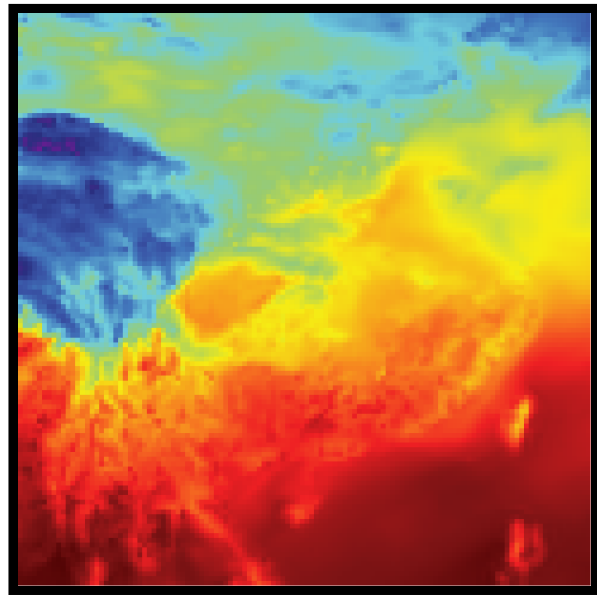


Inpainting

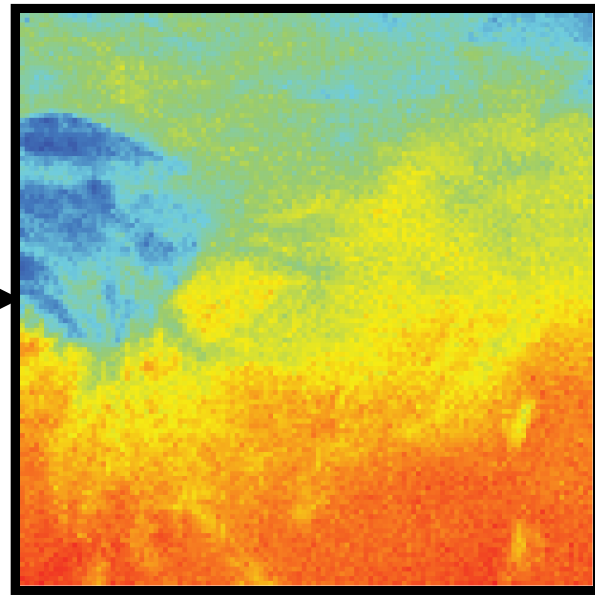
Forward process

$$q(\mathbf{x}_t|\mathbf{x}_0) = \mathcal{N}(\mathbf{x}_t; \sqrt{\bar{\alpha}_t}\mathbf{x}_0, (1 - \bar{\alpha}_t)\mathbf{I})$$

