Workflow for creating virtual datasets and testing reconstruction approaches:
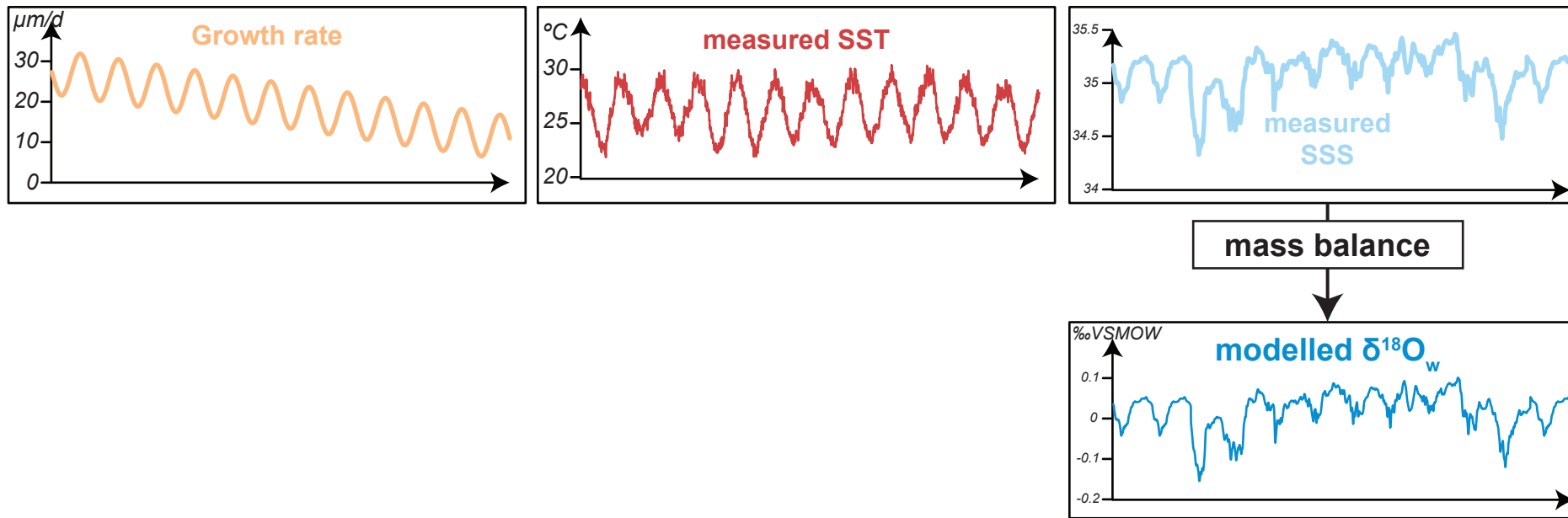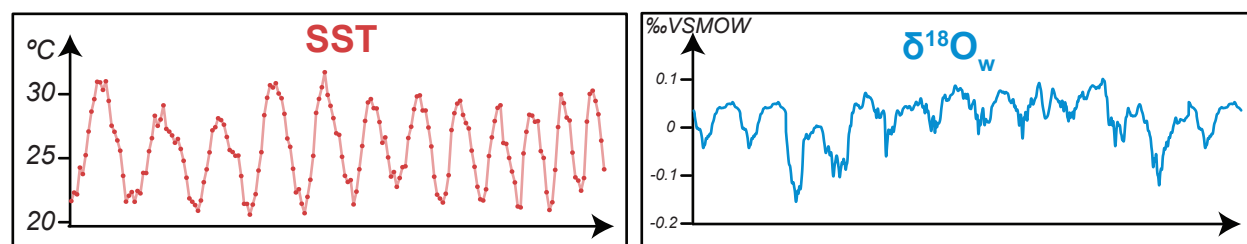## Example for case 31 (Great Barrier Reef satellite data)
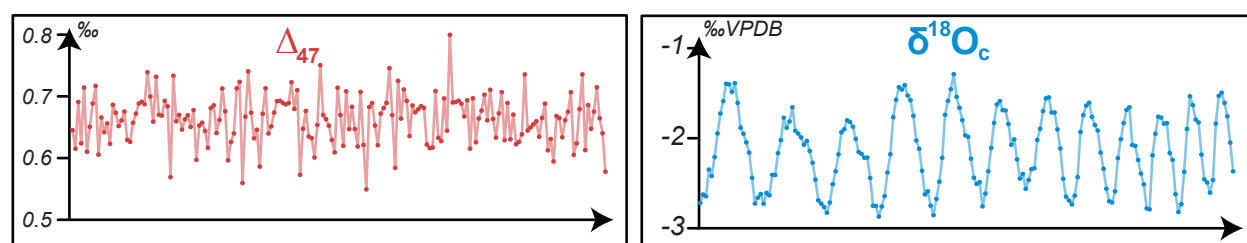
1. Input
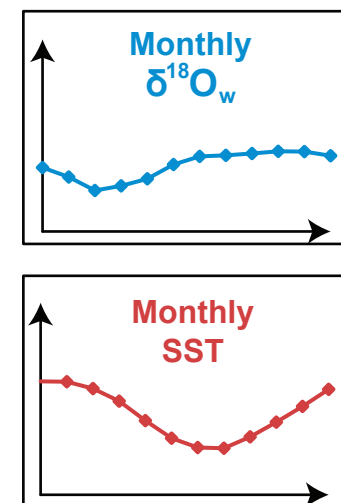### ("True" SST and $\delta^{18}O_w$ values in time domain)

Growth rate

measured SST

measured SSS

mass balance

modelled $\delta^{18}O_w$

2. "True" SST and $\delta^{18}O_w$ values in sampling domain

SST

$\delta^{18}O_w$

3. Artificial $\delta^{18}O_c$ and Δ_{47} records in sampling domain

Δ_{47}

$\delta^{18}O_c$

4. Reconstructed SST and $\delta^{18}O_w$ values in time domain

Monthly $\delta^{18}O_w$

Monthly SST

5. Comparison with "true" SST and $\delta^{18}O_w$ values yields accuracy and precision of reconstructions of:

- MAT
- SST seasonality
- mean annual $\delta^{18}O_w$
- $\delta^{18}O_w$ seasonality