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|  |  | Key features |
| 1 | Basic sim | Conc  Flux  Tdc |
| 2 | Fe SO4 | Add Fe and SO42- |
| 3 | Grid | Maxnpts, job, xl |
| 4 | Depositional flux | w00 |
| 5 | Porosity | p0 p00 |
| 6 | OMModel2 | Compare OMModel1, OMModel2 |
| 7 | Limitation – inhibition | KTEA, KIn |
| 8 | Inorganic reactions | Knh4ox |
| 9 | Adsorption | NH4 adsorption, KPO4P |
| 10 | Bioturb | imix 0, 2, DB0,xs  α0, xirrig |
| 11 | High salinity | Sal1 Sal2 |
| 12 | Sulfide sensitivity | KH2S |
| 13 | MPB | Rgpp |
| 14 | Zones | Add three zones |
| 15 | OM initial profile | OM\_Top, OM\_Min, InitMinDepth |
| 16 | Timing | Spinup, substeps, firststeps, justwaitabit |
| 17 | POM special rectangle | Fluxon, fluxoff |
| 18 | POM special triangle | Swibc |
| 19 | Time and POM | Swibc |
| 20 | kOM | Vary pomspecial2dic |
| 21 | Bottom boundary | Deep\_vals |

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|  |  | Key features |  |  |
| 1 | Basic sim | Conc  Flux  Tdc |  | Run the model for one year. Plot it. |
| 2 | Fe SO4 | Add Fe and SO42- |  | Add Fe(OH)3A and SO42- to aed\_sdg\_vars, default\_vals, which sets the flux and concentration at the sediment-water interface. |
| 3 | Grid | Maxnpts, job, xl |  | Use job to change the grid from fixed width (0) to exponentially increasing (2).  Use xl to change the depth of the sediment simulated, from say, 10 cm to 40 cm.  Use maxnpts to set the number of layers simulated. Note that job 0 requires maxnpts to be depth × integer + 1. |
| 4 | Depositional flux | w00 |  | Set the deposition rate to be large or small. Plot and save the results after each simulation. |
| 5 | Porosity | p0 p00 |  |  |
| 6 | OMModel2 | Compare OMModel1, OMModel2 |  |  |
| 7 | Limitation – inhibition | KTEA, KIn |  |  |
| 8 | Inorganic reactions | Knh4ox |  |  |
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| 21 | Bottom boundary | Deep\_vals |  |  |