**RESULTS on my LAPTOP:**

- older ones (until April 2017) in ~/Documents/OMEN-SED/SPROUT/cgenie\_output

- newer ones (from April 2017) in ~/Documents/1\_GENIE\_RUNS/cgenie\_output/01\_OMEN\_GENIE\_PreInd\_April2017

**RESULTS on my Bristol PC:**

all in Document/2\_GENIE\_RUNS/....

set all oxidation of H2S to SO4 or CH4 to SO4 at boundaries to zero: % no secondary redox!

**MATLAB**:

SO4: FH2S to zox line **106**; FSO4 at zso4 line **181**

H2S: zso4FH2S at zso4 line **53**; zoxFH2S at zox line **79**

O2: FO2 at zox line **133**

ALK: zso4FALK line **71**, zoxFALK line **97**

**FORTRAN**:

in initialize: NC1, NC2, ALKRNIT, ALKRH2S, ALKRMET, ALKRAOM

O2: FUN\_huelseetal2016\_calcFO2 lines **1433**

SO4: FH2S to zox lines **1853**; FUN\_calcFSO4 to zso4 lines **1962**

H2S: zso4FH2S to zso4 line **2233**; zoxFH2S to zox line **2271**

ALK: zso4FALK: line **2836**, zoxFALK: **2865**

--> should get mass conservation of SO4 + H2S, also check how ALK changed

**PRE-INDUSTRIAL SETUP**

**############# 21.03.2017**

USE base-config WITH 8 OCEAN-LEVELS: cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worbe2.BASES.config

WITHOUT Fe

GENERAL SETUP: as befre with artificial world

user-config generally: no gas-transfer, no weathering, no CaCO3 burial → test conservation of mass

OMEN-SED: here now, no secondary redox! - all remineralised

0) Biotic, No OMEN-SED

job 9804

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worbe2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2103\_00\_worbe2.S36x36\_nogas\_noweather\_open\_NoOMEN 10000

1) k = 0.01

job 9805

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worbe2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2103\_01\_worbe2.S36x36\_nogas\_noweather\_open\_k\_0.01 10000

2) k = 0.05

job 9806

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worbe2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2103\_02\_worbe2.S36x36\_nogas\_noweather\_open\_k\_0.05 10000

3) k = 0.1

job 9807

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worbe2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2103\_03\_worbe2.S36x36\_nogas\_noweather\_open\_k\_0.1 10000

4) k = 1.0

job 9808

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worbe2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2103\_04\_worbe2.S36x36\_nogas\_noweather\_open\_k\_1.0 10000

5) k = 4.0

job 9809

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worbe2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2103\_05\_worbe2.S36x36\_nogas\_noweather\_open\_k\_4.0 10000

**-----------------------------------------------------------------------------**

**NOW with 16 ocean levels**

**-----------------------------------------------------------------------------**

base-config: **cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES.config**

0) Biotic, No OMEN-SED

job 9812

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2103\_00\_worjh2\_nogas\_noweather\_open\_NoOMEN 10000

1) k = 0.01 -----> **499.5 years netcdf error: NetCDF: Numeric conversion not representable**

**trace string: putvar2d fsedocn\_O2**

job 9813

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2103\_01\_worjh2\_nogas\_noweather\_open\_k\_0.01 10000

2) k = 0.05

job 9814

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2103\_02\_worjh2\_nogas\_noweather\_open\_k\_0.05 10000

3) k = 0.1

job 9815

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2103\_03\_worjh2\_nogas\_noweather\_open\_k\_0.1 10000

4) k = 1.0

job 9816

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2103\_04\_worjh2\_nogas\_noweather\_open\_k\_1.0 10000

5) k = 4.0

job 9817

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2103\_05\_worjh2\_nogas\_noweather\_open\_k\_4.0 10000

**############# 22.03.2017**

--------- **RUN ocean 16 level** with k = 0.01 for 495 years because crashed after 499.5 years (see yesterday run 1) )

6) k = 0.01

(problem was: 499.5 years netcdf error: NetCDF: Numeric conversion not representable; trace string: putvar2d fsedocn\_O2)

job 9839

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2203\_06\_worjh2\_nogas\_noweather\_open\_k\_0.01\_495years 495

**--------- RUN YESTERDAY 8 ocean level runs for 20,000 years as not in equilibrium**

**---> now in equilibrium: 6\_EXP\_8level\_preind\_2203\_TOTAL\_no2ndredox.eps**

0) Biotic, No OMEN-SED

job 9840

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worbe2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2203\_00\_worbe2.S36x36\_nogas\_noweather\_open\_NoOMEN\_20kyrs 20000

1) k = 0.01

job 9841

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worbe2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2203\_01\_worbe2.S36x36\_nogas\_noweather\_open\_k\_0.01\_20kyrs 20000

2) k = 0.05

job 9842

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worbe2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2203\_02\_worbe2.S36x36\_nogas\_noweather\_open\_k\_0.05\_20kyrs 20000

3) k = 0.1

job 9843

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worbe2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2203\_03\_worbe2.S36x36\_nogas\_noweather\_open\_k\_0.1\_20kyrs 20000

4) k = 1.0

job 9844

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worbe2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2203\_04\_worbe2.S36x36\_nogas\_noweather\_open\_k\_1.0\_20kyrs 20000

5) k = 4.0

job 9845

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worbe2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2203\_05\_worbe2.S36x36\_nogas\_noweather\_open\_k\_4.0\_20kyrs 20000

**############# 27.03.2017**

--------- **RUN ocean 16 level** with k = 0.01 for 490 years because very postive BW concentrations already after 495 years establised (see 22.03. run 6) )

(problem was: 499.5 years netcdf error: NetCDF: Numeric conversion not representable; trace string: putvar2d fsedocn\_O2)

1) k = 0.01

job 10036

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2703\_01\_worjh2\_nogas\_noweather\_open\_k\_0.01\_490years 490

2) as 1) k = 0.01 run for 480 years, in case O2 already weird at 490 years

job 10037

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2703\_02\_worjh2\_nogas\_noweather\_open\_k\_0.01\_480years 480

3) k = 0.01 – now check for bottom water [O2] > 1 microM (or micro mol kg-1) = 1E-9 mol/cm^3

job 10038

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2703\_03\_worjh2\_nogas\_noweather\_open\_k\_0.01\_O2\_1E-9 10000

4) k = 0.01 – now check for bottom water [O2] > 10 microM (or micro mol kg-1) = 10E-9 mol/cm^3

job 10039

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2703\_04\_worjh2\_nogas\_noweather\_open\_k\_0.01\_O2\_10E-9 10000

**----------- 16 ocean level setup: now set minimum sedimentationrate to 5.0e-4 instead of 4.0e-4 …. check if k=0.01 is not crashing anymore and if results look OK**

1) k = 0.01

job 10041

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2703\_01\_worjh2\_nogas\_noweather\_open\_k\_0.01\_w\_5e-4 10000

2) k = 0.05

job 10042

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2703\_02\_worjh2\_nogas\_noweather\_open\_k\_0.05\_w\_5e-4 10000

3) k = 0.1

job 10043

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2703\_03\_worjh2\_nogas\_noweather\_open\_k\_0.1\_w\_5e-4 10000

4) k = 1.0

job 10044

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2703\_04\_worjh2\_nogas\_noweather\_open\_k\_1.0\_w\_5e-4 10000

5) k = 4.0

job 10045

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/09\_OMEN\_GENIE\_PreInd\_March2017 2703\_05\_worjh2\_nogas\_noweather\_open\_k\_4.0\_w\_5e-4 10000

**----------- artifical ocean using the complete OMEN model**

**no air-sea gas, no weathering, no CaCO3 burial**

**using simple Ocean setup with shelves: cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES**

**…. check how results look like now (especially ALK) as now with secondary redox reactions**

**[O2] increases, [H2] decreases... 6\_EXP\_Shelves\_2703\_TOTAL\_Full\_OMEN.eps**

**apparently not all H2S is oxidized, maybe problem with zoxgf as this has a big impact for very small zox...**

6) k=0.01

job 10046

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2703\_06\_shelves\_nogasweath\_k\_0.01\_OMEN\_ALL 10000

7) k=0.05

job 10047

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2703\_07\_shelves\_nogasweath\_k\_0.05\_OMEN\_ALL 10000

8) k=0.1

job 10048

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2703\_08\_shelves\_nogasweath\_k\_0.1\_OMEN\_ALL 10000

9) k=1.0

job 10049

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2703\_09\_shelves\_nogasweath\_k\_1.0\_OMEN\_ALL 10000

10) k=4.0

job 10050

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2703\_10\_shelves\_nogasweath\_k\_4.0\_OMEN\_ALL 10000

**############# 28.03.2017**

**----------- artifical ocean using the complete OMEN model, no air-sea gas, no weathering, no CaCO3 burial**

**using simple Ocean setup with shelves: cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES**

**…. now with zoxgf = 0.0 (compare results yesterday)**

**---> no significant change in results! 6\_EXP\_Shelves\_2803\_TOTAL\_Full\_OMEN\_zoxgf\_0.eps**

1) k=0.01

job 10060

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2803\_01\_shelves\_nogasweath\_k\_0.01\_OMEN\_ALL 10000

2) k=0.05

job 10061

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2803\_02\_shelves\_nogasweath\_k\_0.05\_OMEN\_ALL 10000

3) k=0.1

job 10062

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2803\_03\_shelves\_nogasweath\_k\_0.1\_OMEN\_ALL 10000

4) k=1.0

job 10063

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2803\_04\_shelves\_nogasweath\_k\_1.0\_OMEN\_ALL 10000

**---------- same as 1) – 4) but now set conzinf = 0.0 if it is < 0.0, otherwise advextive flux wrong... zoxgf = 0.1**

**---> no significant change in results! 5\_EXP\_Shelves\_2803\_TOTAL\_Full\_OMEN\_zoxgf\_01\_conczinf\_0.eps**

5) k=0.01

job 10064

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2803\_05\_shelves\_nogasweath\_k\_0.01\_OMEN\_ALL 10000

6) k=0.05

job 10065

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2803\_06\_shelves\_nogasweath\_k\_0.05\_OMEN\_ALL 10000

7) k=0.1

job 10066

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2803\_07\_shelves\_nogasweath\_k\_0.1\_OMEN\_ALL 10000

**--------- same as 1) – 4) set conzinf = 0.0 if it is < 0.0, zoxgf = 0.1**

**here change stoichiometry for H2S oxidation to O2H2S = 2.0 (was 1.0) …. should use more OS now with 2nd redox**

**---> looks good, bit more H2S: 6\_EXP\_Shelves\_2803\_TOTAL\_Full\_OMEN\_new\_O2H2S.eps or/and 6\_EXP\_Shelves\_2803\_TOTAL\_Full\_OMEN\_new\_O2H2S\_compare\_to\_no2ndredox.eps and/or 2803\_Full\_OMEN\_new\_O2H2S\_compare\_to\_no2ndredox\_shelves.pdf**

