

Temporal match

Temporal mismatch

I: Perfect overlay of all gauges

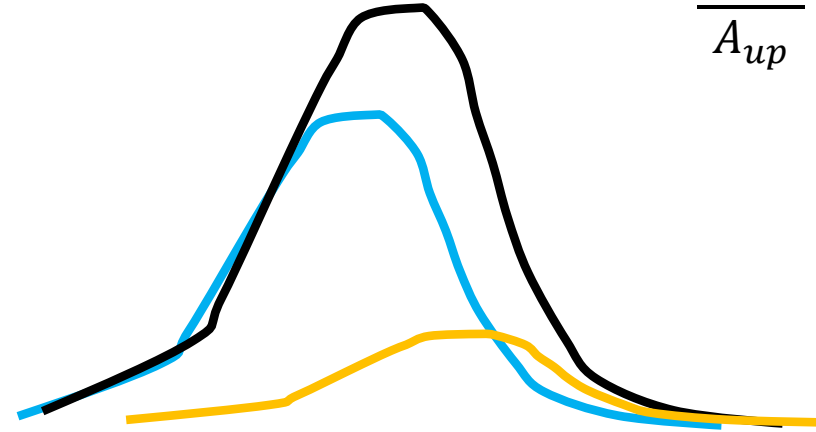
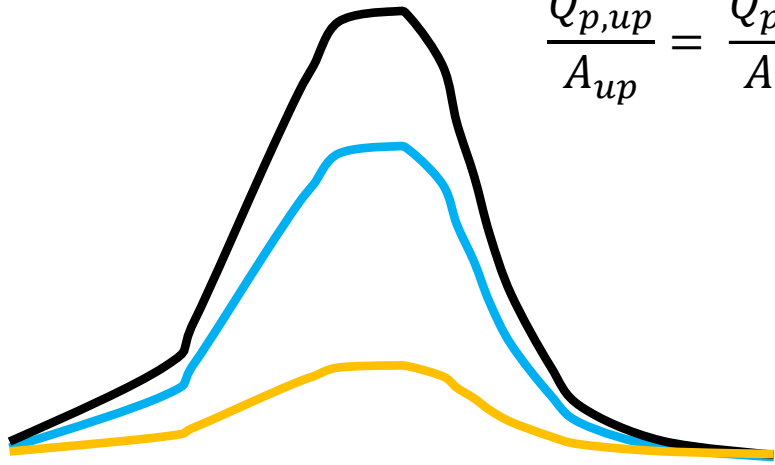
II: Temporal mismatch

$$\frac{Q_{p,up}}{A_{up}} = \frac{Q_{p,down}}{A_{down}} = \frac{Q_{p,trib}}{A_{trib}}$$

$$\frac{Q_{p,up}}{A_{up}} = \frac{Q_{p,down}}{A_{down}} = \frac{Q_{p,trib}}{A_{trib}}$$

$$\Delta t = 0$$

$$\Delta t \neq 0$$



III: Peak magnitude mismatch

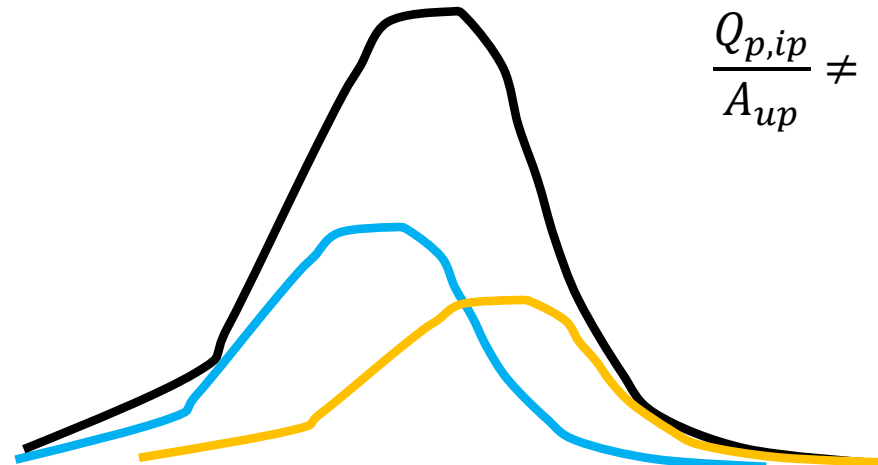
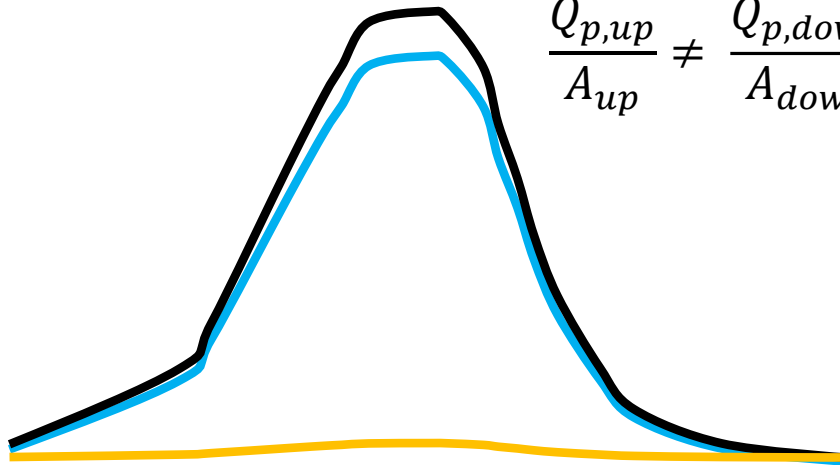
IV: Peak magnitude and timing mismatch

$$\frac{Q_{p,up}}{A_{up}} \neq \frac{Q_{p,down}}{A_{down}} \neq \frac{Q_{p,trib}}{A_{trib}}$$

$$\frac{Q_{p,up}}{A_{up}} \neq \frac{Q_{p,down}}{A_{down}} \neq \frac{Q_{p,trib}}{A_{trib}}$$

$$\Delta t = 0$$

$$\Delta t \neq 0$$



Peak match

Peak mismatch

Downstream **Upstream** **Tributary**