

CROCO – training 2022

Architecture CROCO

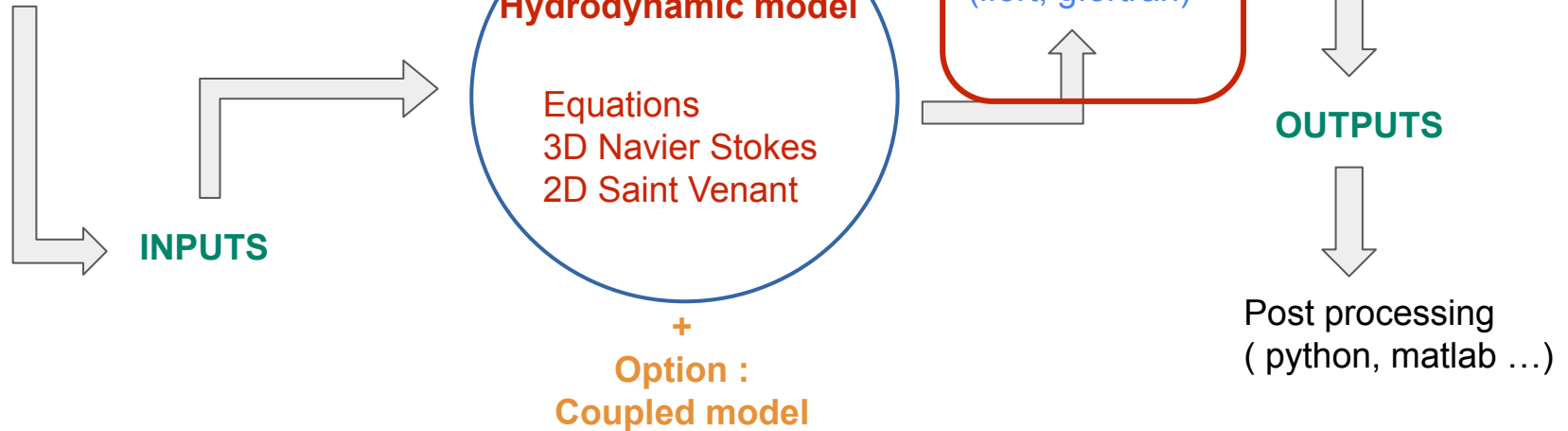


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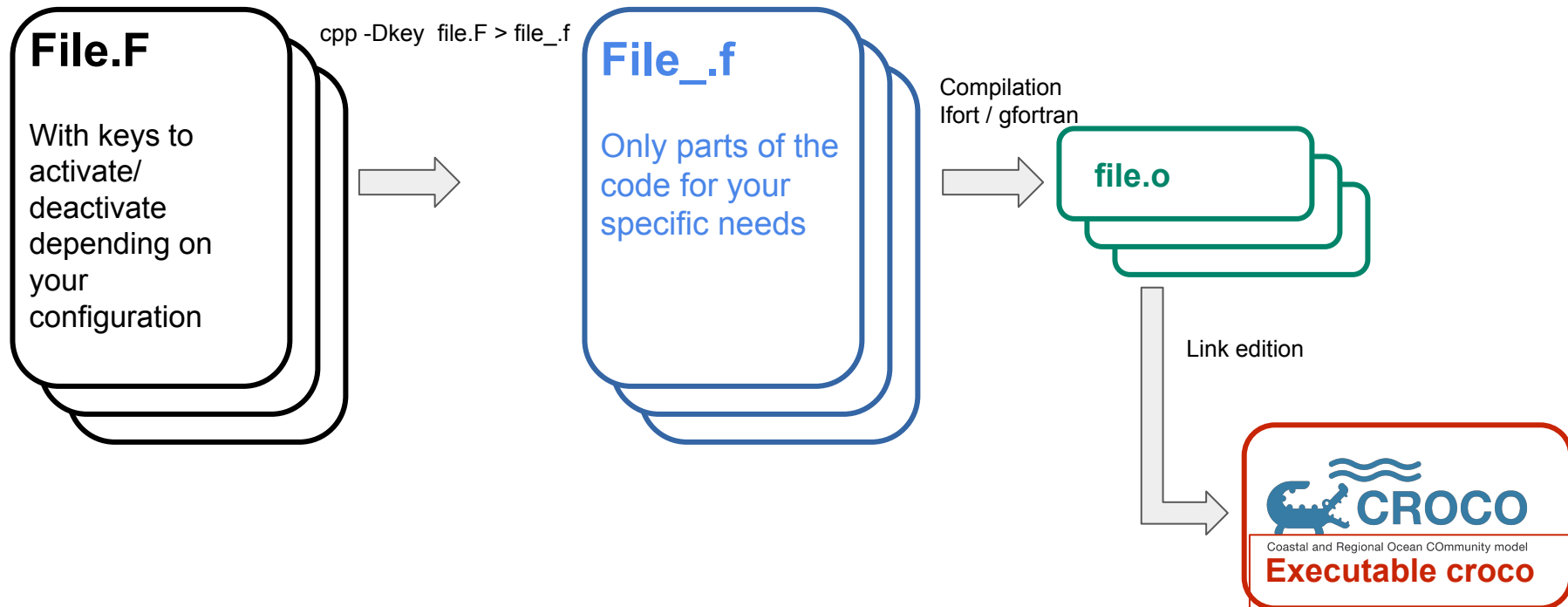
How does it work?