8) k=0.01

job 10068

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2803\_08\_shelves\_nogasweath\_k\_0.01\_OMEN\_ALL\_newO2H2S 10000

9) k=0.05

job 10069

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2803\_09\_shelves\_nogasweath\_k\_0.05\_OMEN\_ALL\_newO2H2S 10000

10) k=0.1

job 10070

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2803\_10\_shelves\_nogasweath\_k\_0.1\_OMEN\_ALL\_newO2H2S 10000

11) k=1.0

job 10071

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 2803\_11\_shelves\_nogasweath\_k\_1.0\_OMEN\_ALL\_newO2H2S 10000

**####################### 31.03.02017 #######################**

**Now on almond:**

**Artificial ocean with FULL OMEN**

looks good see plot: 3103\_OPEN\_SYSTEM\_FULL\_OMEN\_withoutPO4\_10kyrs.eps

0) BIOTIC, without OMEN

job 3564

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 3103\_00\_shelves\_nogasweath\_biotic\_NoOMEN 10000

1) k=0.01

job 3565

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 3103\_01\_shelves\_nogasweath\_k\_0.01\_OMEN\_ALL\_newO2H2S 10000

2) k=0.05

job 3566

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 3103\_02\_shelves\_nogasweath\_k\_0.05\_OMEN\_ALL\_newO2H2S 10000

3 k=0.1

job 3567

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 3103\_03\_shelves\_nogasweath\_k\_0.1\_OMEN\_ALL\_newO2H2S 10000

4) k=1.0

job 3568

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 3103\_04\_shelves\_nogasweath\_k\_1.0\_OMEN\_ALL\_newO2H2S 10000

5) k=0.01 no 2nd redox

job 3569

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg\_gl.\_rwlma.BASES DOM/08\_OMEN\_GENIE\_March2017 3103\_05\_shelves\_nogasweath\_k\_0.01\_OMEN\_No2ndredox 10000

**----------- 16 ocean level setup: now set minimum sedimentation rate to 5.0e-4 instead of 4.0e-4**

**PO4related stuff = 0.0**

**First: no second redox**

looks very good, see plot: 3103\_OPEN\_SYSTEM\_no2nd\_redox\_withoutPO4\_10kyrs\_72\_72.eps

1) k = 0.01

job 3571

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 3103\_01\_worjh2\_nogas\_noweather\_open\_k\_0.01 10000

2) k = 0.05

job 3572

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 3103\_02\_worjh2\_nogas\_noweather\_open\_k\_0.05 10000

3) k = 0.1

job 3573

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 3103\_03\_worjh2\_nogas\_noweather\_open\_k\_0.1 10000

4) k = 1.0

job 3574

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 3103\_04\_worjh2\_nogas\_noweather\_open\_k\_1.0 10000

5) k1 = 0.001; k2 = 0.00001

job 3575

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 3103\_05\_worjh2\_nogas\_noweather\_open\_k\_0.001 10000

**Second: Full OMEN**

looks very good, see plot: 3103\_OPEN\_SYSTEM\_FULL\_OMEN\_withoutPO4\_10kyrs\_72\_72.eps actually very similar to no2nd redox, but values are slightly different (I checked)

6) k = 0.01 RAN FOR 1524minutes = 25.4hours

job 3576

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 3103\_06\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_k\_0.01 10000

7) k = 0.05

job 3577

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 3103\_07\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_k\_0.05 10000

8) k = 0.1

job 3578

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 3103\_08\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_k\_0.1 10000

9) k = 1.0

job 3579

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 3103\_09\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_k\_1.0 10000

10) k1 = 0.001; k2 = 0.00001

job 3580

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 3103\_10\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_k\_0.001 10000

11) BIOTIC, without OMEN, ran for 1195minutes = 19.9h

job 3581

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 3103\_11\_worjh2\_nogas\_noweather\_open\_No\_OMEN 10000

**####################### 04.04.02017 #######################**

**preindustrial 16 level ocean – FULL OMEN – still open system – PO4 related stuff <> 0.0**

this affects the profiles (probably productivity changes as PO4 is buried!!!), see plot: 0404\_OPEN\_SYSTEM\_FULL\_OMEN\_withPO4\_10kyrs\_72\_72.eps

6) k = 0.01

job 3641

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_06\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_PO4\_k\_0.01 10000

7) k = 0.05

job 3643

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_07\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_PO4\_k\_0.05 10000

8) k = 0.1

job 3645

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_08\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_PO4\_k\_0.1 10000

9) k = 1.0

job 3647

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_09\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_PO4\_k\_1.0 10000

10) k1 = 0.001; k2 = 0.00001 ----> CRASHED AFTER ~7500 years because positive O2 SWI-flux

job 3648

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_10\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_PO4\_k\_0.001 10000

14) Biotic, FULL OMEN, k: Boudreau 1997

job 3657 ----> CRASHED AFTER ~7826 - 7854 years because positive O2 SWI-flux

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_14\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_PO4\_k\_Boudreau 10000

15) Biotic, FULL OMEN, k1: Boudreau 1997 - k2 = k1/100

job 3658 ----> CRASHED AFTER ~7426 years because positive O2 SWI-flux

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_15\_worjh2\_nogas\_noweather\_open\_k\_Boudreau\_k2\_k1e-2 10000

16) Biotic, FULL OMEN, k1 as fct of POC-flux Boudreau 1997 - k2 = k1/100

job 3671

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_16\_worjh2\_nogas\_noweather\_open\_k\_Boudreau\_fPOC\_k1 10000

**preindustrial 16 level ocean – FULL OMEN – CLOSED SYSTEM and different k parametrisations**

**ALL JOBS qdel because I forgot the restoring of buried OM and P**

1) BIOTIC, without OMEN

job 3639

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_01\_worjh2\_No\_OMEN 20000

2) BIOTIC, FULL OMEN - k = 0.01

job 3640

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_02\_worjh2\_Full\_OMEN\_k\_0.01 20000

3) BIOTIC, FULL OMEN - k = 0.05

job 3642

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_03\_worjh2\_Full\_OMEN\_k\_0.05 20000

4) BIOTIC, FULL OMEN - k = 0.1

job 3644

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_04\_worjh2\_Full\_OMEN\_k\_0.1 20000

5) BIOTIC, FULL OMEN - k = 1.0

job 3646

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_05\_worjh2\_Full\_OMEN\_k\_1.0 20000

11) Biotic, FULL OMEN, k: Tromp et al. 1995

job 3649

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_11\_worjh2\_Full\_OMEN\_k\_Tromp 20000

12) Biotic, FULL OMEN, k: Boudreau 1997

job 3650

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_12\_worjh2\_Full\_OMEN\_k\_Boudreau 20000

13) Biotic, FULL OMEN, k1: Boudreau 1997 - k2 = k1/100

job 3656

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_13\_worjh2\_Full\_OMEN\_k\_Boudreau\_k2\_k1e-2 20000

17) Biotic, FULL OMEN, k1 as fct of POC-flux Boudreau 1997 - k2 = k1/100

job 3672

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0404\_17\_worjh2\_Full\_OMEN\_k\_Boudreau\_fPOC\_k1 20000

**####################### 05.04.02017 #######################**

**not plotted yet as 72x72 anyway**

Have to redo yesterday's **CLOSED SYSTEM** experiments as I did not restore the buried POC and P. I modified the weathering settings in 0404\_02\_worjh2\_With\_OMEN\_with\_OMinflux:

# set a 'CLOSED' system

bg\_ctrl\_force\_sed\_closedsystem=.true.

# set total weathering rate

# Dom: Because the closed system approach needs a non-zero weathering flux to modify and keep the system closed:

rg\_par\_weather\_CaCO3=10.0E+12

rg\_par\_weather\_CaSiO3=5.0E+12

# Dom: introduce a weathering flux of organic matter and also of PO4.

rg\_par\_weather\_CaSiO3\_fracC=0.01

rg\_par\_weather\_CaSiO3\_fracP=0.0001

#Andy 09.09.14: creats some pyrite in the silicates hat are being weathered and

#allows BIOGEM to adjust the H2S flux in the rivers in order to

#balance any POM-S being buried:

rg\_par\_weather\_CaSiO3\_fracFeS2=7.8E-4

# set bulk weathering isotopic composition

rg\_par\_weather\_CaCO3\_d13C=3.0

rg\_par\_weather\_CaSiO3\_fracC\_d13C=-27.0

1) BIOTIC, without OMEN

job 3683

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0504\_01\_worjh2\_No\_OMEN\_with\_OMinflux 20000

2) BIOTIC, FULL OMEN - k = 0.01

job 3684

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0504\_02\_worjh2\_Full\_OMEN\_k\_0.01 20000

3) BIOTIC, FULL OMEN - k = 0.05

job 3685

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0504\_03\_worjh2\_Full\_OMEN\_k\_0.05 20000

4) BIOTIC, FULL OMEN - k = 0.1

job 3686

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0504\_04\_worjh2\_Full\_OMEN\_k\_0.1 20000

5) BIOTIC, FULL OMEN - k = 1.0

job 3687

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0504\_05\_worjh2\_Full\_OMEN\_k\_1.0 20000

6) Biotic, FULL OMEN, k: Tromp et al. 1995

job 3688

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0504\_06\_worjh2\_Full\_OMEN\_k\_Tromp 20000

7) Biotic, FULL OMEN, k: Boudreau 1997

job 3689

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0504\_07\_worjh2\_Full\_OMEN\_k\_Boudreau 20000

8) Biotic, FULL OMEN, k1: Boudreau 1997 - k2 = k1/100

job 3690

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0504\_08\_worjh2\_Full\_OMEN\_k\_Boudreau\_k2\_k1e-2 20000

9) Biotic, FULL OMEN, k1 as fct of POC-flux Boudreau 1997 - k2 = k1/100

job 3691

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0504\_09\_worjh2\_Full\_OMEN\_k\_Boudreau\_fPOC\_k1 20000

**####################### 06.04.02017 #######################**

**As Archer et al. 2009 but with 36x36 sediment grid (+ restore loss of OM, P and S if CLOSED)**

**preindustrial 16 level ocean – FULL OMEN – still open system – PO4 related stuff <> 0.0**

**plot: 0604\_OPEN\_SYSTEM\_withPO4\_10kyrs.eps (need to run for 20kyrs)**

1) BIOTIC, without OMEN, finished, ran for 1322 minutes = 22h

job 3720

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_01\_worjh2\_nogas\_noweather\_open\_No\_OMEN 10000

2) k = 0.01 --- CRASH: positve O2 SWI flux after 6921 years

job 3721

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_02\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_k\_0.01 10000

3) k = 0.05 finished: ran for 1400 minutes = 23h20minutes

job 3722

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_03\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_k\_0.05 10000

4) k = 0.1 finished: ran for 1905 minutes = 31h45minutes

job 3723

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_04\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_k\_0.1 10000

5) k = 1.0 finished: ran for 1763 minutes = 29h23minutes

job 3724

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_05\_worjh2\_nogas\_noweather\_open\_Full\_OMEN\_k\_1.0 10000

