Input files for MUSC
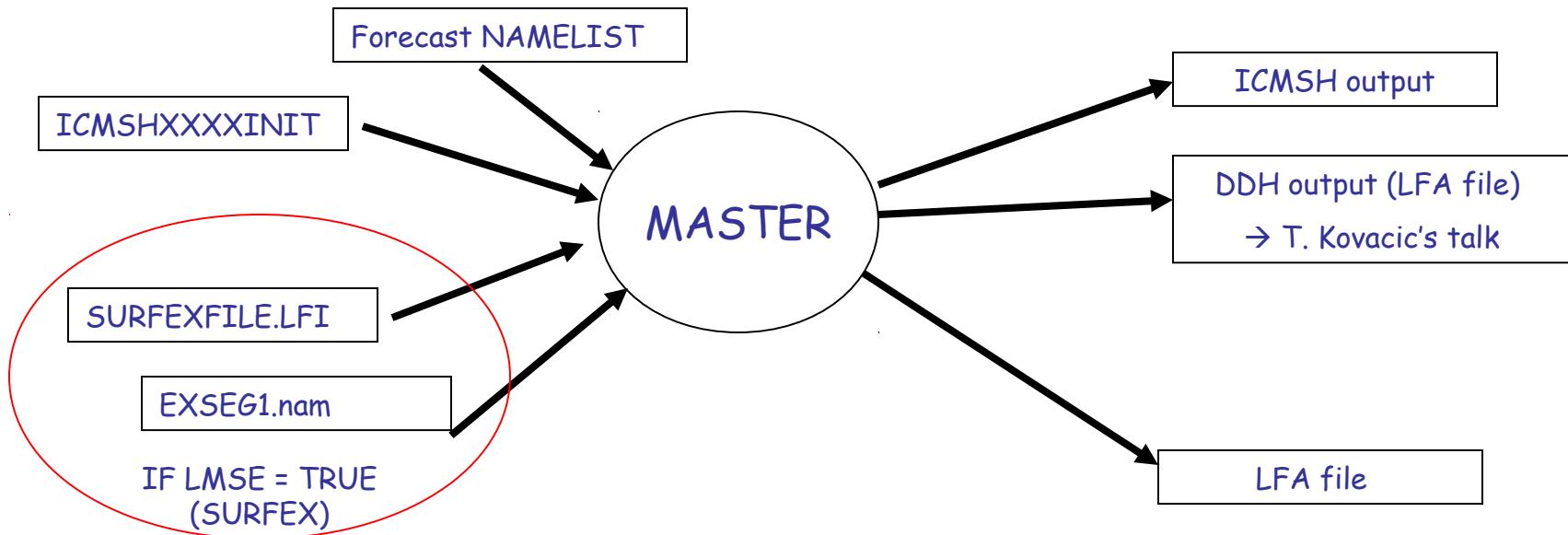
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MUSC Working week

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Input files

- For the input file MUSC uses EXACTLY the same type of input file as the 3D model

ICMSH file (FA)

• Contains the atmospheric profile + additional fields (ozone, aerosol) and surface fields even if SURFEX is used (for ARPEGE/ALADIN) + atmospheric forcing

• **ascii2fa** reads a namelist called nam1D and creates a ICMSH file called "1D.file"

• **ascii2fa** is not a general program and not really "flexible". It is recommended to check carefully the output file before running MUSC

• For a new case the main difficulties is to create the namelist nam1D from the forcing data. Each case is particular.

