SLIM

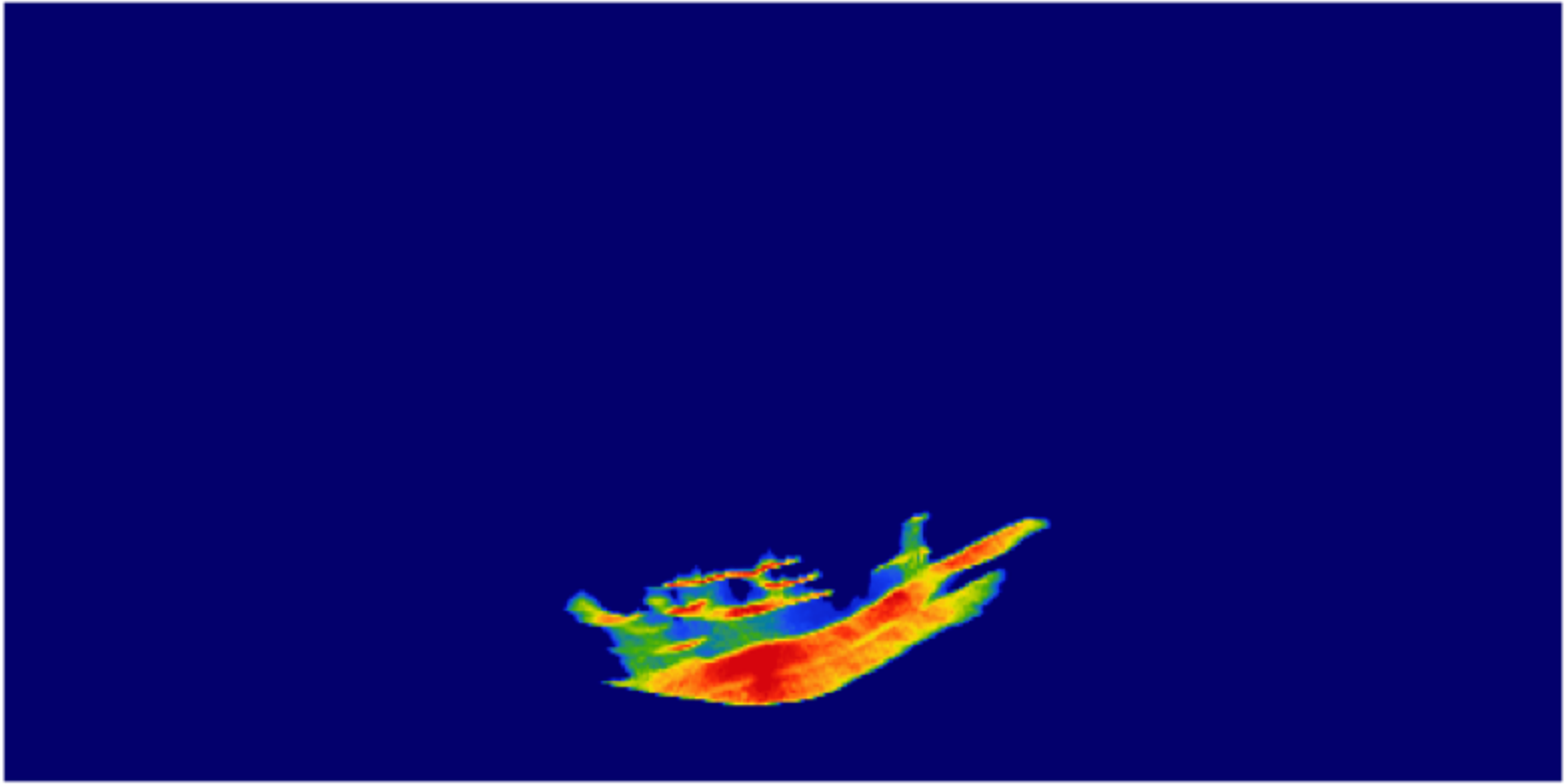
ML4Seismic

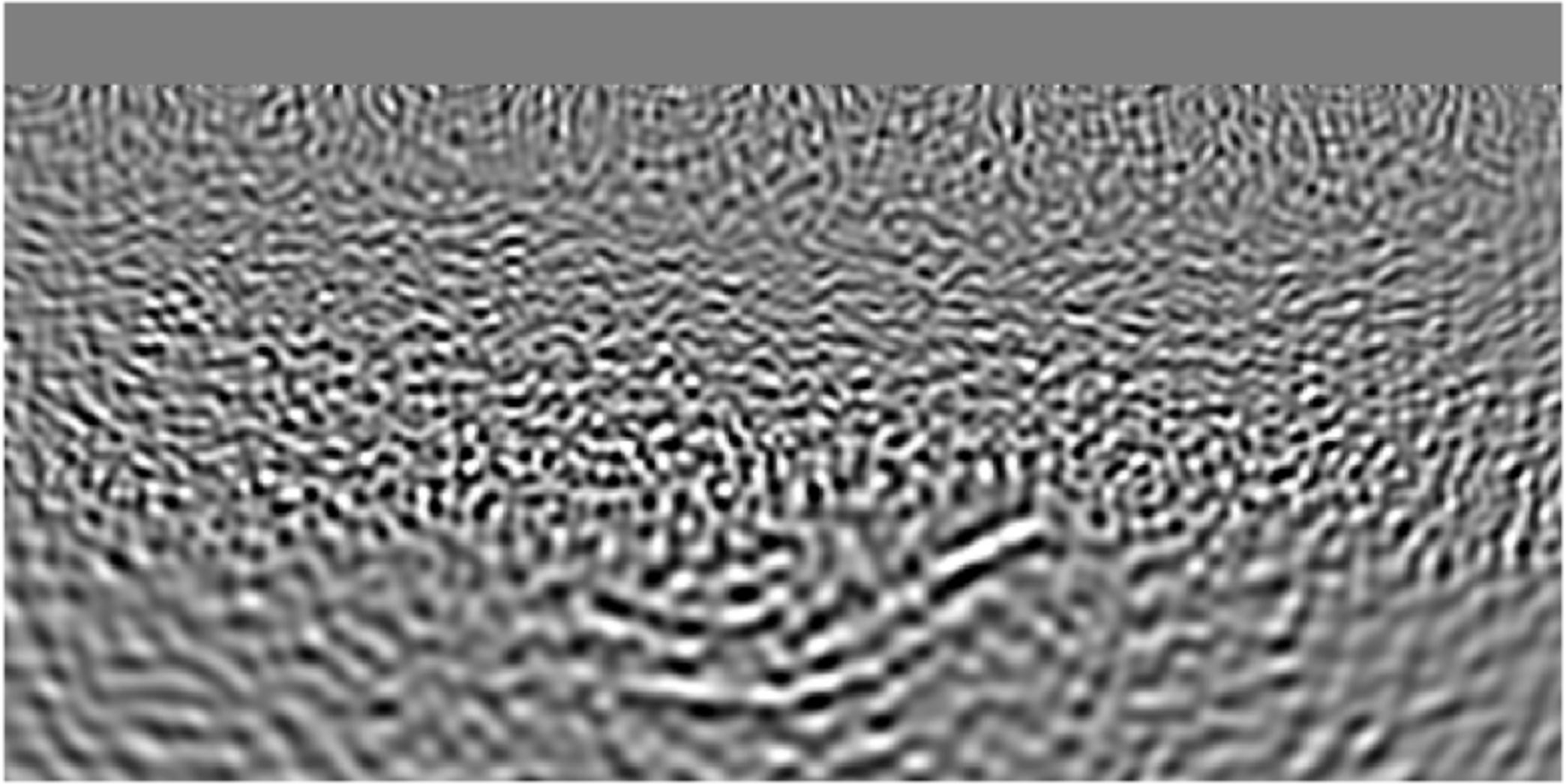