**preindustrial 16 level ocean – FULL OMEN – CLOSED SYSTEM and different k parametrisations– PO4 related stuff <> 0.0**

results a bit weird: **0604\_CLOSED\_SYSTEM\_withPO4\_20kyrs.eps and 0604\_CLOSED\_SYSTEM\_withPO4\_20kyrs\_No\_burial.eps;**

less O2 when OMEN is used because of secondary redox reactions

why decline in SO4, not properly restored?

for k=0.01 I get tiny burial: fraction preserved < 2.9e-130

k = 0.005 No burial but still less O2 --- this is because of secondary redox reactions!!!!

with burial:

0604\_CLOSED\_SYSTEM\_withPO4\_20kyrs\_diff\_k\_params.eps

6) BIOTIC, without OMEN

job 3725

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_06\_worjh2\_closed\_No\_OMEN 20000

7) BIOTIC, FULL OMEN - k = 0.01

job 3726

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_07\_worjh2\_closed\_Full\_OMEN\_k\_0.01 20000

8) BIOTIC, FULL OMEN - k = 0.05

job 3727

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_08\_worjh2\_closed\_Full\_OMEN\_k\_0.05 20000

9) BIOTIC, FULL OMEN - k = 0.1

job 3728 finished after 2900m

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_09\_worjh2\_closed\_Full\_OMEN\_k\_0.1 20000

10) BIOTIC, FULL OMEN - k = 1.0

job 3729

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_10\_worjh2\_closed\_Full\_OMEN\_k\_1.0 20000

11) Biotic, FULL OMEN, k: Tromp et al. 1995

job 3730

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_11\_worjh2\_closed\_Full\_OMEN\_k\_Tromp 20000

12) Biotic, FULL OMEN, k: Boudreau 1997

job 3731

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_12\_worjh2\_closed\_Full\_OMEN\_k\_Boudreau 20000

13) Biotic, FULL OMEN, k1: Boudreau 1997 - k2 = k1/100

job 3732

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_13\_worjh2\_closed\_Full\_OMEN\_k\_Boudreau\_k2\_k1e-2 20000

14) Biotic, FULL OMEN, k1 as fct of POC-flux Boudreau 1997 - k2 = k1/100

job 3733

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0604\_14\_worjh2\_closed\_Full\_OMEN\_k\_Boudreau\_fPOC\_k1 20000

**####################### 08.04.02017 #######################**

**As Archer et al. 2009 but with 36x36 sediment grid (+ restore loss of OM, P and S if CLOSED)**

**preindustrial 16 level ocean – FULL OMEN – still open system – PO4 related stuff = 0.0**

**all in equilibrium: 0804\_open\_No\_PO4\_Full\_OMEN.eps**

1) k = 0.01

job 3740

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_01\_worjh2\_nogas\_noweather\_open\_No\_PO4\_Full\_OMEN\_k\_0.01 10000

2) k = 0.05

job 3741

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_02\_worjh2\_nogas\_noweather\_open\_No\_PO4\_Full\_OMEN\_k\_0.05 10000

3) k = 0.1

job 3742

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_03\_worjh2\_nogas\_noweather\_open\_No\_PO4\_Full\_OMEN\_k\_0.1 10000

4) k = 1.0

job 3743

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_04\_worjh2\_nogas\_noweather\_open\_No\_PO4\_Full\_OMEN\_k\_1.0 10000

**now 1) – 4) still open system – with PO4 <> 0 for 20kyrs:**

**then weird stuff is happening: 0804\_open\_With\_PO4\_Full\_OMEN.eps**

**some of the constants too large???**

5) k = 0.01

job 3744 **– positive SWI-O2 flux after 6921 years then crash**

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_05\_worjh2\_nogas\_noweather\_open\_With\_PO4\_Full\_OMEN\_k\_0.01 20000

6) k = 0.05

job 3745

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_06\_worjh2\_nogas\_noweather\_open\_With\_PO4\_Full\_OMEN\_k\_0.05 20000

7) k = 0.1

job 3746

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_07\_worjh2\_nogas\_noweather\_open\_With\_PO4\_Full\_OMEN\_k\_0.1 20000

8) k = 1.0

job 3747

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_08\_worjh2\_nogas\_noweather\_open\_With\_PO4\_Full\_OMEN\_k\_1.0 20000

**preindustrial 16 level ocean – FULL OMEN – PO4 stuff = 0 – CLOSED SYSTEM and different k parametrisations**

all in equilibrium apart from SO4: 0804\_closed\_No\_PO4\_Full\_OMEN.eps; 0804\_closed\_No\_PO4\_Full\_OMEN\_No\_burial.eps

k=0.05 crashes.....

with burial:

0804\_closed\_No\_PO4\_Full\_OMEN\_diff\_k\_params.eps

9) BIOTIC, FULL OMEN - k = 0.01

job 3748 – finish after 3029m

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_09\_worjh2\_closed\_No\_PO4\_Full\_OMEN\_k\_0.01 20000

10) BIOTIC, FULL OMEN - k = 0.05

job 3749 – crash after 10118 years, pH/carbonate chemistry problem

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_10\_worjh2\_closed\_No\_PO4\_Full\_OMEN\_k\_0.05 20000

11) BIOTIC, FULL OMEN - k = 0.1

job 3750 – finish after 2941m

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_11\_worjh2\_closed\_No\_PO4\_Full\_OMEN\_k\_0.1 20000

12) BIOTIC, FULL OMEN - k = 1.0

job 3751

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_12\_worjh2\_closed\_No\_PO4\_Full\_OMEN\_k\_1.0 20000

13) Biotic, FULL OMEN, k: Tromp et al. 1995

job 3752

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_13\_worjh2\_closed\_No\_PO4\_Full\_OMEN\_k\_Tromp 20000

14) Biotic, FULL OMEN, k: Boudreau 1997

job 3753 – finished after 2968m

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_14\_worjh2\_closed\_No\_PO4\_Full\_OMEN\_k\_Boudreau 20000

15) Biotic, FULL OMEN, k1: Boudreau 1997 - k2 = k1/100

job 3754 – finished after 2948m

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_15\_worjh2\_closed\_No\_PO4\_Full\_OMEN\_k\_Boudreau\_k2\_k1e-2 20000

16) Biotic, FULL OMEN, k1 as fct of POC-flux Boudreau 1997 - k2 = k1/100

job 3755 – finished after 4016m

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0804\_16\_worjh2\_closed\_Full\_OMEN\_k\_Boudreau\_fPOC\_k1 20000

**####################### 14.04.02017 #######################**

**preindustrial 16 level ocean – FULL OMEN – PO4 stuff <> 0 – CLOSED SYSTEM**

1) Biotic, FULL OMEN, k1 = 1.02\*w^0.5: Stolpovsky - k2 = k1/100

job 3827

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 1404\_01\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_k\_Stolpovsky\_k2\_k1e-2 20000

**------------ Check if BW [O2] < x → zbio = 0.01 cm**

2) BIOTIC, FULL OMEN - k = 0.01

job 3828

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 1404\_02\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_0.01 20000

3) Biotic, FULL OMEN, k: Tromp et al. 1995, k1 = 2.97\*dum\_depos\_rate\*\*0.62; k2 = 0.057\*dum\_depos\_rate\*\*1.94

job 3829

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 1404\_03\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_Tromp 20000

4) Biotic, FULL OMEN, k: Tromp et al. 1995, k1 = 2.97\*dum\_depos\_rate\*\*0.62; k2 = k1/100

job 3830

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 1404\_04\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k1\_Tromp\_k2\_k1e-2 20000

5 Biotic, FULL OMEN, k after Boudreau 1997: k1= 0.38\*dum\_depos\_rate\*\*0.59; k2 = 0.04\*dum\_depos\_rate\*\*2

job 3831

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 1404\_05\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_Boudreau 20000

6) Biotic, FULL OMEN, k1: Boudreau 1997 - k2 = k1/100

job 3832

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 1404\_06\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_Boudreau\_k2\_k1e-2 20000

7) Biotic, FULL OMEN, k1 as fct of POC-flux Boudreau 1997 - k1 = 2.2\*1e-5\*loc\_total\_POC\_flux\*\*2.1; k2 = k1/100

job 3833

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 1404\_07\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_Boudreau\_fPOC\_k1 20000

8) Biotic, FULL OMEN, k1 = 1.02\*w^0.5: Stolpovsky - k2 = k1/100

job 3834

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 1404\_08\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_Stolpovsky\_k2\_k1e-2 20000

9) BIOTIC, FULL OMEN - k = 0.05

job 3835

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 1404\_09\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_0.05 20000

10) BIOTIC, FULL OMEN - k = 0.1

job 3836

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 1404\_10\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_0.1 20000

11) BIOTIC, FULL OMEN - k = 1.0

job 3837

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 1404\_11\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_1.0 20000

**####################### 24.04.02017 #######################**

------ now with correct frac\_2 and changed bg\_par\_bio\_remin\_sinkingrate=1000000.0 (ANDY Email 16.04.)

**preindustrial 16 level ocean – FULL OMEN – PO4 stuff <> 0 – CLOSED SYSTEM**

**Check if BW [O2] < 5 nano mol/cm3→ zbio = 0.01 cm**

1) BIOTIC, without OMEN

job 3865

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2404\_01\_worjh2\_closed\_No\_OMEN 20000

2) BIOTIC, FULL OMEN - k = 0.01 2669m

job 3866

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2404\_02\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_0.01 20000

3) BIOTIC, FULL OMEN - k = 0.05

job 3867

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2404\_03\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_0.05 20000

4) BIOTIC, FULL OMEN - k = 0.1

job 3868

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2404\_04\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_0.1 20000

5) BIOTIC, FULL OMEN - k = 1.0 2724m

job 3869

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2404\_05\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_1.0 20000

6) Biotic, FULL OMEN, k: Tromp et al. 1995, k1 = 2.97\*dum\_depos\_rate\*\*0.62; k2 = 0.057\*dum\_depos\_rate\*\*1.94

job 3870

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2404\_06\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_Tromp 20000

7) Biotic, FULL OMEN, k: Tromp et al. 1995, k1 = 2.97\*dum\_depos\_rate\*\*0.62; k2 = k1/100

job 3871

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2404\_07\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k1\_Tromp\_k2\_k1e-2 20000

8) Biotic, FULL OMEN, k after Boudreau 1997: k1= 0.38\*dum\_depos\_rate\*\*0.59; k2 = 0.04\*dum\_depos\_rate\*\*2

job 3872

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2404\_08\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_Boudreau 20000

9) Biotic, FULL OMEN, k1: Boudreau 1997 - k2 = k1/100

job 3873

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2404\_09\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_Boudreau\_k2\_k1e-2 20000

10) Biotic, FULL OMEN, k1 = 1.02\*w^0.5: Stolpovsky - k2 = k1/100

job 3874

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2404\_10\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_Stolpovsky\_k2\_k1e-2 20000