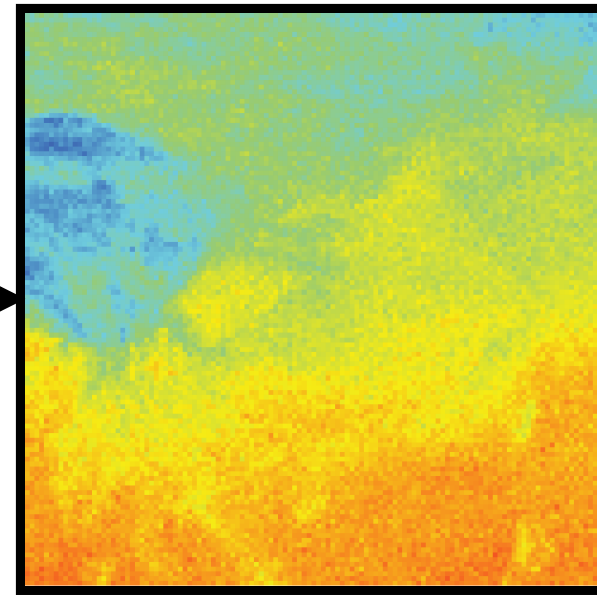
Data



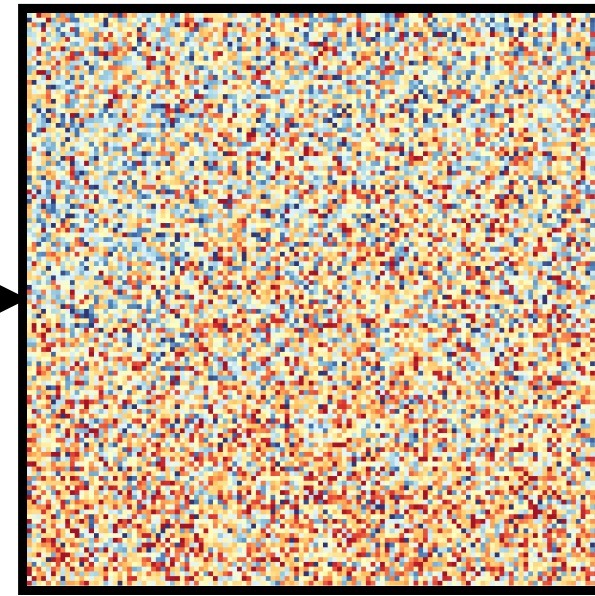
X_0



X_{t1}



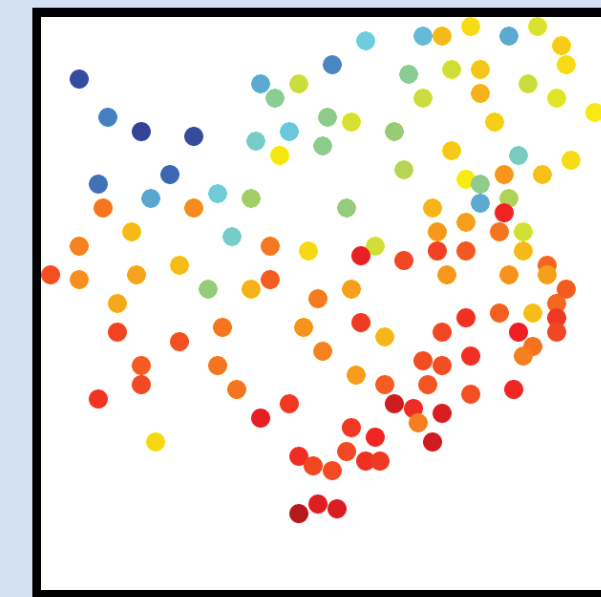
X_{t2}



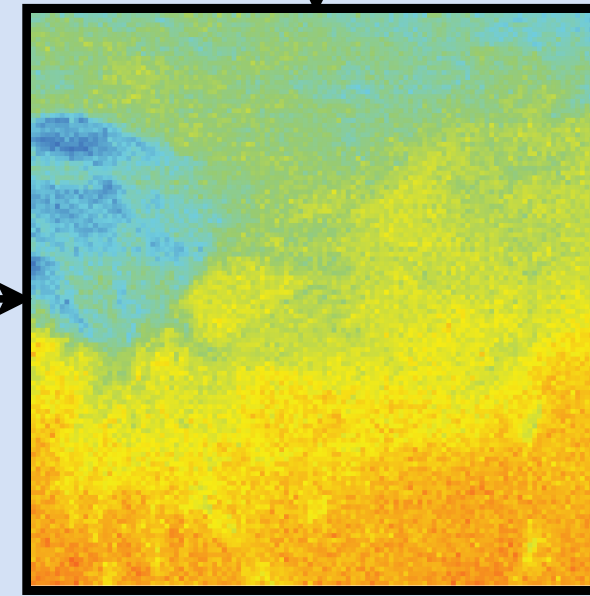
X_T

Noise

Observation

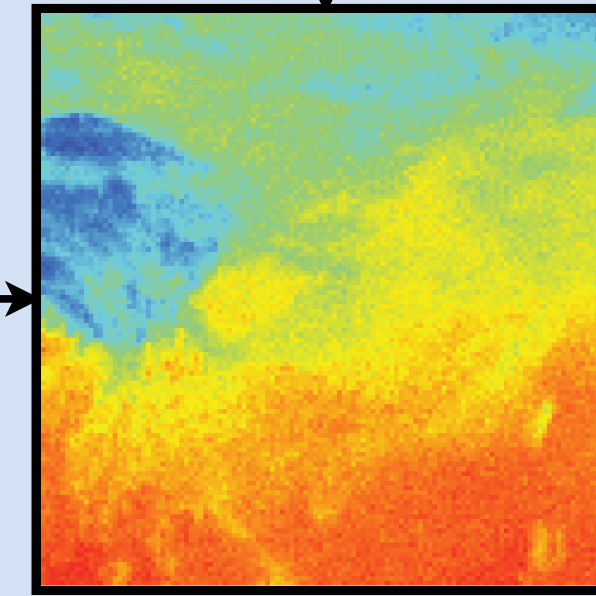


\oplus



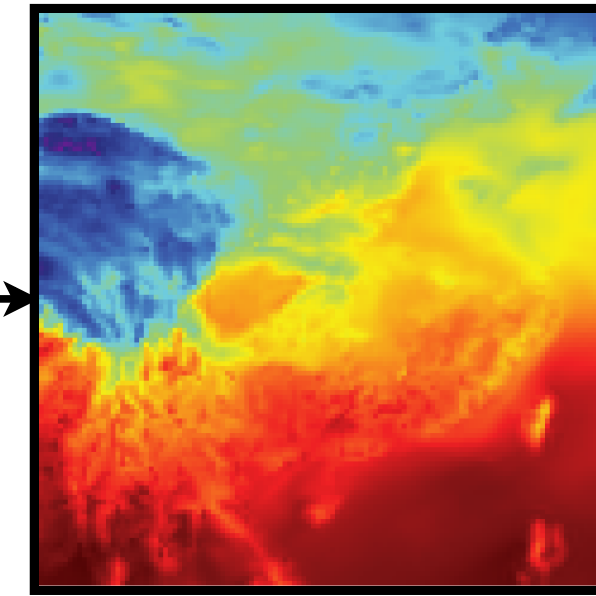
X_{t2}

\oplus



X_{t1}

Generation



X_0

$$p_\theta(x_{t-1}|x_t) = N(x_{t-1}; \mu_\theta(x_t), \Sigma_\theta(x_t))$$

Reverse process