$$f_{xt} = \begin{bmatrix} \text{tempdiff}_{xt} \\ \text{rain}_{xt} \\ \text{snow}_{xt} \end{bmatrix}$$

$$d(i,j) = \sum_{t=1}^{T} (f_{it} - f_{jt})' COV(i,j)(f_{it} - f_{jt})$$

$COV(i,j)$ is a $3x3$ matrix that is a covariance matrix with respect to f_{it}, t $\forall$ T and f_{jt}, t $\forall$ T