

Visualizing Uncertainty as an Interactive Ensemble

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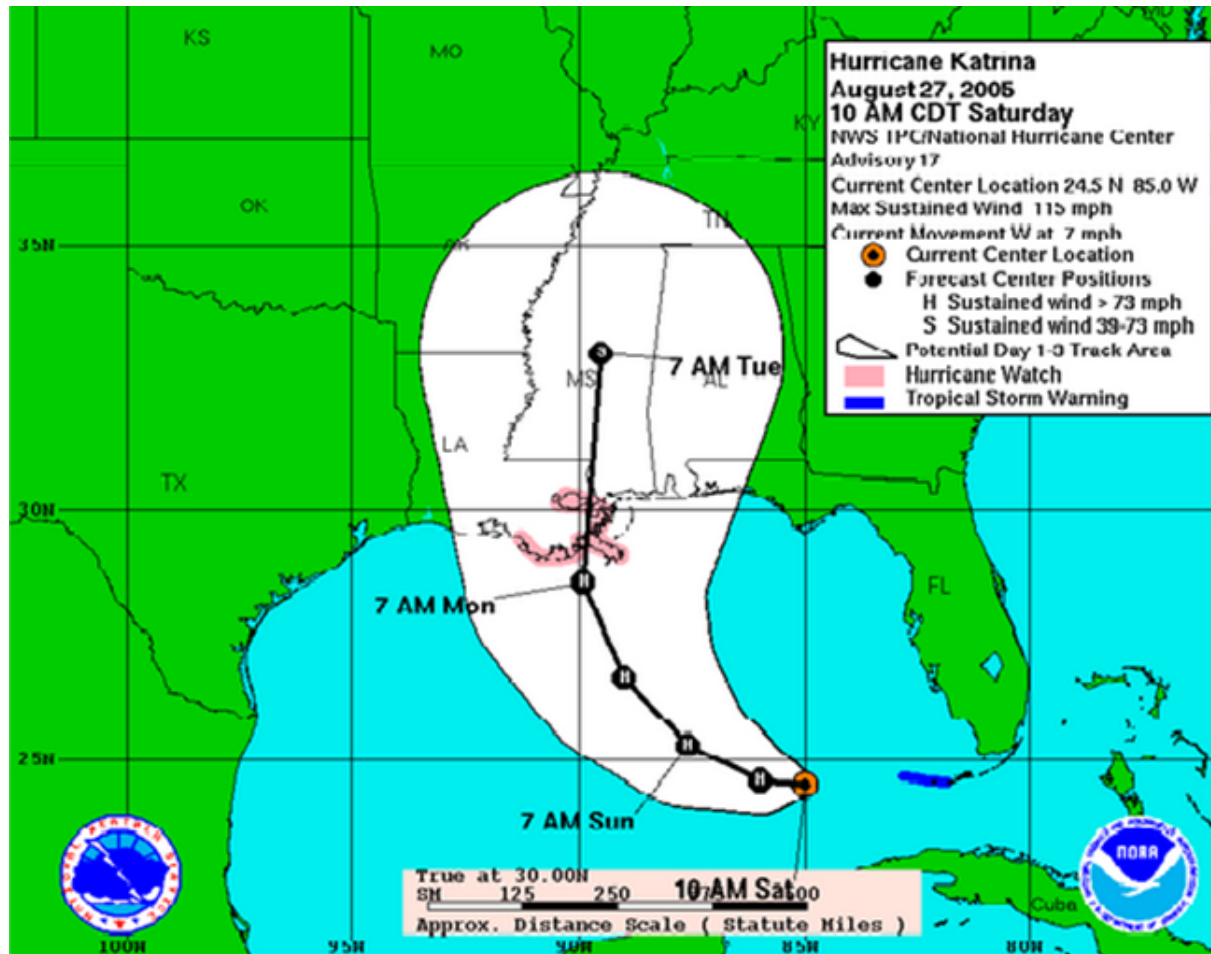
COSIT 2013