ICMSH file (FA)

```
&NAM1D , LMAP=.F.  IFLEV=70, ZDELY=250000., LNHDYN=.FALSE., LALAPHYS=.T.,  LREASUR=.T.,  NFORC=5,
LQCGRP  = .T.  LQIGRP  = .F.  LQRGRP  = .F.  LQSGRP  = .F.  LQGGRP  = .F.  LCFGRP  = .F.  LSRCGRP  = .F.  LTKEGRP  = .T.
 IYEAR=1992   IMONTH=7 IDAY=15 IHH=18 IMIN=00
/
ETA
 vah   0.  19.8
Vbh …….

U ….
V ….
ATMOSPHERE
 zorog
 0.
 ps (Pa)
 101681.1
 U
 -39.77068 …..
FORCING
W  0.000021 0.000021 …..     Named in the file FORC001
T ……                    Named in the file FORC002
SURFAEROS.SEA
8E-3
SURFAEROS.LAND
……
```

PGD file

Pgd_exe reads PRE_PGD1.nam and creates pgd_ideal.lfi

Cat PRE_PGD1.nam_ASTEX_SST

&NAM_PGDFILE CPGDFILE='pgd_ideal' /

&NAM_PGD_SCHEMES CSEA='SEAFLX' /

&NAM_PGD_GRID CGRID='CARTESIAN' /

&NAM_CARTESIAN XLAT0=34. , XLON0=-25. , NIMAX=1 , NJMAX=4 , XDX=250000. , XDY=250000. /

&NAM_FRAC LECOCLIMAP = F, XUNIF_SEA = 1., XUNIF_WATER = 0., XUNIF_TOWN = 0.,
 XUNIF_NATURE = 0.

/

&NAM_COVER XUNIF_COVER(1)=1. /

 &NAM_ZS XUNIF_ZS=0. /

 &NAM_DATA_SEAFLUX   NTIME=13, LSST_DATA = T ,

                 XUNIF_SST(1) = 293.75000

                 XUNIF_SST(2) = 294.16000

                 XUNIF_SST(3) = 294.54999

                 XUNIF_SST(4) = 295.07999

PGD file

CFTYP_SST(1)='DIRECT'

CFTYP_SST(2)='DIRECT'

CFTYP_SST(3)='DIRECT'

CFTYP_SST(4)='DIRECT'

NYEAR_SST(1)=1992, NMONTH_SST(1)=07, NDAY_SST(1)=15 , XTIME_SST(1)=64800.,

NYEAR_SST(2)=1992, NMONTH_SST(2)=07, NDAY_SST(2)=16 , XTIME_SST(2)=0.,

NYEAR_SST(3)=1992, NMONTH_SST(3)=07, NDAY_SST(3)=16 , XTIME_SST(3)=21600.,

NYEAR_SST(4)=1992, NMONTH_SST(4)=07, NDAY_SST(4)=16 , XTIME_SST(4)=43200.,

Then the PGD file is the input file for prepsurf_exe with the namelist PRE_REAL1.nam

SURFEX initial file with prepsurf_exe

Cat PRE_REAL1.nam for ASTEX

&NAM_FILE_NAMES HPGDFILE ='AROME_PGD' , CINIFILE='AROME_PREPSURF' /

&NAM_PREP_SURF_ATM NYEAR=1992 , NMONTH=6 , NDAY=13, XTIME=0. /

&NAM_PREP_SEAFLUX XSST_UNIF = 290.35501

NYEAR = 1992,NMONTH = 6,NDAY   = 13,XTIME = 0.

/

Cat PRE_REAL1.nam for GABLS3 with CANOPY

&NAM_FILE_NAMES HPGDFILE ='AROME_PGD' , CINIFILE='AROME_PREPSURF' /

&NAM_PREP_SURF_ATM NYEAR=2006 , NMONTH=7 , NDAY=1, XTIME=43200. /

&NAM_PREP_ISBA XHUG_SURF=0.20, XHUG_ROOT=0.20, XHUG_DEEP=0.6,
XTG_SURF=302.5, XTG_ROOT=289.15, XTG_DEEP=283.15 LISBA_CANOPY=.TRUE. /

&NAM_CH_ISBAN CCH_DRY_DEP='NONE' /

Creates AROME_PREPSURF.lfi

Thanks for your attention
Questions ?

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