11) Biotic, FULL OMEN, k1 as fct of POC-flux Boudreau 1997 - k1 = 2.2\*1e-5\*loc\_total\_POC\_flux\*\*2.1; k2 = k1/100

job 3875

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2404\_11\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_k\_Boudreau\_fPOC\_k1 20000

**####################### 28.04.02017 #######################**

------ now with correct frac\_2 and changed bg\_par\_bio\_remin\_sinkingrate=1000000.0 (ANDY Email 16.04.) as before

**preindustrial 16 level ocean – FULL OMEN – PO4 stuff <> 0 – CLOSED SYSTEM**

**Check if BW [O2] < 5 nano mol/cm3→ zbio = 0.01 cm – also do change k1 to anoxic value if it exists**

1) – 7) USE W after MIDDELBURG, as GENIE values 1-3 orders of magnitude lower

1) BIOTIC, FULL OMEN - k = 0.01

job 3880

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2804\_01\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wMiddelb\_k\_0.01 20000

2) BIOTIC, FULL OMEN - k = 1.0

job 3881

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2804\_02\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wMiddelb\_k\_1.0 20000

3) BIOTIC, FULL OMEN - TROMP: k1 depending on BW oxygenation; k2 = k1/100

job 3882

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2804\_03\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wMiddelb\_k\_Tromp\_oxic\_anoxic 20000

4) BIOTIC, FULL OMEN - Boudreau: k1 depending on BW oxygenation; k2 = k1/100

job 3883

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2804\_04\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wMiddelb\_k\_Boudreau\_oxic\_anoxic 20000

5) BIOTIC, FULL OMEN - Stolpovsky for oxic, Boudreau for anoxic

job 3884

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2804\_05\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wMiddelb\_k\_Stolpovsky\_oxic\_anoxic 20000

6) BIOTIC, FULL OMEN - Boudreau\_fPOC for oxic, anoxic Boudreau ~ w

job 3885

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2804\_06\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wMiddelb\_k\_Boudreau\_fPOC\_oxic\_anoxic 20000

7) BIOTIC, FULL OMEN - k = MIN oxic: k1=1.0e-4, k2= 1.0e-6; anoxic: k=6.0e-7, k2=1.25e-8

job 3886

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2804\_07\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wMiddelb\_k\_MIN 20000

**as 3) – 7) but again with w from GENIE**

8) BIOTIC, FULL OMEN - TROMP: k1 depending on BW oxygenation; k2 = k1/100

job 3889

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2804\_08\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wGENIE\_k\_Tromp\_oxic\_anoxic 20000

9) BIOTIC, FULL OMEN - Boudreau: k1 depending on BW oxygenation; k2 = k1/100

job 3890

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2804\_09\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wGENIE\_k\_Boudreau\_oxic\_anoxic 20000

10) BIOTIC, FULL OMEN - Stolpovsky for oxic, Boudreau for anoxic

job 3891

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2804\_10\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wGENIE\_k\_Stolpovsky\_oxic\_anoxic 20000

11) BIOTIC, FULL OMEN - Boudreau\_fPOC for oxic, anoxic Boudreau ~ w

job 3892

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2804\_11\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wGENIE\_k\_Boudreau\_fPOC\_oxic\_anoxic 20000

12) BIOTIC, FULL OMEN - k = MIN oxic: k1=1.0e-4, k2= 1.0e-6; anoxic: k=6.0e-7, k2=1.25e-8

job 3893

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2804\_12\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wGENIE\_k\_MIN 20000

**####################### 02.05.02017 #######################**

as before 28.04. now with k-values from **PALASTANGA et al. 2011**

1) BIOTIC, FULL OMEN - k = from **PALASTANGA – P related constants as before**

job 3895 (with methanogenesis)

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0205\_01\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wMiddelb\_k\_PALASTANGA\_oxic\_anoxic 20000

2) BIOTIC, FULL OMEN - k = from **PALASTANGA – P related constants as in this study!**

job 3898

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0205\_02\_worjh2\_closed\_with\_PO4\_Full\_OMEN\_zbio\_wMiddelb\_k\_PALASTANGA\_oxic\_anoxic\_P\_fromstudy 20000

**####################### 22.05.02017 #######################**

**test with new nasmelist parameters and calculation of apparent\_k → calc. k1 & k2 = k1/100**

1) Biotic – Full OMEN – k after Boudreau:

job 3921

qsub -j y -o cgenie\_output -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 2205\_worjh2\_closed\_boudreau1997 10000

**#################### 02.06.02017 and 03.06.2017 ####################**

**NOW USE SEDGEM SETUP AS IN ARCHER ET AL. 2009 WITH 72x72 GRID**

1) Run default normal setup as in Archer et al. 2009, without OMEN:

job 3944 time: real 2057m = 34h 17min

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES / EXAMPLE.worjh2.Archeretal2009.SPIN1 20000

2) as 1) now using OMEN with Boudreau paramaterisation par\_sed\_huelse2017\_k2\_order = 100

job 3945 time: real 2195m = 36h 35min

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0206\_TEST\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997 20000

**BOTH had a weird output... did not make cleanall**

**03.06.2017**

1) as 2) above with par\_sed\_huelse2017\_k2\_order = 10

job 3946

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0306\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_10 20000

2) as 2) above with par\_sed\_huelse2017\_k2\_order = 20

job 3947

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0306\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_20 20000

3) as 2) above with par\_sed\_huelse2017\_k2\_order = 30

job 3956

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0306\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_30 20000

4) as 2) above with par\_sed\_huelse2017\_k2\_order = 40

job 3950

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0306\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_40 20000

5) as 2) above with par\_sed\_huelse2017\_k2\_order = 50

job 3951

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0306\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_50 20000

6) as 2) above with par\_sed\_huelse2017\_k2\_order = 60

job 3952

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0306\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_60 20000

7) as 2) above with par\_sed\_huelse2017\_k2\_order = 70

job 3953

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0306\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_70 20000

8) as 2) above with par\_sed\_huelse2017\_k2\_order = 80

job 3954

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0306\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_80 20000

9) as 2) above with par\_sed\_huelse2017\_k2\_order = 90

job 3955

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0306\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_90 20000

**## 05.06.2017 ##**

**output off first 2 exp yesterday was wrong in netcdf**

1) Run default normal setup as in Archer et al. 2009, without OMEN:

job 3957 time: real

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0506\_01\_EXAMPLE.worjh2.Archeretal2009.SPIN1 20000 → DELETED: Andy made changes 06.06.2017

2) Run default normal setup as in Archer et al. 2009, without OMEN + very fast sinking rate bg\_par\_bio\_remin\_sinkingrate=1000000.0:

job 3958 time: real

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0506\_02\_EXAMPLE.worjh2.Archeretal2009.SPIN1\_fastsinking 20000→ DELETED: Andy made changes 06.06.2017

3) as 1) now using OMEN with Boudreau paramaterisation par\_sed\_huelse2017\_k2\_order = 100

job 3959 time: real

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0506\_03\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_100 20000→ DELETED: Andy made changes 06.06.2017

4) as 2) now using OMEN with Boudreau paramaterisation par\_sed\_huelse2017\_k2\_order = 100 + very fast sinking rate bg\_par\_bio\_remin\_sinkingrate=1000000.0:

job 3960 time: real

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0506\_04\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_100\_fastsinking 20000→ DELETED: Andy made changes 06.06.2017

**Too much CaCO3 preservation, check this:**

**FROM Archer et al. 2009 RESTART:**

5) Run default normal setup as in Archer et al. 2009, without OMEN – from RESTART:

job 3961

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0506\_05\_EXAMPLE.worjh2.Archeretal2009.SPIN1\_fromrestart 1000 EXAMPLE.worjh2.Archeretal2009.SPIN

6) Run default normal setup as in Archer et al. 2009, without OMEN + very fast sinking rate bg\_par\_bio\_remin\_sinkingrate=1000000.0 – from RESTART:

job 3962

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0506\_06\_EXAMPLE.worjh2.Archeretal2009.SPIN1\_fastsinking\_fromrestart 1000 EXAMPLE.worjh2.Archeretal2009.SPIN

7) as 1) now using OMEN with Boudreau paramaterisation par\_sed\_huelse2017\_k2\_order = 100 – from RESTART

job 3963

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0506\_07\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_100\_fromrestart 1000 EXAMPLE.worjh2.Archeretal2009.SPIN

8) as 2) now using OMEN with Boudreau paramaterisation par\_sed\_huelse2017\_k2\_order = 100 + very fast sinking rate bg\_par\_bio\_remin\_sinkingrate=1000000.0 – from RESTART:

job 3964

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0506\_08\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_100\_fastsinking\_fromrestart 1000 EXAMPLE.worjh2.Archeretal2009.SPIN

9) as 1) now using OMEN **all remineralised** – from RESTART

job 3965

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0506\_09\_worjh2.Archeretal2009.SPIN1\_OMEN.all\_remin\_k\_2\_fromrestart 1000 EXAMPLE.worjh2.Archeretal2009.SPIN

10) as 2) now using OMEN **all remineralised** + very fast sinking rate bg\_par\_bio\_remin\_sinkingrate=1000000.0 – from RESTART:

job 3966

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0506\_10\_worjh2.Archeretal2009.SPIN1\_OMEN.all\_remin\_k\_2\_fastsinking\_fromrestart 1000 EXAMPLE.worjh2.Archeretal2009.SPIN

11) as 1) now using OMEN **all remineralised + no-2nd-redox** – from RESTART

job 3967

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0506\_11\_worjh2.Archeretal2009.SPIN1\_OMEN.all\_remin\_no2ndR 1000 EXAMPLE.worjh2.Archeretal2009.SPIN

12) as 2) now using OMEN **all remineralised + no-2nd-redox** + very fast sinking rate bg\_par\_bio\_remin\_sinkingrate=1000000.0 – from RESTART:

job 3968

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0506\_12\_worjh2.Archeretal2009.SPIN1\_OMEN.all\_remin\_no2ndR\_fastsinking 1000 EXAMPLE.worjh2.Archeretal2009.SPIN

**## 06.06.2017 ##**

**AFTER ANDY'S changes to sedgem\_box.f90: because SEDGEM was preserving too much CaCO3**

1) Run default normal setup as in Archer et al. 2009, without OMEN:

job 3969 time: real

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_01\_EXAMPLE.worjh2.Archeretal2009.SPIN1 20000

2) Run default normal setup as in Archer et al. 2009, without OMEN + very fast sinking rate bg\_par\_bio\_remin\_sinkingrate=1000000.0:

job 3970 time: real

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_02\_EXAMPLE.worjh2.Archeretal2009.SPIN1\_fastsinking 20000

3) as 1) now using OMEN with Boudreau paramaterisation par\_sed\_huelse2017\_k2\_order = 100

job 3971 time: real

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_03\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_100 20000

4) as 2) now using OMEN with Boudreau paramaterisation par\_sed\_huelse2017\_k2\_order = 100 + very fast sinking rate bg\_par\_bio\_remin\_sinkingrate=1000000.0:

job 3972 time: real

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_04\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_100\_fastsinking 20000

