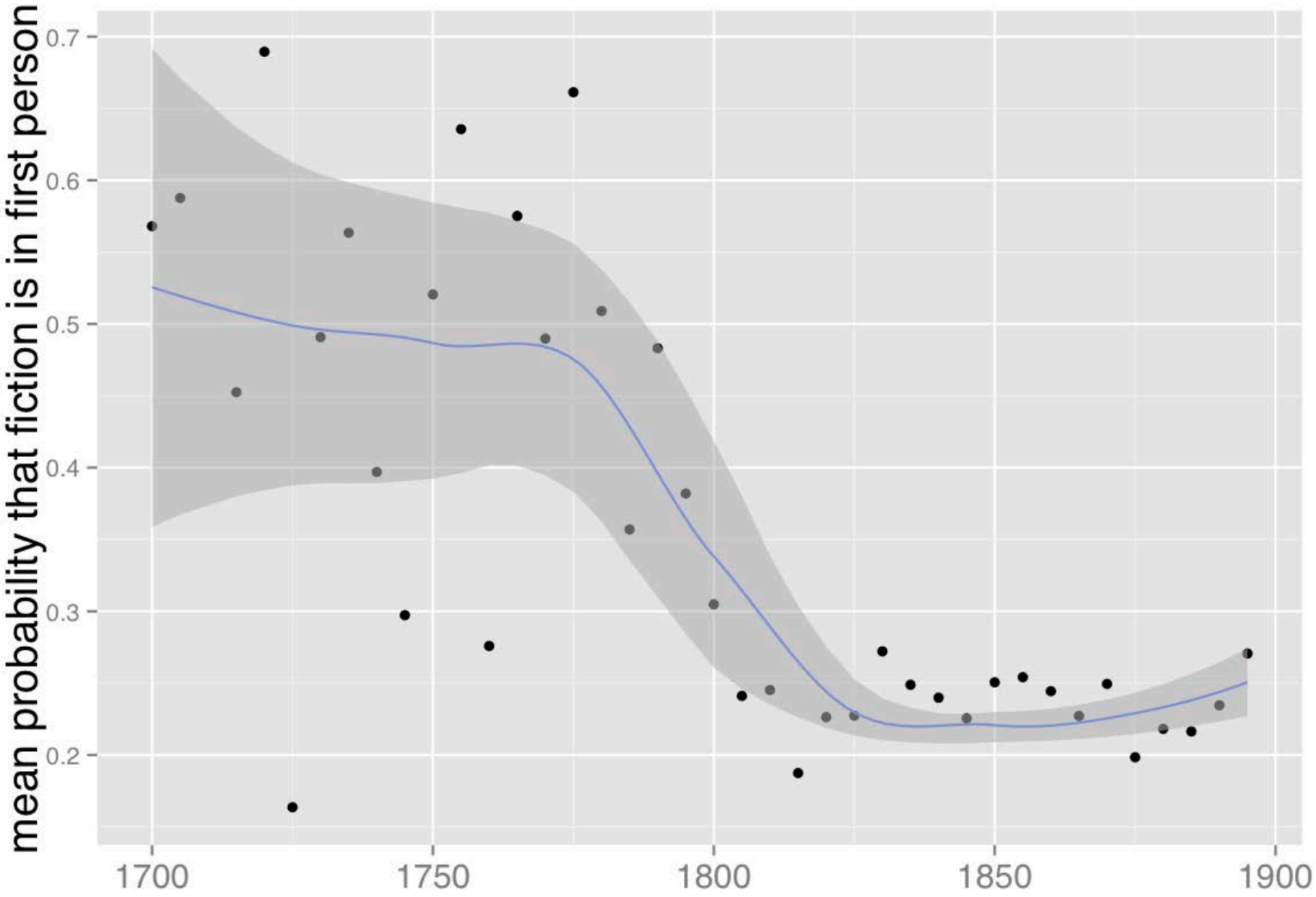
Genre


mean probability that fiction is in first person
0.7
0.6
0.5
0.4
0.3
0.2
1700
1750
1800
1850
1900