Training Pairs

at $k = 1$

simulated imaged time-lapse data

$$\bar{\mathbf{y}}_k \sim p(\bar{\mathbf{y}}_k \mid \mathbf{x}_k)$$



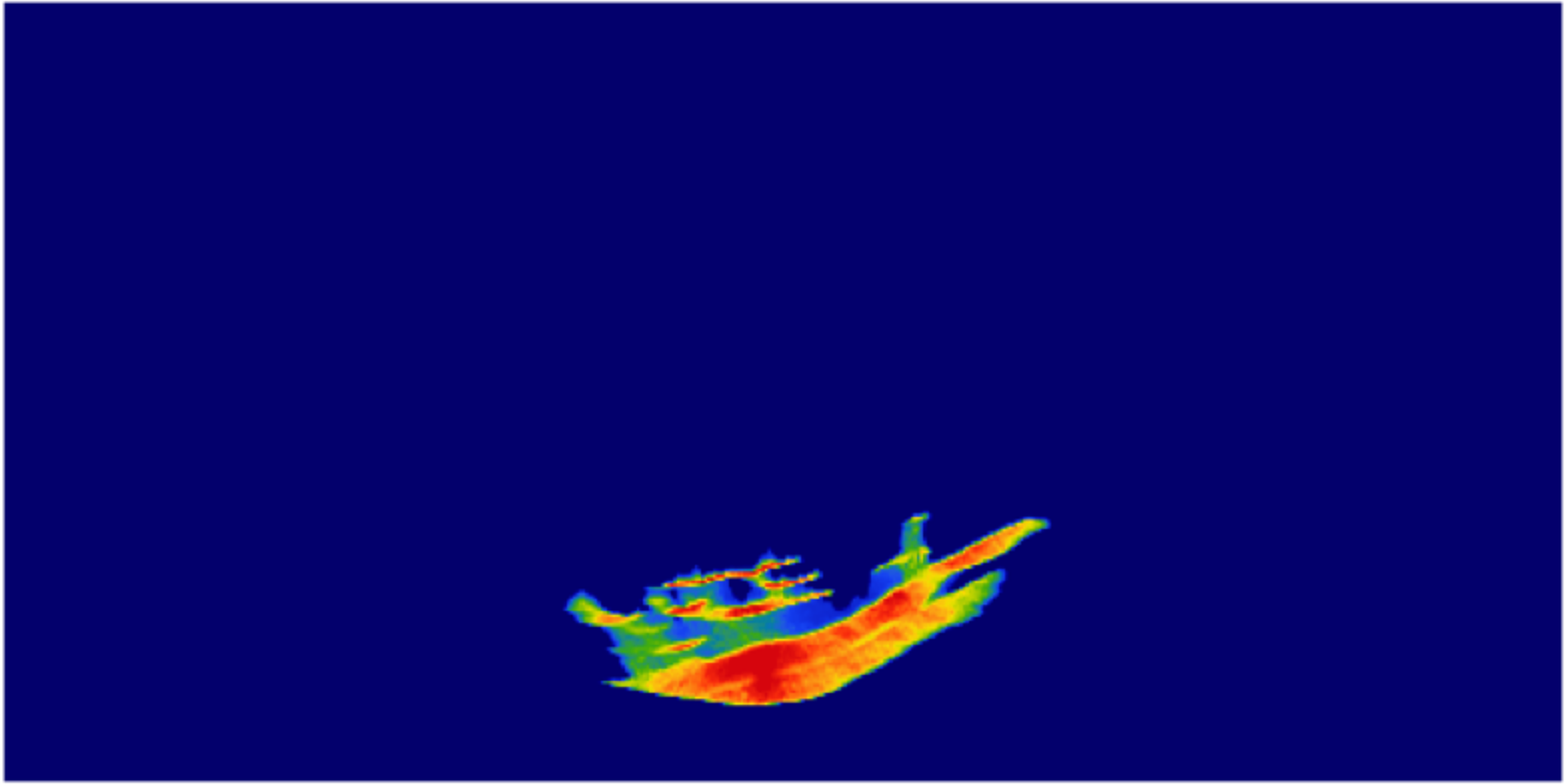