Préprocessing

- Bathymetry
- Initial condition
- Boundary conditions
- Forcing (atmosphere, wave, rivers...)
- Parameters ...



Compilation in 2 steps



Compilation with CPP keys

file.F

cpp -DCAS1 file.F > file_.f

file_.f

PROGRAM test_clefCPP

IMPLICIT NONE
integer :: a,b

! b va etre remplace par 2*a dans le code dans le fichier .f90

#define b 2*a

a=0

#ifdef CAS1
a=1
WRITE(*,*)''
WRITE(*,*)'clef activee=CAS1'
WRITE(*,*)'a=',a
WRITE(*,*)''

#elif CAS2
a=2
WRITE(*,*)''
WRITE(*,*)'clef activee=CAS2'
WRITE(*,*)'a=',a
WRITE(*,*)''

#endif

WRITE(*,*)''
write(*,*) 'b est remplace par 2*a dans le code! b= ',b
WRITE(*,*)''

END PROGRAM test_clefCPP

PROGRAM test_clefCPP

IMPLICIT NONE
integer :: a,b

! b va etre remplace par 2*a dans le code dans le fichier .f90

a=0

a=1
WRITE(*,*)''
WRITE(*,*)'clef activee=CAS1'
WRITE(*,*)'a=',a
WRITE(*,*)''

empty

WRITE(*,*)''
write(*,*) 'b est remplace par 2*a dans le code! b=:2*a
WRITE(*,*)''

END PROGRAM test_clefCPP

Compilation with CPP keys

file.F

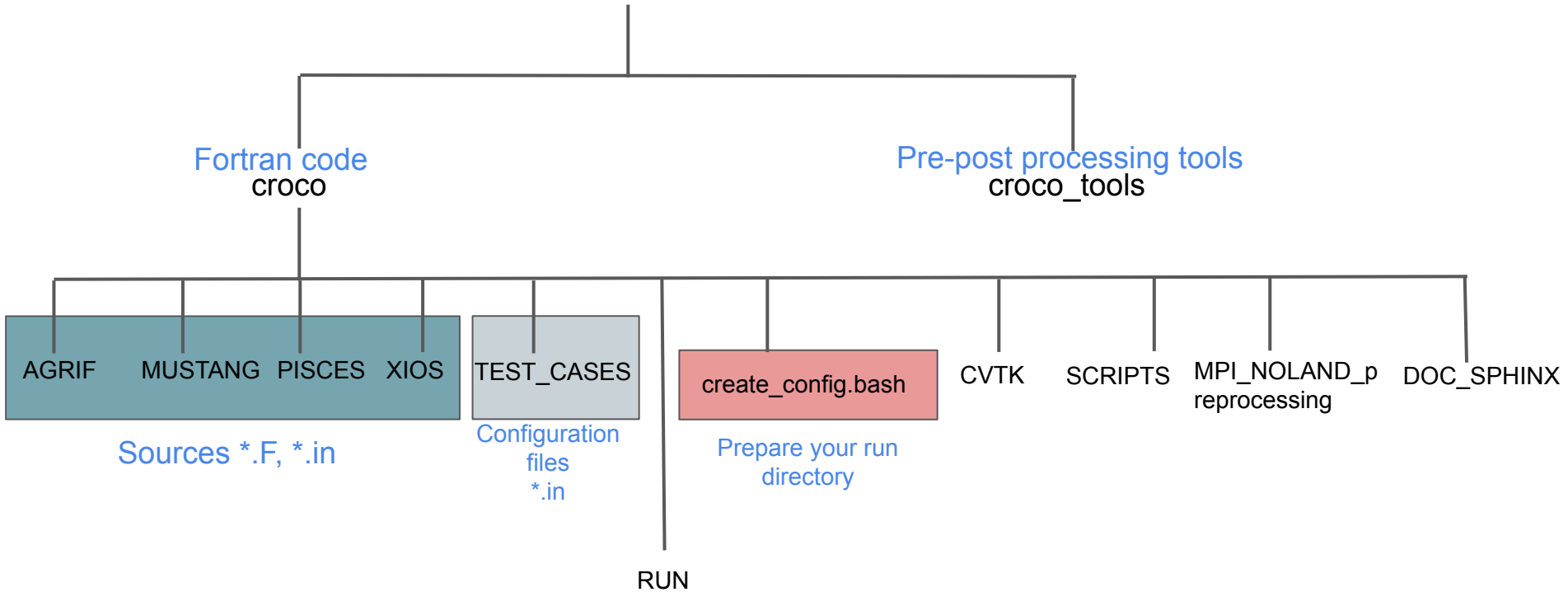
```
16 !
17 #include "cppdefs.h"
18     subroutine step()
19         implicit none
20 #include "param.h"
21 #include "scalars.h"
22 #include "zoom.h"
23 #include "grid.h"
24 #include "coupling.h"
25 #include "ocean3d.h"
26 #include "ocean2d.h"
27 #include "mpi_cpl.h"
28 #ifdef MUSTANG
29 # include "coupler_define_MUSTANG.h"
30 #endif
31
32 #ifdef AGRIF
33     IF (agrif_fixed().NE.sortedint(nbtimes)) return
34     nbtimes = nbtimes + 1
35 #endif
36
37 !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
38 #ifdef SOLVE3D
39
40 #if defined OA_COUPLING || defined OW_COUPLING
41 !--Get phase of OASIS3
42     if ( (iif==-1).and.(oasis_time>=0).and.(nbstep3d
43 !         print *, 'oasis time before get = ', oasis_ti
44         call cpl_prism_get (oasis_time)
45 #endif AGRIF
46     else if ((.not.agrif_root()).and.(iif==-1).and.
47 &         (oasis_time>=0).and.(nbtimes<=Agrif_Max
48 &         (nbprtime<nbmaxprtime)) then
49         call cpl_prism_get (oasis_time)
```