**FROM Archer et al. 2009 RESTART:**

5) Run default normal setup as in Archer et al. 2009, without OMEN – from RESTART:

job 3973

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_05\_EXAMPLE.worjh2.Archeretal2009.SPIN1\_fromrestart 1000 EXAMPLE.worjh2.Archeretal2009.SPIN

6) Run default normal setup as in Archer et al. 2009, without OMEN + very fast sinking rate bg\_par\_bio\_remin\_sinkingrate=1000000.0 – from RESTART:

job 3974

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_06\_EXAMPLE.worjh2.Archeretal2009.SPIN1\_fastsinking\_fromrestart 1000 EXAMPLE.worjh2.Archeretal2009.SPIN

7) as 1) now using OMEN with Boudreau paramaterisation par\_sed\_huelse2017\_k2\_order = 100 – from RESTART

job 3975

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_07\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_100\_fromrestart 1000 EXAMPLE.worjh2.Archeretal2009.SPIN

8) as 2) now using OMEN with Boudreau paramaterisation par\_sed\_huelse2017\_k2\_order = 100 + very fast sinking rate bg\_par\_bio\_remin\_sinkingrate=1000000.0 – from RESTART:

job 3976

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_08\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_100\_fastsinking\_fromrestart 1000 EXAMPLE.worjh2.Archeretal2009.SPIN

**#### Ensemble vary order of k2 ####**

9) as 4) above with par\_sed\_huelse2017\_k2\_order = 10

job 3985

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_10 20000

10) as 4) above with par\_sed\_huelse2017\_k2\_order = 20

job 3986

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_20 20000

11) as 4) above with par\_sed\_huelse2017\_k2\_order = 30

job 3987

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_30 20000

12) as 4) above with par\_sed\_huelse2017\_k2\_order = 40

job 3988

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_40 20000

13) as 4) above with par\_sed\_huelse2017\_k2\_order = 50

job 3989

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_50 20000

14) as 4) above with par\_sed\_huelse2017\_k2\_order = 60

job 3990

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_60 20000

15) as 4) above with par\_sed\_huelse2017\_k2\_order = 70

job 3991

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_70 20000

16) as 4) above with par\_sed\_huelse2017\_k2\_order = 80

job 3992

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_80 20000

17) as 4) above with par\_sed\_huelse2017\_k2\_order = 90

job 3993

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0606\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_90 20000

**## 07.06.2017 ##**

**use Stolpovsky relation - FROM Archer et al. 2009 RESTART – just as prelim check if sensible:**

**GET VERY NEGATIVE WT% in NORTH PACIFIC AND ALSO VERY HIGH WT% AT SOME LOCATIONS**

1) OMEN, very fast sinking and with Stolpovsky relation with par\_sed\_huelse2017\_k2\_order = 10

job 3994

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0706\_worjh2.Archeretal2009.SPIN1\_OMEN.stolpovsky2016\_10\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

2) OMEN, very fast sinking and with Stolpovsky relation with par\_sed\_huelse2017\_k2\_order = 50

job 3995

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0706\_worjh2.Archeretal2009.SPIN1\_OMEN.stolpovsky2016\_50\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

3) OMEN, very fast sinking and with Stolpovsky relation with par\_sed\_huelse2017\_k2\_order = 100

job 3996

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0706\_worjh2.Archeretal2009.SPIN1\_OMEN.stolpovsky2016\_100\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**use Boudreau relation - FROM Archer et al. 2009 RESTART – just as prelim check if sensible:**

**TOO MUCH BURIAL WHEN USING ANOXIC DEGRADATION RATE CONSTANT**

4) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 10

job 3997

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0706\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_10\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

5) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 50

job 3998

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0706\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_50\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

6) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 100

job 3999

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0706\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_100\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

Stolpovsky with even lower k2

7) OMEN, very fast sinking and with Stolpovsky relation with par\_sed\_huelse2017\_k2\_order = 120

job 4000

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0706\_worjh2.Archeretal2009.SPIN1\_OMEN.stolpovsky2016\_120\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

8) OMEN, very fast sinking and with Stolpovsky relation with par\_sed\_huelse2017\_k2\_order = 160

job 4001

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0706\_worjh2.Archeretal2009.SPIN1\_OMEN.stolpovsky2016\_160\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

9) OMEN, very fast sinking and with Stolpovsky relation with par\_sed\_huelse2017\_k2\_order = 200

job 4002

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0706\_worjh2.Archeretal2009.SPIN1\_OMEN.stolpovsky2016\_200\_fromrestart 2000

**## 08.06.2017 ##**

**NOW just using oxic degradation rate, as for anoxic sediments too much burtial**

1) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 100

job 4005

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0806\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_100\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

2) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 10

job 4006

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0806\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_10\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

3) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 50

job 4007

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/01\_OMEN\_GENIE\_PreInd\_April2017 0806\_worjh2.Archeretal2009.SPIN1\_OMEN.boudreau1997\_50\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**## 09.06.2017 ##**

**again just using oxic degradation rate, play more with Boudreau relation**

1) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 5

job 4009

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.boudreau1997\_5\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

2) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 25

job 4010

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.boudreau1997\_25\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

3) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 75

job 4011

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.boudreau1997\_75\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 125

job 4012

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.boudreau1997\_125\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

5) OMEN, very fast sinking and with Boudreau relation with depth dependent par\_sed\_huelse2017\_k2\_order = [5, 10, 25, 50, 100, 125]

job 4020

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**#### use upper 5cm instead of 10cm for calculated OM wt%:**

6) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 5

job 4013

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.boudreau1997\_5\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

7) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 25

job 4014

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.boudreau1997\_25\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

8) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 75

job 4015

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.boudreau1997\_75\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

9) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 125

job 4016

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.boudreau1997\_125\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

10) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 10

job 4017

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.boudreau1997\_10\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

11) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 50

job 4018

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.boudreau1997\_50\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

12) OMEN, very fast sinking and with Boudreau relation with par\_sed\_huelse2017\_k2\_order = 100

job 4019

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.boudreau1997\_100\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

13) OMEN, very fast sinking and with Boudreau relation with depth dependent par\_sed\_huelse2017\_k2\_order = [5, 10, 25, 50, 100, 125]

job 4021

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**#### Use Tromp 1995 k-relationship**

14) OMEN, very fast sinking and with Tromp relation with par\_sed\_huelse2017\_k2\_order = 10

job 4022

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.tromp1995\_10\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

15) OMEN, very fast sinking and with Tromp relation with par\_sed\_huelse2017\_k2\_order = 50

job 4023

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.tromp1995\_50\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

16) OMEN, very fast sinking and with Tromp relation with par\_sed\_huelse2017\_k2\_order = 100

job 4024

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.tromp1995\_100\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**#### Play with globally invariant degradation rate:**

17) OMEN, very fast sinking and with globally invariant oxic k\_apparent = 0.01 (dum\_D < 2000) and k\_apparent = 0.005 (dum\_D > 2000), k2 = k1/100 after Palastanga

job 4025

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.invariant\_Palast\_100\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

18) OMEN, very fast sinking and with globally invariant oxic k\_apparent = 0.01 (dum\_D < 2000) and k\_apparent = 0.005 (dum\_D > 2000), k2 = k1/10 after Palastanga

job 4026

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 0906\_Archeretal2009\_OMEN.invariant\_Palast\_10\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**## 12.06.2017 ##**

**USE GLOBALLY INVARIANT k1 and k2 = k1/100**

1) OMEN, very fast sinking and with globally invariant k1= 0.001; k2=k1/100

job 4054

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1206\_Archeretal2009\_OMEN.inv\_k\_0.001\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

2) OMEN, very fast sinking and with globally invariant k1= 0.002; k2=k1/100

job 4055

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1206\_Archeretal2009\_OMEN.inv\_k\_0.002\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

3) OMEN, very fast sinking and with globally invariant k1= 0.003; k2=k1/100

job 4056

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1206\_Archeretal2009\_OMEN.inv\_k\_0.003\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4) OMEN, very fast sinking and with globally invariant k1= 0.004; k2=k1/100

job 4057

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1206\_Archeretal2009\_OMEN.inv\_k\_0.004\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

5) OMEN, very fast sinking and with globally invariant k1= 0.005; k2=k1/100

job 4058

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1206\_Archeretal2009\_OMEN.inv\_k\_0.005\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

6) OMEN, very fast sinking and with globally invariant k1= 0.006; k2=k1/100

job 4059

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1206\_Archeretal2009\_OMEN.inv\_k\_0.006\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

7) OMEN, very fast sinking and with globally invariant k1= 0.007; k2=k1/100

job 4060

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1206\_Archeretal2009\_OMEN.inv\_k\_0.007\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

8) OMEN, very fast sinking and with globally invariant k1= 0.008; k2=k1/100

job 4061

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1206\_Archeretal2009\_OMEN.inv\_k\_0.008\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

9) OMEN, very fast sinking and with globally invariant k1= 0.009; k2=k1/100

job 4062

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1206\_Archeretal2009\_OMEN.inv\_k\_0.009\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

10) OMEN, very fast sinking and with globally invariant k1= 0.01; k2=k1/100

job 4064

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1206\_Archeretal2009\_OMEN.inv\_k\_0.01\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**######## using Jamie's temperature dependent k-values ##########**

11) OMEN, very fast sinking and with temperature dependent k1 and k2

job

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1206\_Archeretal2009\_OMEN.k\_temp\_dep\_fromrestart 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**k1 FAR too high:**

Tmp dep: dum\_D, loc\_T, k1, k2 = 3632.0999999999999 274.46271751833979 30.698365803585464 5.95782349295539068E-002

Tmp dep: dum\_D, loc\_T, k1, k2 = 2432.5100000000002 274.46271751833979 30.698365803585464 5.95782349295539068E-002

Tmp dep: dum\_D, loc\_T, k1, k2 = 263.44799999999998 280.41100609246649 51.186072876028639 0.12532851467902284

**## 13.06.2017 ##**

**USE GLOBALLY INVARIANT k1 and play also play with order of k2**

1) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4069

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_01\_Archeretal2009\_OMEN.inv\_k1\_0.0002\_k2ord\_1 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

2) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4070

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_02\_Archeretal2009\_OMEN.inv\_k1\_0.0004\_k2ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

3) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4071

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_03\_Archeretal2009\_OMEN.inv\_k1\_0.001\_k2ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4072

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_04\_Archeretal2009\_OMEN.inv\_k1\_0.002\_k2ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

5) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4073

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_05\_Archeretal2009\_OMEN.inv\_k1\_0.004\_k2ord\_20 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

6) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4074

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_06\_Archeretal2009\_OMEN.inv\_k1\_0.0005\_k2ord\_1 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

7) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4075

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_07\_Archeretal2009\_OMEN.inv\_k1\_0.001\_k2ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

8) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4076

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_08\_Archeretal2009\_OMEN.inv\_k1\_0.0025\_k2ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

9) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4077

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_09\_Archeretal2009\_OMEN.inv\_k1\_0.005\_k2ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

10) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4078

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_10\_Archeretal2009\_OMEN.inv\_k1\_0.0008\_k2ord\_1 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

11) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4079

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_11\_Archeretal2009\_OMEN.inv\_k1\_0.0016\_k2ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

12) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4080

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_12\_Archeretal2009\_OMEN.inv\_k1\_0.004\_k2ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

13) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4081

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_13\_Archeretal2009\_OMEN.inv\_k1\_0.001\_k2ord\_1 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

14) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4082

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_14\_Archeretal2009\_OMEN.inv\_k1\_0.002\_k2ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

15) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4083

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_15\_Archeretal2009\_OMEN.inv\_k1\_0.005\_k2ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

############# higher k2 even ###############

101) OMEN, very fast sinking and with globally invariant k1 and k2, value see userconfig

job 4085

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_101\_Archeretal2009\_OMEN.inv\_k1\_0.0015\_k2ord\_1 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4086

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_102\_Archeretal2009\_OMEN.inv\_k1\_0.003\_k2ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4087

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_103\_Archeretal2009\_OMEN.inv\_k1\_0.006\_k2ord\_4 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4088

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_104\_Archeretal2009\_OMEN.inv\_k1\_0.012\_k2ord\_8 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4089

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_105\_Archeretal2009\_OMEN.inv\_k1\_0.015\_k2ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4090

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_106\_Archeretal2009\_OMEN.inv\_k1\_0.002\_k2ord\_1 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4091

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_107\_Archeretal2009\_OMEN.inv\_k1\_0.004\_k2ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4092

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_108\_Archeretal2009\_OMEN.inv\_k1\_0.008\_k2ord\_4 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4093

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_109\_Archeretal2009\_OMEN.inv\_k1\_0.016\_k2ord\_8 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4094

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_110\_Archeretal2009\_OMEN.inv\_k1\_0.02\_k2ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4095

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_111\_Archeretal2009\_OMEN.inv\_k1\_0.0025\_k2ord\_1 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4096

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_112\_Archeretal2009\_OMEN.inv\_k1\_0.005\_k2ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4097

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_113\_Archeretal2009\_OMEN.inv\_k1\_0.01\_k2ord\_4 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4098

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_114\_Archeretal2009\_OMEN.inv\_k1\_0.02\_k2ord\_8 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4099

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_115\_Archeretal2009\_OMEN.inv\_k1\_0.025\_k2ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4100

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_116\_Archeretal2009\_OMEN.inv\_k1\_0.003\_k2ord\_1 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4101

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_117\_Archeretal2009\_OMEN.inv\_k1\_0.006\_k2ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4102

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_118\_Archeretal2009\_OMEN.inv\_k1\_0.009\_k2ord\_3 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4103

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_119\_Archeretal2009\_OMEN.inv\_k1\_0.012\_k2ord\_4 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4104

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1306\_120\_Archeretal2009\_OMEN.inv\_k1\_0.015\_k2ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**## 14.06.2017 ##**

**USE GLOBALLY INVARIANT k1 and play also play with order of k2**

**reckon I used upper10 cm here not 5cm!!!**

4105

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_01\_Archeretal2009\_OMEN.inv\_k1\_0.024\_k2ord\_8 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4106

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_08\_Archeretal2009\_OMEN.inv\_k1\_0.035\_k2ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4107

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_15\_Archeretal2009\_OMEN.inv\_k1\_0.0045\_k2ord\_1 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4108

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_22\_Archeretal2009\_OMEN.inv\_k1\_0.01\_k2ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4109

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_02\_Archeretal2009\_OMEN.inv\_k1\_0.03\_k2ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4110

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_09\_Archeretal2009\_OMEN.inv\_k1\_0.004\_k2ord\_1 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4111

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_16\_Archeretal2009\_OMEN.inv\_k1\_0.009\_k2ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4112

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_23\_Archeretal2009\_OMEN.inv\_k1\_0.02\_k2ord\_4 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4113

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_03\_Archeretal2009\_OMEN.inv\_k1\_0.0035\_k2ord\_1 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4114

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_10\_Archeretal2009\_OMEN.inv\_k1\_0.008\_k2ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4115

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_17\_Archeretal2009\_OMEN.inv\_k1\_0.018\_k2ord\_4 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4116

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_24\_Archeretal2009\_OMEN.inv\_k1\_0.025\_k2ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4117

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_04\_Archeretal2009\_OMEN.inv\_k1\_0.007\_k2ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4118

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_11\_Archeretal2009\_OMEN.inv\_k1\_0.016\_k2ord\_4 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4119

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_18\_Archeretal2009\_OMEN.inv\_k1\_0.0225\_k2ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4120

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_25\_Archeretal2009\_OMEN.inv\_k1\_0.04\_k2ord\_8 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4121

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_05\_Archeretal2009\_OMEN.inv\_k1\_0.014\_k2ord\_4 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4122

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_12\_Archeretal2009\_OMEN.inv\_k1\_0.02\_k2ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4123

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_19\_Archeretal2009\_OMEN.inv\_k1\_0.036\_k2ord\_8 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4124

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_26\_Archeretal2009\_OMEN.inv\_k1\_0.05\_k2ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4125

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_06\_Archeretal2009\_OMEN.inv\_k1\_0.0175\_k2ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4126

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_13\_Archeretal2009\_OMEN.inv\_k1\_0.032\_k2ord\_8 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4127

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_20\_Archeretal2009\_OMEN.inv\_k1\_0.045\_k2ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4128

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_07\_Archeretal2009\_OMEN.inv\_k1\_0.028\_k2ord\_8 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4129

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_14\_Archeretal2009\_OMEN.inv\_k1\_0.04\_k2ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4130

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1406\_21\_Archeretal2009\_OMEN.inv\_k1\_0.005\_k2ord\_1 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**####15.06. analyse Boudreau more in depth 2 – 9 orelation between k1 and k2**

**#### use upper 5cm instead of 10cm for calculated OM wt%:**

01) Boudreau using k2 = k1/2

4131

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1506\_01\_Archeretal2009\_OMEN.boudreau1997\_2\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

02) Boudreau using k2 = k1/3

4132

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1506\_02\_Archeretal2009\_OMEN.boudreau1997\_3\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

03) Boudreau using k2 = k1/4

4133

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1506\_03\_Archeretal2009\_OMEN.boudreau1997\_4\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

04) Boudreau using k2 = k1/6

4134

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1506\_04\_Archeretal2009\_OMEN.boudreau1997\_6\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

05) Boudreau using k2 = k1/7

4135

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1506\_05\_Archeretal2009\_OMEN.boudreau1997\_7\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

06) Boudreau using k2 = k1/8

4136

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1506\_06\_Archeretal2009\_OMEN.boudreau1997\_8\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

07) Boudreau using k2 = k1/9

4137

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/02\_OMEN\_GENIE\_PreInd\_June2017 1506\_07\_Archeretal2009\_OMEN.boudreau1997\_9\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**####12.07./14.07. COMPARE OLD/NEW sedimentation rate (see Andy Email: 11.07.2017)**

**#### ALSO upper 5cm instead of 10cm for calculated OM wt%:**

**THE OLD ONE IS THE SEDIMENTATION RATE!!! THEREFORE OFTEN TOO HIGH**

01) Boudreau using k2 = k1/25 – still using sedimentation rate

4232

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1207\_Archer\_Boudreau\_TEST\_old\_w 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

02) Boudreau using k2 = k1/25 NOW USING BURIAL RATE FROM PREVIOUS TIME-STEP & set to detrital flux of lower than that (and cut at 4.0e-4 before was 5.0e-4)

4242

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1207\_Archer\_Boudreau\_TEST\_new\_w 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**####14.07. CHECK SOME OLD EXPERIMENTS WITH NEW BURIAL RATE**

01) Boudreau using k2 = k1/5

4243

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1407\_01\_Archeretal2009\_OMEN.boudreau1997\_5\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

02) Boudreau using k2 = k1/8

4244

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1407\_02\_Archeretal2009\_OMEN.boudreau1997\_8\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

3) k invariant: k1=0.02, k2=0.004; ordnung = 5

4247

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1407\_03\_Archeretal2009\_OMEN.inv\_k1\_0.02\_k2ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4) k invariant: k1=0.018, k2=0.0045; ordnung = 4

4246

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017  2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**####15.07. NEW BURIAL RATE: Boudreau and** **invariant analysis from restart**

**Boudreau**

01) Boudreau using k2 = k1/2

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_01\_Archeretal2009\_OMEN.boudreau1997\_2\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

02) Boudreau using k2 = k1/3

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_02\_Archeretal2009\_OMEN.boudreau1997\_3\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

03) Boudreau using k2 = k1/4

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_03\_Archeretal2009\_OMEN.boudreau1997\_4\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

04) Boudreau using k2 = k1/10

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_04\_Archeretal2009\_OMEN.boudreau1997\_10\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

05) Boudreau using k2 = k1/25

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_05\_Archeretal2009\_OMEN.boudreau1997\_25\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

06) Boudreau using k2 = k1/50

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_06\_Archeretal2009\_OMEN.boudreau1997\_50\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

07) Boudreau using k2 = k1/75

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_07\_Archeretal2009\_OMEN.boudreau1997\_75\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

08) Boudreau using k2 = k1/100

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_08\_Archeretal2009\_OMEN.boudreau1997\_100\_fromrestart\_5cm 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**invariant**

4267

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_09\_Archeretal2009\_OMEN.inv\_k2\_0.004\_k1\_0.008\_ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4268

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_10\_Archeretal2009\_OMEN.inv\_k2\_0.004\_k1\_0.016\_ord\_4 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4269

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_11\_Archeretal2009\_OMEN.inv\_k2\_0.004\_k1\_0.02\_ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4270

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_12\_Archeretal2009\_OMEN.inv\_k2\_0.004\_k1\_0.032\_ord\_8 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4271

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_13\_Archeretal2009\_OMEN.inv\_k2\_0.004\_k1\_0.04\_ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4272

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_14\_Archeretal2009\_OMEN.inv\_k2\_0.0045\_k1\_0.009\_ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4273

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_15\_Archeretal2009\_OMEN.inv\_k2\_0.0045\_k1\_0.018\_ord\_4 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4274

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_16\_Archeretal2009\_OMEN.inv\_k2\_0.0045\_k1\_0.0225\_ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4275

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_17\_Archeretal2009\_OMEN.inv\_k2\_0.0045\_k1\_0.036\_ord\_8 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4276

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_18\_Archeretal2009\_OMEN.inv\_k2\_0.0045\_k1\_0.045\_ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4277

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_19\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.01\_ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4278

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_20\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.02\_ord\_4 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4279

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_21\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.025\_ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4280

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_22\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.04\_ord\_8 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4281

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_23\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.05\_ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4282

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_24\_Archeretal2009\_OMEN.inv\_k2\_0.0055\_k1\_0.011\_ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4283

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_25\_Archeretal2009\_OMEN.inv\_k2\_0.0055\_k1\_0.022\_ord\_4 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4284