Workshop on Visually-Supported Reasoning with
Uncertainty

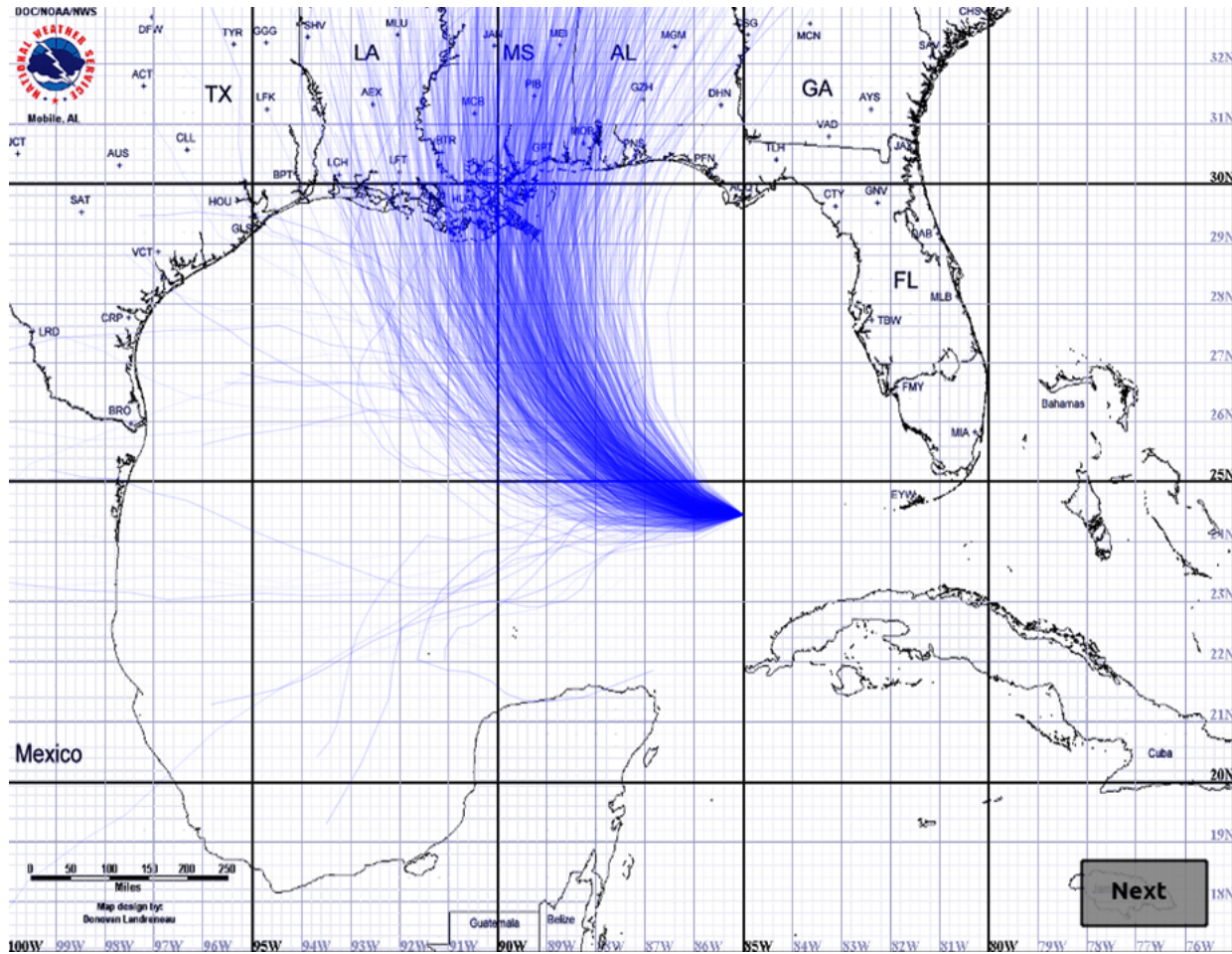
Scarborough, UK

Sept. 2

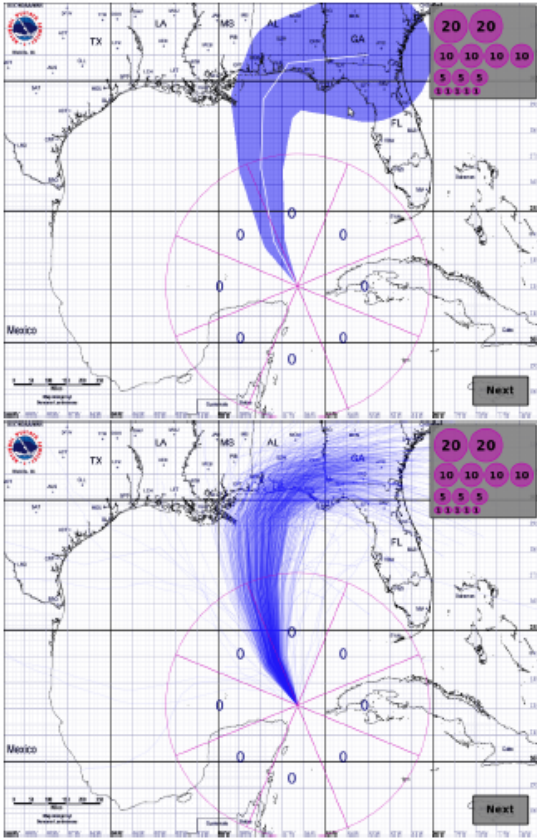
Error Cone Display from US National Hurricane Center



