$$\frac{\partial H}{\partial t} + \frac{\partial (Hu)}{\partial x} = Q$$

$$\frac{\partial (Hu)}{\partial t} = -\underbrace{\begin{bmatrix} \partial (Huu)}{\partial x} \\ - \underbrace{\begin{bmatrix} gH\frac{\partial \eta}{\partial x} \\ \end{bmatrix}}_{\text{Advection}} - \underbrace{\begin{bmatrix} gH\frac{\partial \eta}{\partial x} \\ \end{bmatrix}}_{\text{Pressure}} - \underbrace{\begin{bmatrix} C_B |u|u \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu)}{\partial x} \\ - \underbrace{\begin{bmatrix} u |u \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}} + \underbrace{\begin{bmatrix} \partial (Huu) \\ \partial x \\ \end{bmatrix}}_{\text{Dispersion}$$