file_f

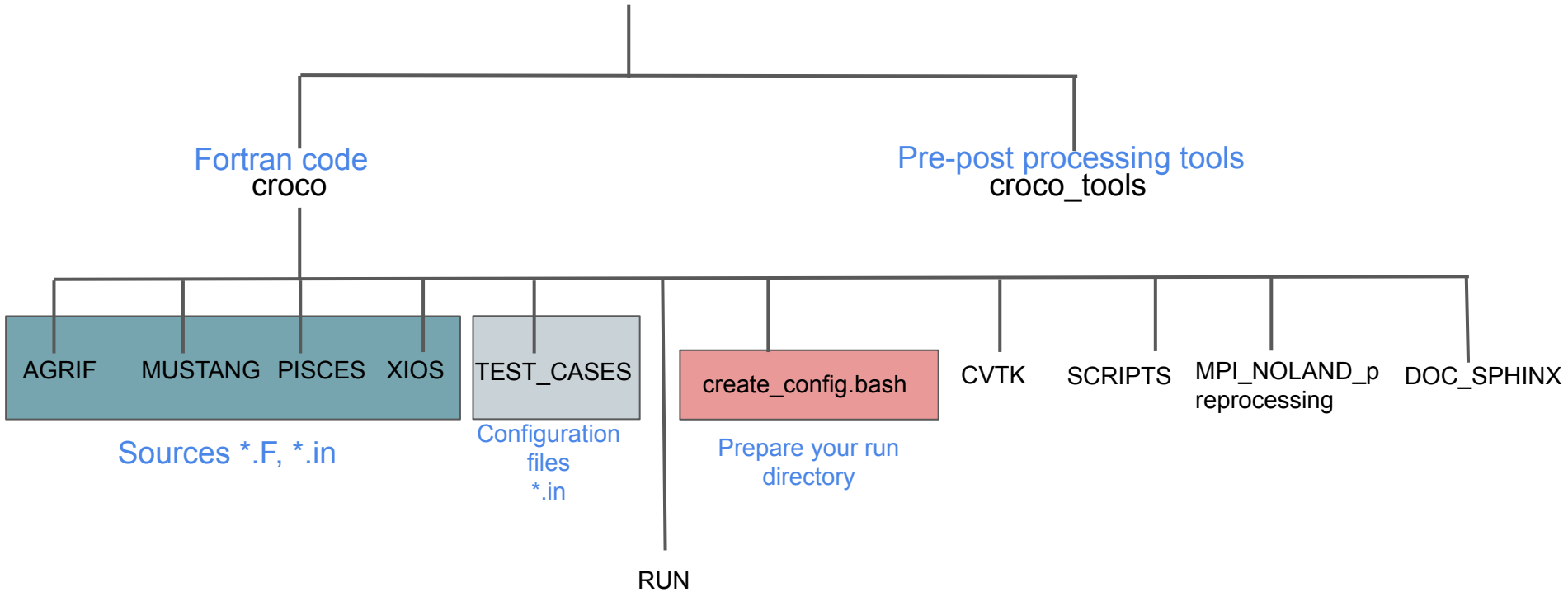
```
real zeta(GLOBAL_2D_ARRAY,4)
real ubar(GLOBAL_2D_ARRAY,4)
real vbar(GLOBAL_2D_ARRAY,4)
common /ocean_zeta/zeta
common /ocean_ubar/ubar
common /ocean_vbar/vbar
```