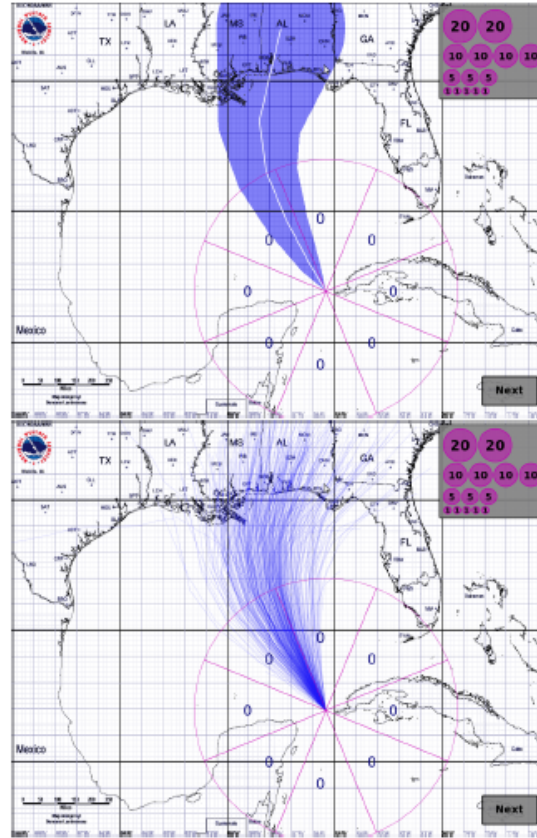
Proposed Ensemble Display



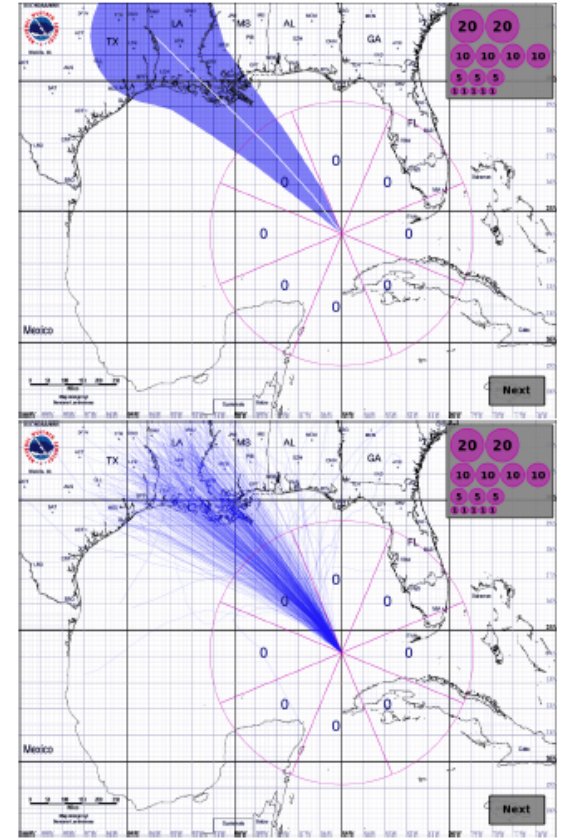
First Three Cases



Case 1

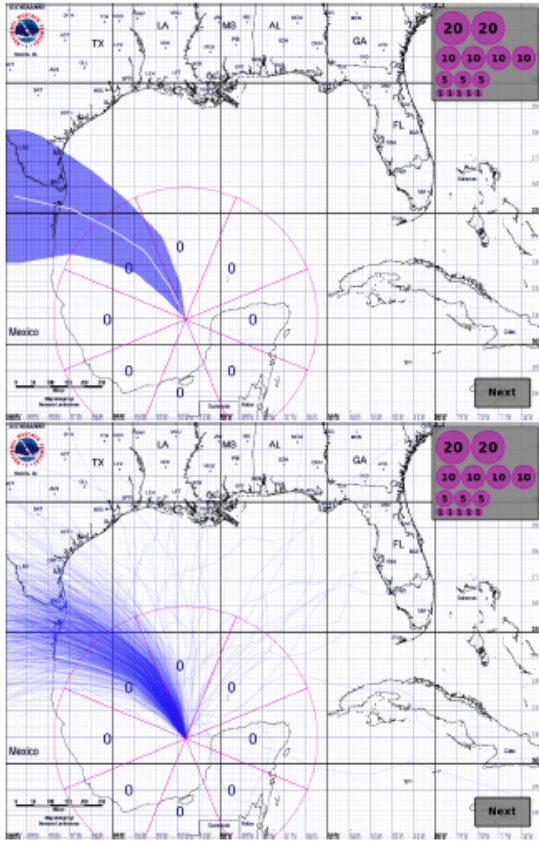


Case 2

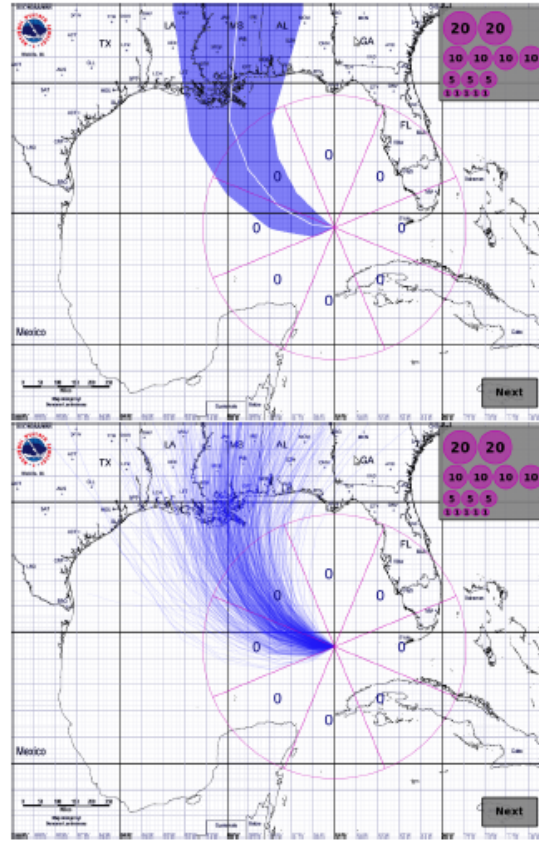


Case 3

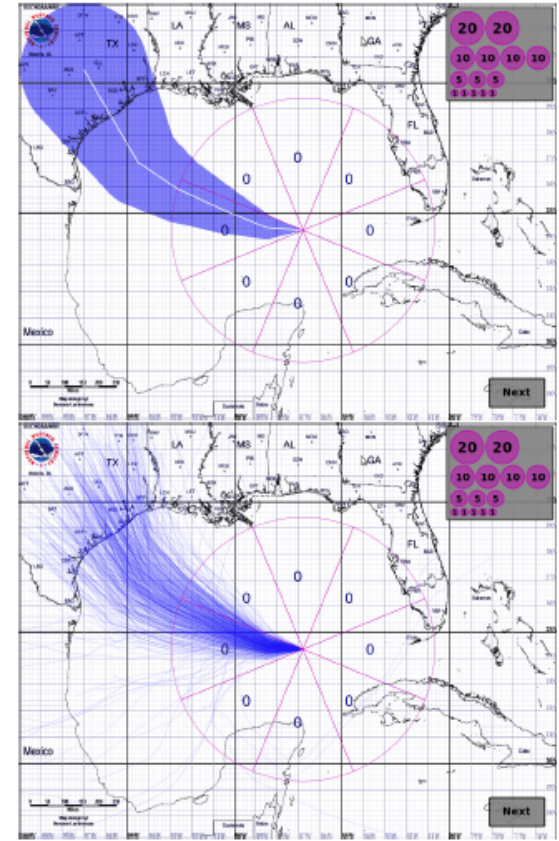
Next Three Cases



Case 4



Case 5