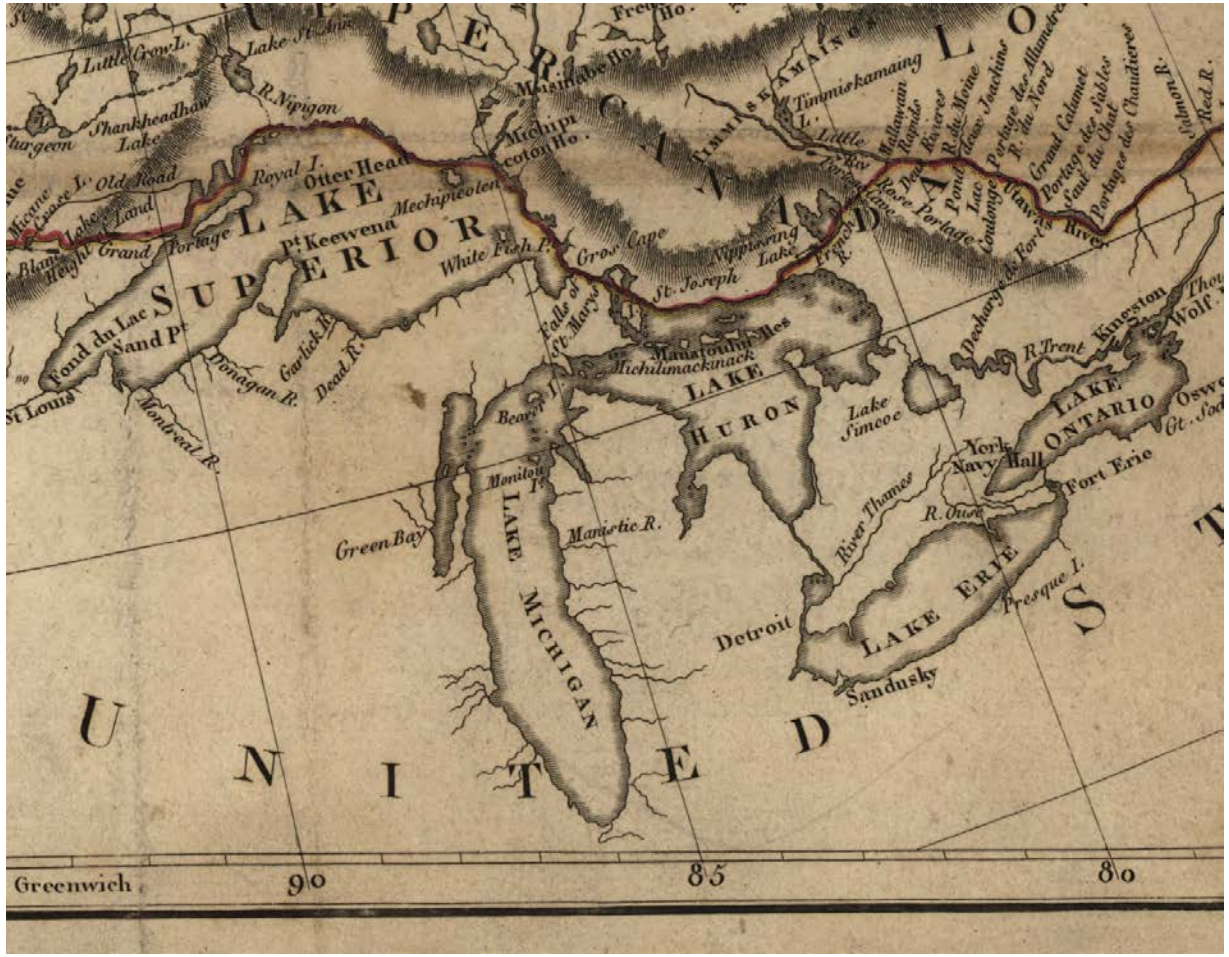
Climate history

Cary, 1796

Russell, 1801

Arrowsmith, 1814

Neatline as a Basis for Algorithmic Calculation



Mackenzie 1801

Mask of Gravelot, Lake Ontario (1746) Shape Analysis Algorithm

Video/moving images

Reconciling

-Data/pixels

-Features

-Attributes/objects

-Motif/artifact

-Culture

-Discourse

Queue arbitration

Some discovery works best in batch, some discovery needs more punctuated phases that alternate between fast and slow, computer and person

Things in common

Modeling things that haven’t been modeled, because “things” vary according to discipline

Demands for other kinds of support, not just cycles: real-time computing, bringing model and research into HPC

Gap is much wider: mature research questions and data don’t always translate into turnkey HPC projects.

Broad Data

Broad Data

How the data is made matters, and who made it

Modeling from a variety of perspectives, from the data model to the computational model

Bringing humanities into HPC shouldn’t merely be a matter of search for big collections or expensive algorithms: opportunity for real exchange and revised paths for inquiry