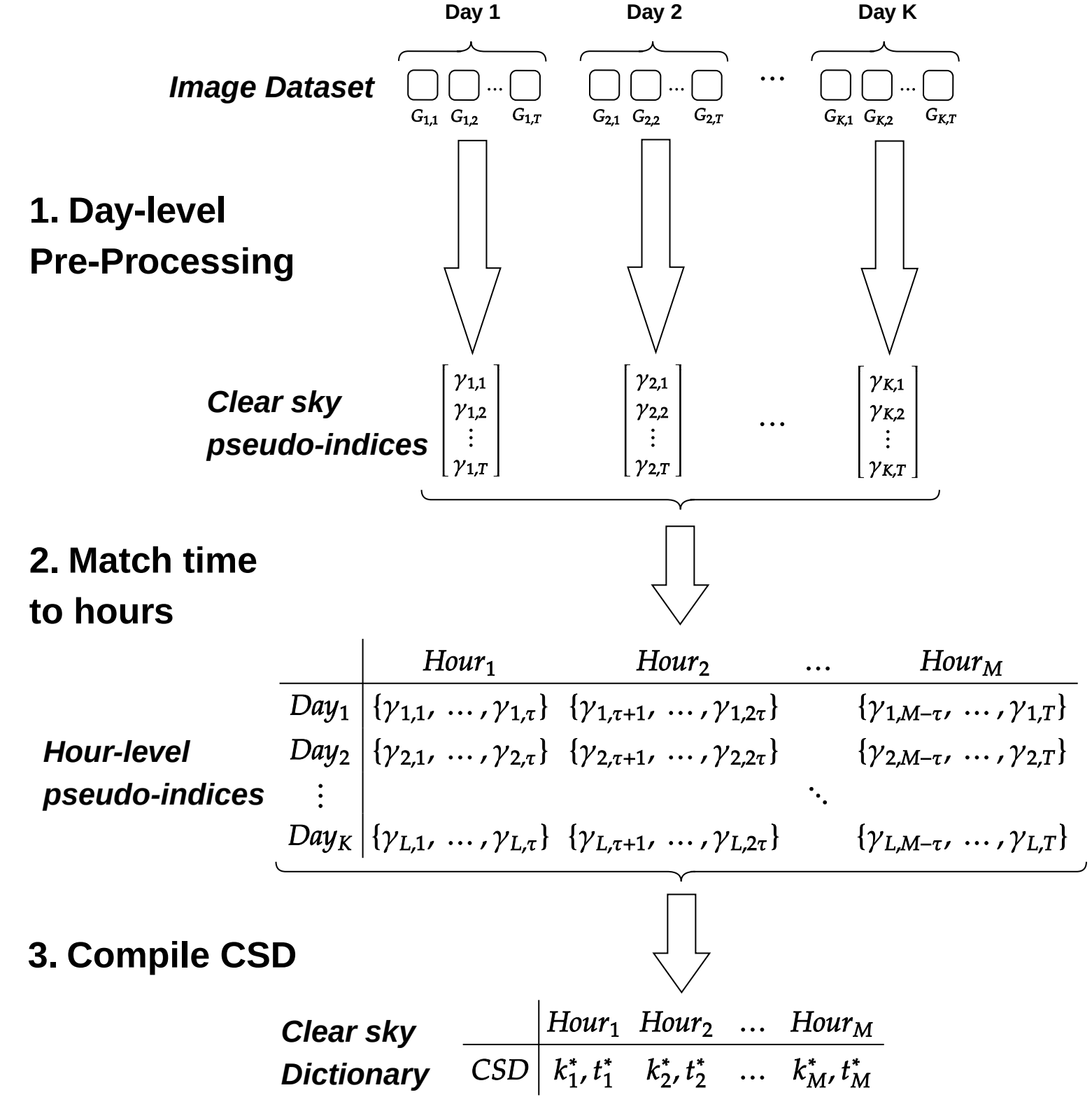
Day 1
Day 2
Day K
Image Dataset
$G_{1,1}$ $G_{1,2}$ $G_{1,T}$
$G_{2,1}$ $G_{2,2}$ $G_{2,T}$
$G_{K,1}$ $G_{K,2}$ $G_{K,T}$
1. Day-level Pre-Processing
Clear sky pseudo-indices
$\begin{bmatrix} \gamma_{1,1} \\ \gamma_{1,2} \\ \vdots \\ \gamma_{1,T} \end{bmatrix}$ $\begin{bmatrix} \gamma_{2,1} \\ \gamma_{2,2} \\ \vdots \\ \gamma_{2,T} \end{bmatrix}$ $\begin{bmatrix} \gamma_{K,1} \\ \gamma_{K,2} \\ \vdots \\ \gamma_{K,T} \end{bmatrix}$
2. Match time to hours
Hour-level pseudo-indices
$Hour_1$ $Hour_2$ … $Hour_M$
Day_1 $\{\gamma_{1,1}, \dots, \gamma_{1,\tau}\}$ $\{\gamma_{1,\tau+1}, \dots, \gamma_{1,2\tau}\}$ $\{\gamma_{1,M-\tau}, \dots, \gamma_{1,T}\}$
Day_2 $\{\gamma_{2,1}, \dots, \gamma_{2,\tau}\}$ $\{\gamma_{2,\tau+1}, \dots, \gamma_{2,2\tau}\}$ $\{\gamma_{2,M-\tau}, \dots, \gamma_{2,T}\}$
Day_K $\{\gamma_{L,1}, \dots, \gamma_{L,\tau}\}$ $\{\gamma_{L,\tau+1}, \dots, \gamma_{L,2\tau}\}$ $\{\gamma_{L,M-\tau}, \dots, \gamma_{L,T}\}$
3. Compile CSD
Clear sky Dictionary
$Hour_1$ $Hour_2$ … $Hour_M$
CSD k_1^*, t_1^* k_2^*, t_2^* … k_M^*, t_M^*