Each include is
paste in file_f

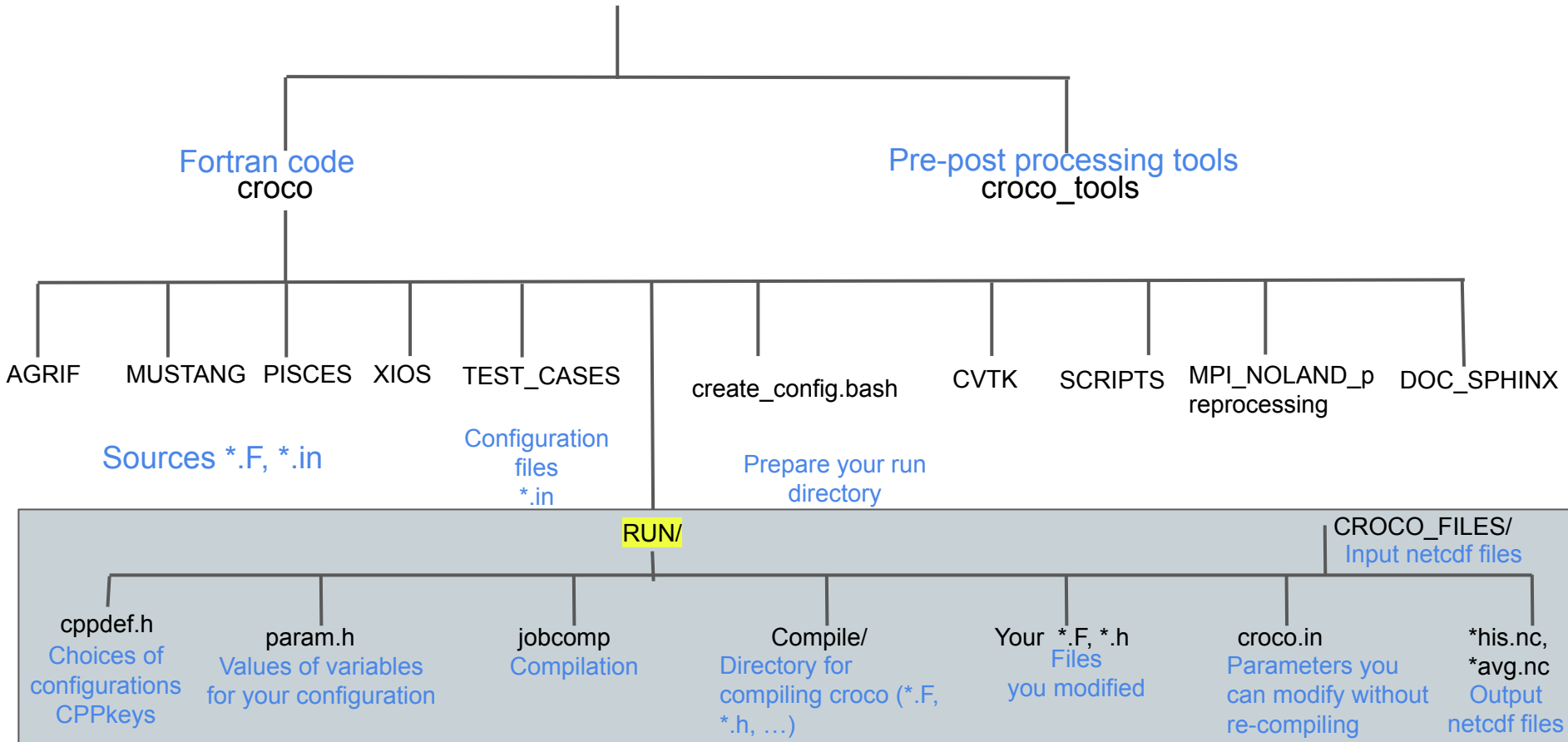
Architecture of CROCO sources



Architecture of CROCO sources



Your configuration



Compilation

