sDIC Breakdown

How do biology, circulation, and CO2 exchange individually influence sDIC anomalies during a climate event?

1. Create sDIC’ for each simulation. This is where DIC and S are integrated over the upper 100m.
2. Take the central difference of (1) using `gradient` from Matlab or some equivelant function. This results in . Remove the ensemble mean to generate anomalies.
3. Compute by **Jint\_100m\_DIC** minus ensemble mean.
4. Compute by **FG\_CO2/HMXL** (or by dividing by 100m for consistency?) minus ensemble mean.
5. Compute by (2) + (3) + (4). Although bad practice, this results in a residual, so no need to remove ensemble mean.
6. Regress all four terms onto mode of interest (e.g. NPGO) for region of interest (e.g. CalCS). This gives you the relative contribution of each term to the sDIC anomaly.