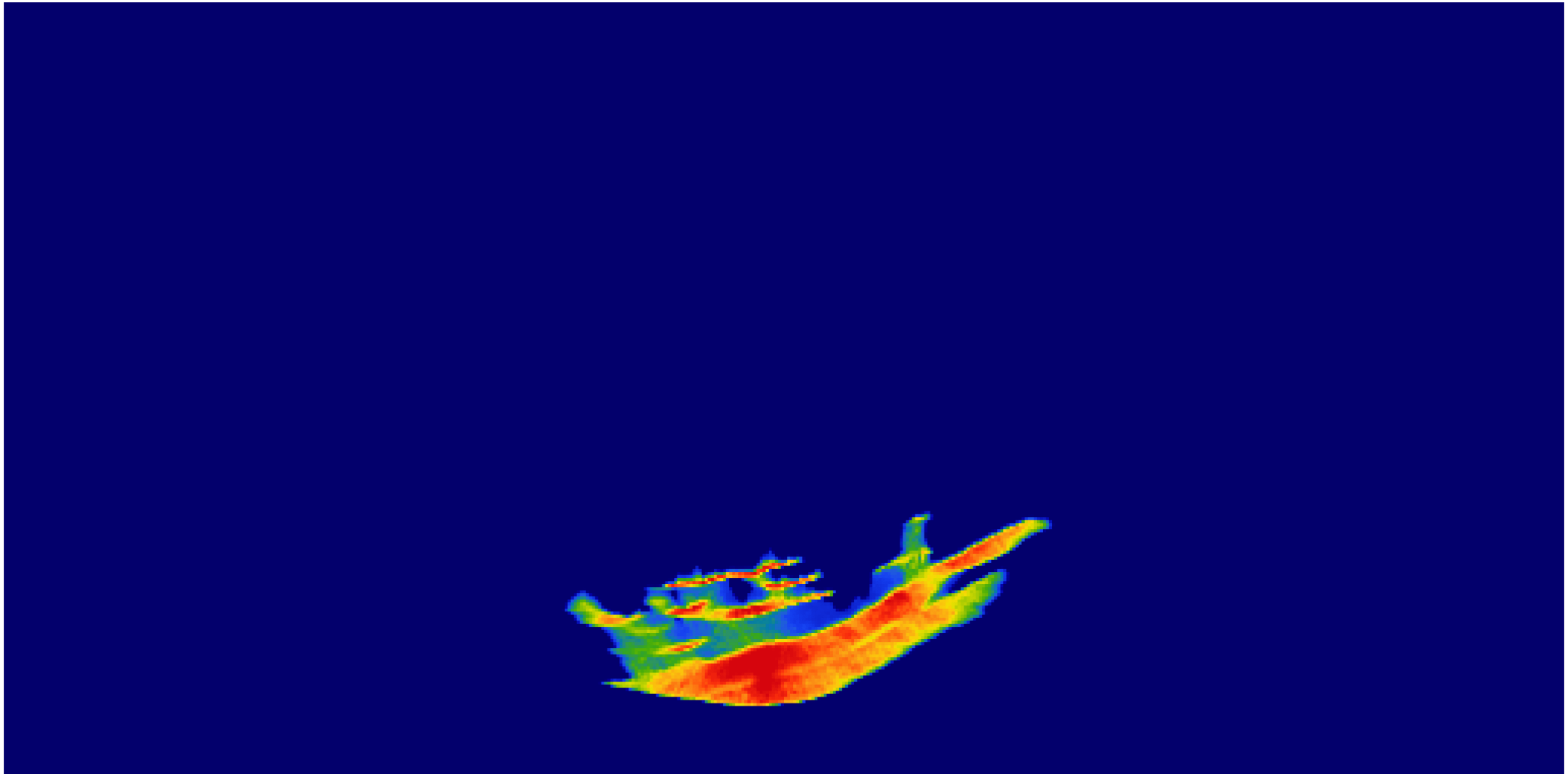
simulated plumes