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_26\_Archeretal2009\_OMEN.inv\_k2\_0.0055\_k1\_0.0275\_ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4285

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_27\_Archeretal2009\_OMEN.inv\_k2\_0.0055\_k1\_0.044\_ord\_8 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4286

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_28\_Archeretal2009\_OMEN.inv\_k2\_0.0055\_k1\_0.055\_ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4287

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_29\_Archeretal2009\_OMEN.inv\_k2\_0.006\_k1\_0.012\_ord\_2 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4288

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_30\_Archeretal2009\_OMEN.inv\_k2\_0.006\_k1\_0.024\_ord\_4 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4289

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_31\_Archeretal2009\_OMEN.inv\_k2\_0.006\_k1\_0.03\_ord\_5 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4290

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_32\_Archeretal2009\_OMEN.inv\_k2\_0.006\_k1\_0.048\_ord\_8 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

4291

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_33\_Archeretal2009\_OMEN.inv\_k2\_0.006\_k1\_0.06\_ord\_10 2000 EXAMPLE.worjh2.Archeretal2009.SPIN

**20000 year runs from cold**

**Boudreau**

34) Boudreau relation with depth dependent  **TAKEN FOR GMD**

par\_sed\_huelse2017\_k2\_order = [2, 5, 10, 25, 25, 25, 25] **finished**

job 4292

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_34\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep 20000

35) Boudreau using k2 = k1/2 **finished**

4293

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_35\_Archeretal2009\_OMEN.boudreau1997\_2 20000

36) Boudreau using k2 = k1/3

4294

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_36\_Archeretal2009\_OMEN.boudreau1997\_3 20000

37) Boudreau using k2 = k1/4

4295

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_37\_Archeretal2009\_OMEN.boudreau1997\_4 20000

38) Boudreau using k2 = k1/5  **TAKEN FOR GMD**

4296

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_38\_Archeretal2009\_OMEN.boudreau1997\_5 20000

39) Boudreau using k2 = k1/8

4297

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_39\_Archeretal2009\_OMEN.boudreau1997\_8 20000

40) Boudreau using k2 = k1/10 **finished**

4298

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_40\_Archeretal2009\_OMEN.boudreau1997\_10 20000

41) Boudreau using k2 = k1/25 **---> CRASHED after 235 years**

4299

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_41\_Archeretal2009\_OMEN.boudreau1997\_25 20000

42) Boudreau using k2 = k1/50

4300

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_42\_Archeretal2009\_OMEN.boudreau1997\_50 20000

43) Boudreau using k2 = k1/100 **finished**

4301

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_43\_Archeretal2009\_OMEN.boudreau1997\_100 20000

**17.07.2017 20000 year runs from cold – invariant k**

4323 **test for GMD**

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_01\_Archeretal2009\_OMEN.inv\_k2\_0.0045\_k1\_0.009\_ord\_2 20000

4324

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_02\_Archeretal2009\_OMEN.inv\_k2\_0.0045\_k1\_0.0135\_ord\_3 20000

4325

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_03\_Archeretal2009\_OMEN.inv\_k2\_0.0045\_k1\_0.018\_ord\_4 20000

4326

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_04\_Archeretal2009\_OMEN.inv\_k2\_0.0045\_k1\_0.0225\_ord\_5 20000

4327

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_05\_Archeretal2009\_OMEN.inv\_k2\_0.0045\_k1\_0.045\_ord\_10 20000

4328

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_06\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.01\_ord\_2 20000

4329  **TAKEN FOR GMD**

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_07\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.015\_ord\_3 20000

4330

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_08\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.02\_ord\_4 20000

4331

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_09\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.025\_ord\_5 20000

4332

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_10\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.05\_ord\_10 20000

433

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_11\_Archeretal2009\_OMEN.inv\_k2\_0.0055\_k1\_0.011\_ord\_2 20000

4334

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_12\_Archeretal2009\_OMEN.inv\_k2\_0.0055\_k1\_0.0165\_ord\_3 20000

4335

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_13\_Archeretal2009\_OMEN.inv\_k2\_0.0055\_k1\_0.022\_ord\_4 20000

4336

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_14\_Archeretal2009\_OMEN.inv\_k2\_0.0055\_k1\_0.0275\_ord\_5 20000

4337

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_15\_Archeretal2009\_OMEN.inv\_k2\_0.0055\_k1\_0.055\_ord\_10 20000

4338

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_16\_Archeretal2009\_OMEN.inv\_k2\_0.006\_k1\_0.012\_ord\_2 20000

4342

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_17\_Archeretal2009\_OMEN.inv\_k2\_0.006\_k1\_0.018\_ord\_3 20000

4343

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_18\_Archeretal2009\_OMEN.inv\_k2\_0.006\_k1\_0.024\_ord\_4 20000

4345

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_19\_Archeretal2009\_OMEN.inv\_k2\_0.006\_k1\_0.03\_ord\_5 20000

4347

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_20\_Archeretal2009\_OMEN.inv\_k2\_0.006\_k1\_0.06\_ord\_10 20000

4348

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_21\_Archeretal2009\_OMEN.inv\_k2\_0.0065\_k1\_0.013\_ord\_2 20000

4349

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_22\_Archeretal2009\_OMEN.inv\_k2\_0.0065\_k1\_0.0195\_ord\_3 20000

4350

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_23\_Archeretal2009\_OMEN.inv\_k2\_0.0065\_k1\_0.026\_ord\_4 20000

4351

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_24\_Archeretal2009\_OMEN.inv\_k2\_0.0065\_k1\_0.0325\_ord\_5 20000

4352

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_25\_Archeretal2009\_OMEN.inv\_k2\_0.0065\_k1\_0.065\_ord\_10 20000

4353  **TAKEN FOR GMD**

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_26\_Archeretal2009\_OMEN.inv\_k2\_0.007\_k1\_0.014\_ord\_2 20000

4354

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_27\_Archeretal2009\_OMEN.inv\_k2\_0.007\_k1\_0.021\_ord\_3 20000

4355

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_28\_Archeretal2009\_OMEN.inv\_k2\_0.007\_k1\_0.028\_ord\_4 20000

4356

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_29\_Archeretal2009\_OMEN.inv\_k2\_0.007\_k1\_0.035\_ord\_5 20000

4357  **TAKEN FOR GMD**

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1707\_30\_Archeretal2009\_OMEN.inv\_k2\_0.007\_k1\_0.07\_ord\_10 20000

**----- Run crashed Boudreau experiment (1507\_41 - korder = 25) again from the 233 restart file.... then it ran interactively at least for 20 years...**

4367

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1507\_41\_Archeretal2009\_OMEN.boudreau1997\_25\_fromRestart 20000 1707\_41\_Archeretal2009\_OMEN.boudreau1997\_25\_233years

**15.08.2017 CHECK NEGATIVE O2 concentrations at high LATS**

**run Boudreau depth-dep from restart as OPEN SYSTEM, ALL FLUXES in ROKGEM=0.0 and all PO4 remineralised**

5516

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1508\_01\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN 1000 1507\_34\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep

Same now for 5000 years

5532

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1508\_02\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_5000 5000 1507\_34\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep

**16.08.2017**

**As before BUT NOW restore CaCO3 in ROKGEM (flux <> 0.0) –** otherwise drift in DIC and ALK

set rg\_par\_weather\_CaCO3 to Total CaCO3 pres : 0.843764E+13 mol yr-1 from seddiag\_misc\_DATA\_GLOBAL.res from 0606\_01\_SPIN\_NoOMEN

also set rg\_par\_weather\_CaCO3\_d13C=3.176

01) from Boudreau depth dependent restart 1000 years

5558

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1608\_01\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_withCaCO3\_1000 1000 1507\_34\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep

02) from Boudreau depth dependent restart 5000 years

5559

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1608\_02\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_withCaCO3\_5000 5000 1507\_34\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep

03) from 0606\_01 NO\_OMEN restart 1000 years

5560

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1608\_03\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_withCaCO3\_1000 1000 0606\_01\_EXAMPLE.worjh2.Archeretal2009.SPIN1

04) from 0606\_01 NO\_OMEN restart 5000 years

5561

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1608\_04\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_withCaCO3\_5000 5000 0606\_01\_EXAMPLE.worjh2.Archeretal2009.SPIN1

**SEEMS TO WORK WITH CaCO3 restore from 060601 SPIN see 1608\_Timeseries\_SPIN\_and\_OMEN\_NoPO4\_CaCO3restore.pdf**

**So run experiments where I want to show SWI-fluxes and zox for 20000, make new figure (and compare POC wt% with former results in GMD ms):**

05) Boudreau depth dependent **Run from cold with restore CaCO3 in ROKGEM (flux <> 0.0)**

with rg\_par\_weather\_CaCO3=0.843764E+13 from 0606\_01 noOMEN SPIN

5567 STILL RUNNING 18.08.

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1608\_05\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_withCaCO3 20000

06) Invariant as 1707\_07 k2\_0.005\_k1\_0.015\_ord\_3 **Run from cold with restore CaCO3 in ROKGEM (flux <> 0.0)**

5568 STILL RUNNING 18.08.

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1608\_06\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.015\_ord\_3 20000

**1608\_Timeseries\_SPIN\_and\_OMEN\_NoPO4\_withCaCO3restore\_final.eps:**

**all in Steady state apart from ALK&DIC (probably bc. CaCO3 not in equilibrium yet)**

**19.08.2017 Do last two runs for 30kyrs, 40kyrs from cold (and from restart 10kyrs more)**

01) Boudreau depth dependent **Run from cold with restore CaCO3 in ROKGEM (flux <> 0.0)**

with rg\_par\_weather\_CaCO3=0.843764E+13 from 0606\_01 noOMEN SPIN

5625 checked 2108

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1908\_01\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_withCaCO3noOMEN\_30kyrs 30000

02) Boudreau depth dependent **Run from cold with restore CaCO3 in ROKGEM (flux <> 0.0)**

with rg\_par\_weather\_CaCO3=0.843764E+13 from 0606\_01 noOMEN SPIN

5626

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1908\_02\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_withCaCO3noOMEN\_40kyrs 40000

03) Boudreau depth dependent **Run from cold with restore CaCO3 in ROKGEM (flux <> 0.0)**

with rg\_par\_weather\_CaCO3=0.817733E+13 from 1507\_34\_CLOSED\_depthdep SPIN

5627 checked 2108 **finished 22.08.**

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1908\_03\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_withCaCO3Boudr\_30kyrs 30000

04) Boudreau depth dependent **Run from cold with restore CaCO3 in ROKGEM (flux <> 0.0)**

with rg\_par\_weather\_CaCO3=0.817733E+13 from 1507\_34\_CLOSED\_depthdep SPIN

5628

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1908\_04\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_withCaCO3Boudr\_40kyrs 40000

TO SPEED UP RESULTS RUN 10 & 20 kyrs more from RESTARTS:

05) Boudreau depth dependent **Run from restart 1608\_05 with restore CaCO3 in ROKGEM (flux <> 0.0)**

with rg\_par\_weather\_CaCO3=0.843764E+13 from 0606\_01 noOMEN SPIN

5629 **READY**

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1908\_05\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_withCaCO3noOMEN\_10kyrsfromSPIN 10000 1608\_05\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_withCaCO3

06) Boudreau depth dependent **Run from restart 1608\_05 with restore CaCO3 in ROKGEM (flux <> 0.0)**

with rg\_par\_weather\_CaCO3=0.843764E+13 from 0606\_01 noOMEN SPIN

5630 **READY**

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1908\_06\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_withCaCO3noOMEN\_20kyrsfromSPIN 20000 1608\_05\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_PO4remin\_OPEN\_withCaCO3

NOW DO THE INVARIANT EXP AS WELL FOR 30kyrs and 10kyrs more from RESTART

07) Invariant as 1707\_07 k2\_0.005\_k1\_0.015\_ord\_3 **Run from restart 1608\_06 with restore CaCO3 in ROKGEM (flux <> 0.0)** with rg\_par\_weather\_CaCO3=0.843764E+13 from 0606\_01 noOMEN SPIN

5631 **READY**

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1908\_07\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.015\_ord\_3\_PO4remin\_OPEN\_withCaCO3noOMEN\_10kyrsfromSPIN 10000 1608\_06\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.015\_ord\_3

08) Invariant as 1707\_07 k2\_0.005\_k1\_0.015\_ord\_3 **Run from coldwith restore CaCO3 in ROKGEM (flux <> 0.0)** with rg\_par\_weather\_CaCO3=0.843764E+13 from 0606\_01 noOMEN SPIN

5632 checked 2108 **finished 22.08.**

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1908\_08\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.015\_ord\_3\_PO4remin\_OPEN\_withCaCO3noOMEN\_30kyrs 30000

09) Invariant as 1707\_07 k2\_0.005\_k1\_0.015\_ord\_3 **Run from coldwith restore CaCO3 in ROKGEM (flux <> 0.0)** with rg\_par\_weather\_CaCO3=0.787046E+13 from 1707\_07\_CLOSED\_inv SPIN

5633 checked 2108

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/03\_OMEN\_GENIE\_PreInd\_July2017 1908\_09\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.015\_ord\_3\_PO4remin\_OPEN\_withCaCO3invOMEN\_30kyrs 30000

**23.08.2017 NOW USE PRESCRIBED SOLID FIELDS (see Email Andy 22.08. MUDS & your daily opal new)**

**DELETED ALL 2308 RUNS before as DRIFT in ALK,DIC (&PO4) see .eps files**

Not 100% about the format of the flux files (see Email to Jamie 23.08.)

Not sure if to run without ROKGEM or with ROKGEM but as open system and zero weathering fluxes

FIRST TRY with ROKGEM as OPEN system and zero weathering fluxes &&& tab delimited:

01) NO OMEN as Archer SPIN1 with fast sinking (like 0606\_02)

5695

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2308\_01\_EXAMPLE.worjh2.Archeretal2009.SPIN1\_fastsinking\_solidfields\_OPEN 10000

02) AS 01) just for 20kyrs

5696

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2308\_02\_EXAMPLE.worjh2.Archeretal2009.SPIN1\_fastsinking\_solidfields\_OPEN\_20kyrs 20000

03) WITH OMEN as 1707\_07 – Invariant k1 = 0.015, korder = 3

5697

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2308\_03\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.015\_ord\_3\_solidfields\_OPEN 10000

04) as 03) just 20kyrs (seems to work fine – NO INSANE values :

2. dum\_sed\_pres\_fracC inf (A21 insane) )

5698

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields  2308\_04\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.015\_ord\_3\_solidfields\_OPEN\_20kyrs 20000

05) WITH OMEN as 1507\_34 Boudreau depth dependent: ( get a lot of insane values for deep ocean > 3000m (but that was the case for 1507\_34 as well.... works for kord = 10 though

par\_sed\_huelse2017\_k2\_order = [2, 5, 10, 25, 25, 25, 25]

5699 PROBALY OVERWRITTEN AS STARTED LATER WHEN I WANTED TO START 2308\_11

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields  2308\_05\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_solidfields\_OPEN 10000

06) as 05) just 20kyrs

5700

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields  2308\_06\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_solidfields\_OPEN\_20kyrs 20000

**BEFORE SYSTEM WAS NOT CLOSED FOR CaCO3.... new parameter**

**# Set dissolution flux = rain flux for CaCO3 ONLY (i.e. closed system for CaCO3)**

**bg\_ctrl\_force\_sed\_closedsystem\_CaCO3=.true.**

**ALSO USE DIFFERENT FORCING FOLDER AS I HAVE NOW OPAL&DETRITAL PRESCRIBED, USE NOW:**

**worjh2.RpCO2\_Rp13CO2 instead of worjh2.RpCO2\_Rp13CO2.detplusopalSED**

07) NO OMEN as Archer SPIN1 with fast sinking (like 0606\_02)

5711

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2308\_07\_EXAMPLE.worjh2.Archeretal2009.SPIN1\_fastsinking\_solidfields\_ClosedCaCO3 10000

08) AS 01) just for 20kyrs

**NOT SUBMITTED YET**

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2308\_08\_EXAMPLE.worjh2.Archeretal2009.SPIN1\_fastsinking\_solidfields\_ClosedCaCO3\_20kyrs 20000

09) WITH OMEN as 1707\_07 – Invariant k1 = 0.015, korder = 3

5712

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2308\_09\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.015\_ord\_3\_solidfields\_ClosedCaCO3 10000

10) as 03) just 20kyrs (seems to work fine – NO INSANE values :

2. dum\_sed\_pres\_fracC inf (A21 insane) )

**NOT SUBMITTED YET**

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2308\_10\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.015\_ord\_3\_solidfields\_ClosedCaCO3\_20kyrs 20000

11) WITH OMEN as 1507\_34 Boudreau depth dependent: ( get a lot of insane values for deep ocean > 3000m (but that was the case for 1507\_34 as well.... works for kord = 10 though

par\_sed\_huelse2017\_k2\_order = [2, 5, 10, 25, 25, 25, 25]

5713

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields  2308\_11\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_solidfields\_ClosedCaCO3 10000

**24.08.2017 NOW USE PRESCRIBED SOLID FIELDS (see Email Andy 22.08. MUDS & your daily opal new) + ALSO new setup to close the system Email Andy 24.08. “MUDS”)**

Settings:

bg\_ctrl\_force\_sed\_closedsystem=.false.  
rg\_par\_weather\_CaCO3=0.0  
  
sg\_ctrl\_sed\_Fcaco3=.true.  
sg\_par\_sed\_Fcaco3\_name='worbe2\_Fsed\_caco3.36x36'  
sg\_ctrl\_force\_sed\_closedsystem\_CaCO3=.true.

01) NO OMEN as Archer SPIN1 with fast sinking (like 0606\_02)

impose CaCO3, opal & detrial fields and use my new forcing file worjh2.RpCO2\_Rp13CO2

5739

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2408\_01\_EXAMPLE.worjh2.Archeretal2009.SPIN1\_fastsinking\_ALLsolidfields\_ClosedCaCO3 10000

02) NO OMEN as Archer SPIN1 with fast sinking (like 0606\_02)

impose only CaCO3 field and use old forcing file worjh2.RpCO2\_Rp13CO2.detplusopalSED

5740

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2408\_02\_EXAMPLE.worjh2.Archeretal2009.SPIN1\_fastsinking\_CaCO3solidfields\_ClosedCaCO3 10000

03) WITH OMEN as 1707\_07 – Invariant k1 = 0.015, korder = 3

impose CaCO3, opal & detrial fields and use my new forcing file worjh2.RpCO2\_Rp13CO2

5741

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2408\_03\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.015\_ord\_3\_ALLsolidfields\_ClosedCaCO3 10000

04) WITH OMEN as 1707\_07 – Invariant k1 = 0.015, korder = 3

impose only CaCO3 field and use old forcing file worjh2.RpCO2\_Rp13CO2.detplusopalSED

5743

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2408\_04\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.015\_ord\_3\_CaCO3solidfields\_ClosedCaCO3 10000

05) WITH OMEN as 1507\_34 Boudreau depth dependent:

par\_sed\_huelse2017\_k2\_order = [2, 5, 10, 25, 25, 25, 25]

impose CaCO3, opal & detrial fields and use my new forcing file worjh2.RpCO2\_Rp13CO2

( get a lot of insane values for deep ocean > 3000m (but that was the case for 1507\_34 as well.... works for e.g. kord = 10 though

5746

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields  2408\_05\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_Allsolidfields\_ClosedCaCO3 10000

06) WITH OMEN as 1507\_34 Boudreau depth dependent:

par\_sed\_huelse2017\_k2\_order = [2, 5, 10, 25, 25, 25, 25]

impose only CaCO3 field and use old forcing file worjh2.RpCO2\_Rp13CO2.detplusopalSED

( get a lot of insane values for deep ocean > 3000m (but that was the case for 1507\_34 as well.... works for e.g. kord = 10 though

5747

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2408\_06\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_CaCO3solidfields\_ClosedCaCO3 10000

07) NO OMEN as Archer SPIN1 with fast sinking (like 0606\_02) AS 2408\_01 just 20kyrs

impose CaCO3, opal & detrial fields and use my new forcing file worjh2.RpCO2\_Rp13CO2

5791

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2408\_07\_EXAMPLE.worjh2.Archeretal2009.SPIN1\_fastsinking\_ALLsolidfields\_ClosedCaCO3\_20kyrs 20000

08) WITH OMEN as 1707\_07 – Invariant k1 = 0.015, korder = 3 AS 2408\_03 just 20kyrs

impose CaCO3, opal & detrial fields and use my new forcing file worjh2.RpCO2\_Rp13CO2

5792

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields 2408\_08\_Archeretal2009\_OMEN.inv\_k2\_0.005\_k1\_0.015\_ord\_3\_ALLsolidfields\_ClosedCaCO3\_20kyrs 20000

09) WITH OMEN as 1507\_34 Boudreau depth dependent: AS 2408\_05 just 20kyrs

par\_sed\_huelse2017\_k2\_order = [2, 5, 10, 25, 25, 25, 25]

impose CaCO3, opal & detrial fields and use my new forcing file worjh2.RpCO2\_Rp13CO2

( get a lot of insane values for deep ocean > 3000m (but that was the case for 1507\_34 as well.... works for e.g. kord = 10 though

5793

qsub -j y -o cgenie\_log -V -S /bin/bash runmuffin.sh cgenie.eb\_go\_gs\_ac\_bg\_sg\_rg.worjh2.BASES DOM/05\_OMEN\_GENIE\_PreInd\_Aug2017\_solidfields  2408\_09\_Archeretal2009\_OMEN.boudreau1997\_k\_depthdep\_Allsolidfields\_ClosedCaCO3\_20kyrs 20000