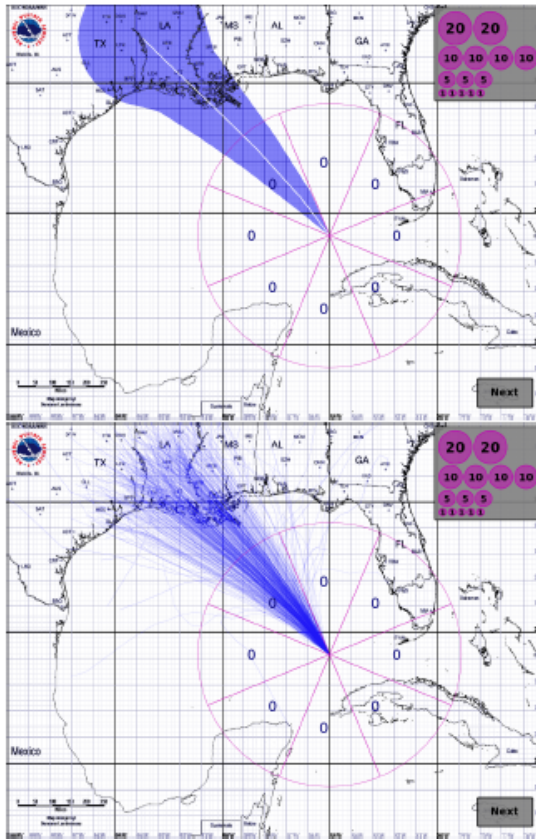


Case 6

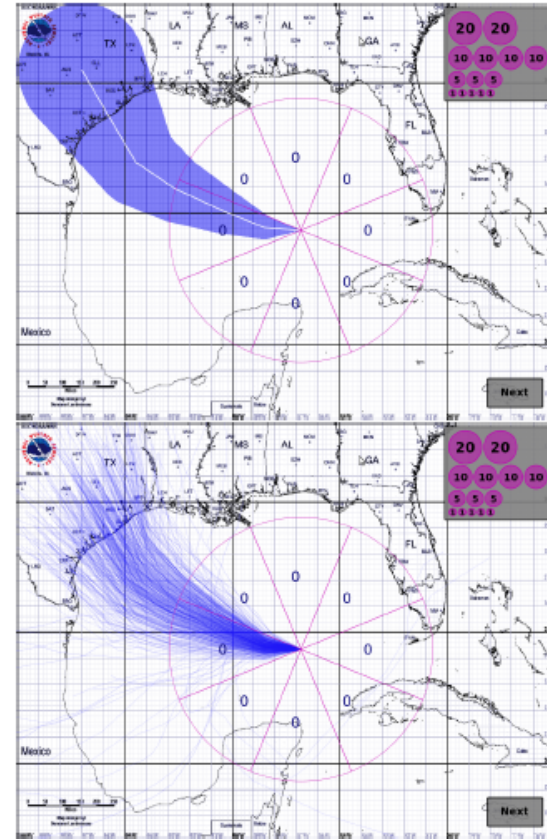
Profile Analysis

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Sector 1 - S	0.3371	0.3371	0.3228	0.2416	0.3228	0.3782
Sector 2 -SW	0.2123	0.3371	0.3228	0.2380	0.8144	0.1965
Sector 3 - W	0.1887	0.0828	0.7680	0.0426	0.1547	0.8315
Sector 4 -NW	0.5059	0.0869	0.0046	0.0478	0.0861	0.9690
Sector 5 - N	0.5005	0.0632	1.33E-05	0.0294	0.5058	0.2319
Sector 6 -NE	0.8238	0.3003	0.6875	2.17E-05	0.2813	0.7212
Sector 7 - E	0.2791	0.1601	1.0000	0.0017	0.3228	0.7172
Sector 8 -SE	0.2544	0.1303	0.3228	0.5607	0.3228	0.0409
Profile	0.7923	0.0015	1.65E-13	1.41E-06	0.0285	0.9991