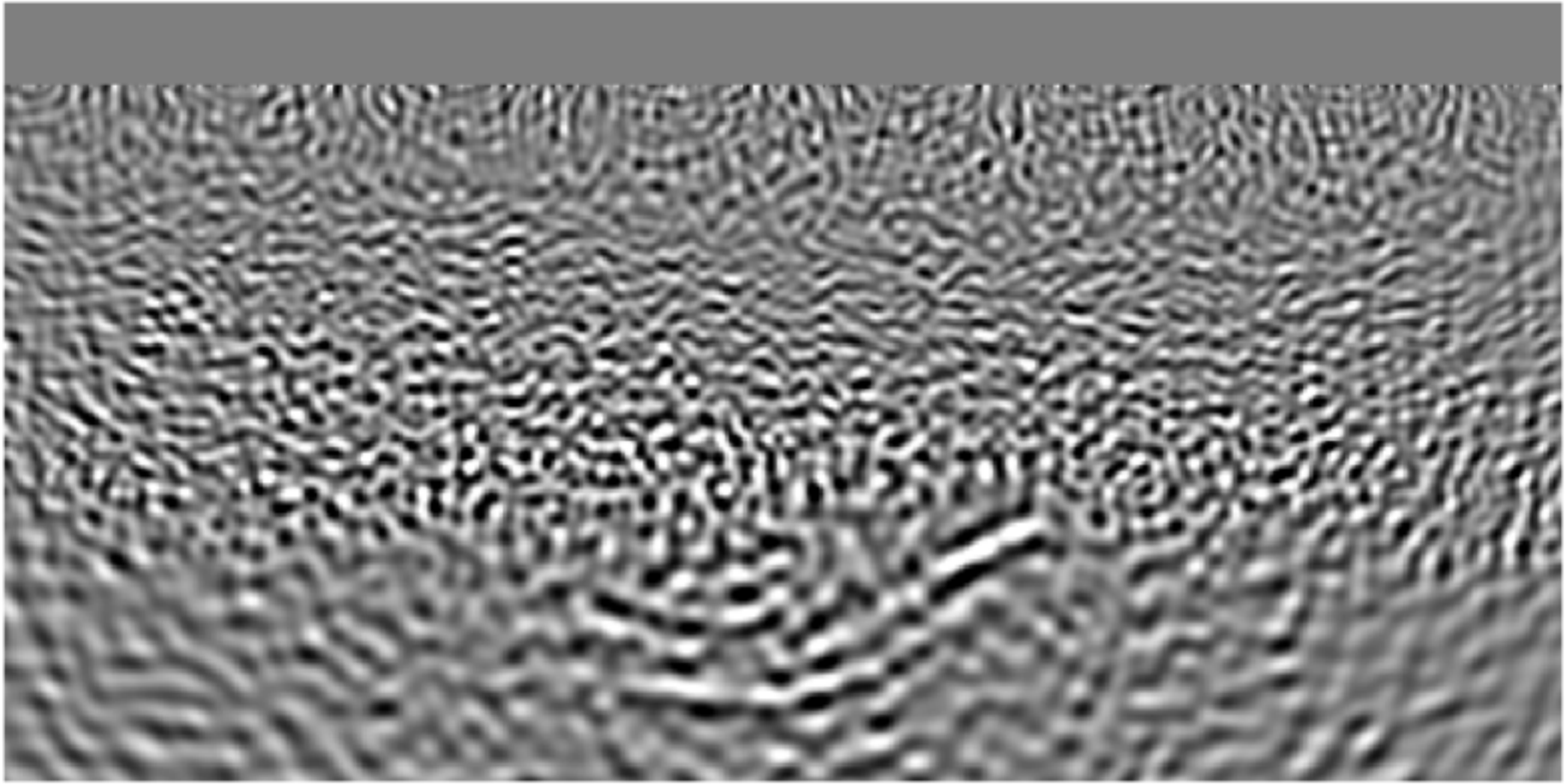
$$\mathbf{x}_k \sim p(\mathbf{x}_k \mid \mathbf{x}_{k-1})$$

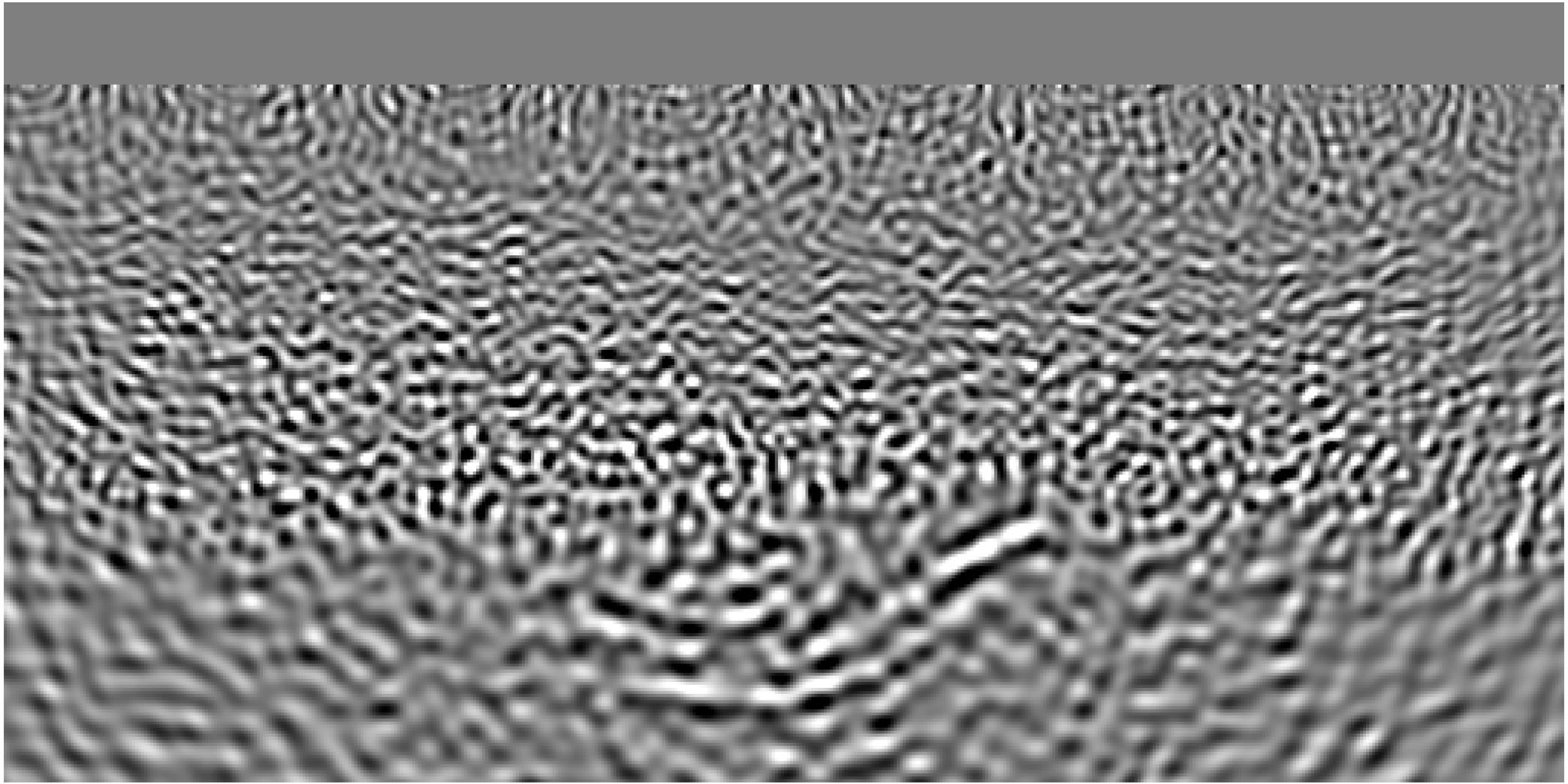
Simulated training pairs $\{(\mathbf{x}^{(m)}, \bar{\mathbf{y}}^{(m)})\}_{m=1}^{M}$