Least and Most Similar Cases

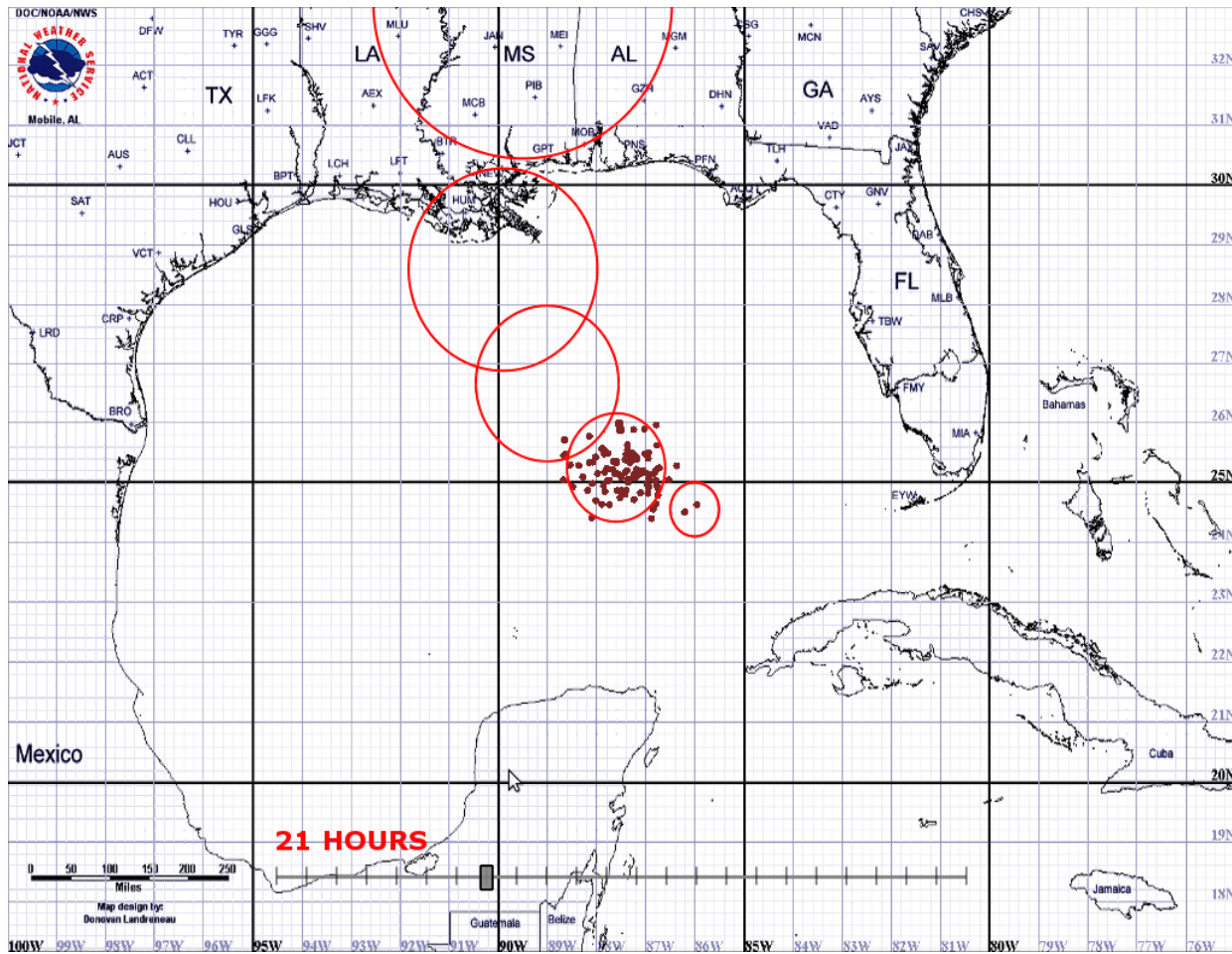


Case 3
Least Similar

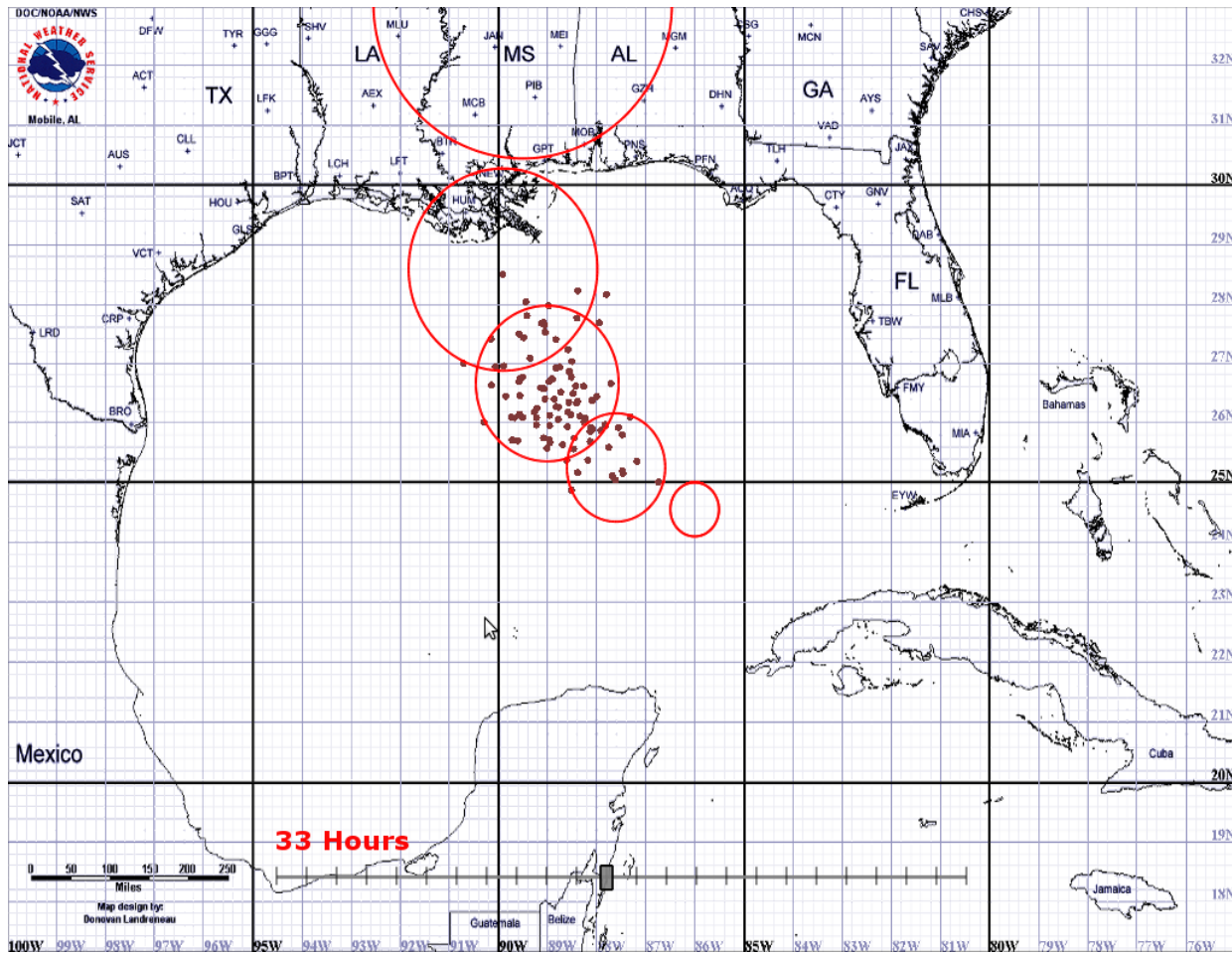


Case 6
Most Similar

Adding Interaction

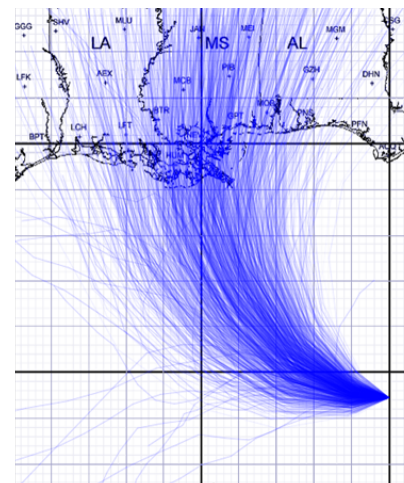
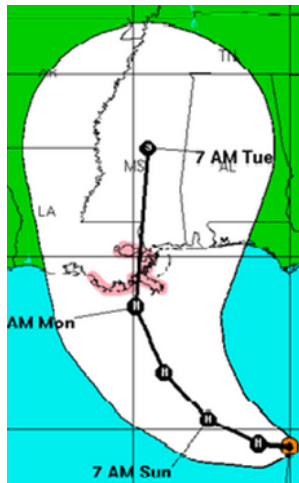


Adding Interaction



When are Ensembles Appropriate?

- How important are black swans?
- Does uncertainty representation confound with other properties?
- Does uncertainty affect spatial layout?



FIN