- hinges on *complex* set of *dependencies*
- can be *probabilistic*







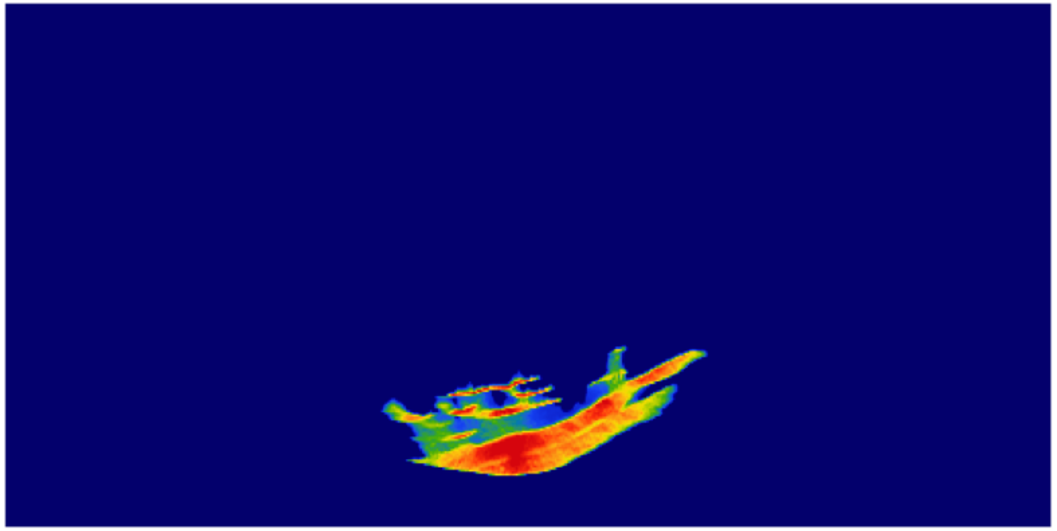


Training Pairs

at $k = 1$

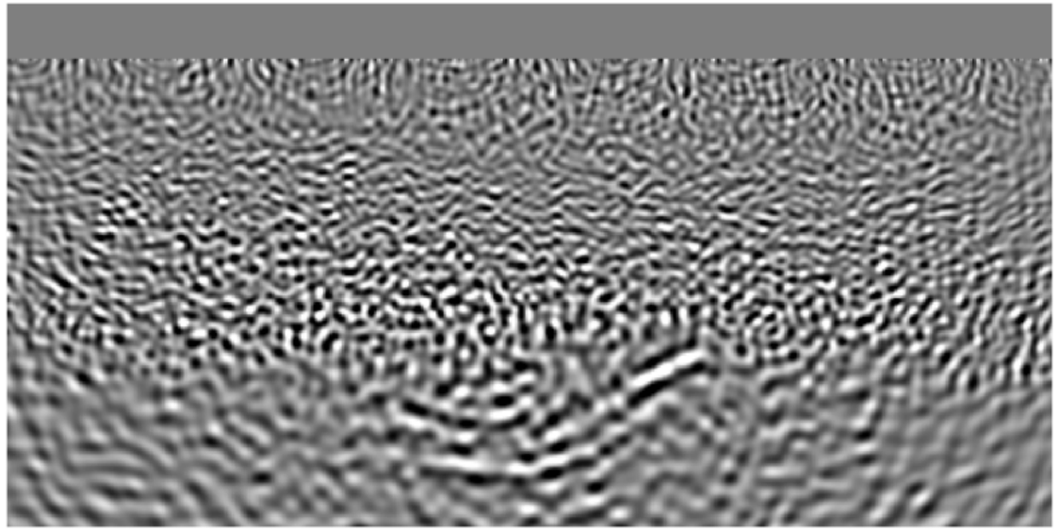
simulated plumes

$$\mathbf{x}_k \sim p(\mathbf{x}_k \,|\, \mathbf{x}_{k-1})$$



simulated imaged time-lapse data

$$\bar{\mathbf{y}}_k \sim p(\bar{\mathbf{y}}_k \,|\, \mathbf{x}_k)$$



Simulated training pairs $\{(\mathbf{x}^{(m)}, \bar{\mathbf{y}}^{(m)})\}_{m=1}^{M}$

- hinges on *complex* set of *dependencies*
- can be *probabilistic*

SLIM
ML4Seismic

Case study – North Sea Saline Aquifer