

CY42_op1.02 : changes in Bator

1. ficdate file

External '**ficdate**' file use is deprecated. The timeslots characteristics are provided by BATOR using the following environment variables :

ODB_ANALYSIS_DATE : analysis date (YYYYMMDD)
ODB_ANALYSIS_TIME : analysis time (hhmmss)
BATOR_NBSLOT : number of timeslots needed [1, 9999]
BATOR_WINDOW_LEN : width of the temporal assimilation window (in minutes) [1, 9999]
BATOR_WINDOW_SHIFT : shift of the temporal assimilation window relative to the analysis time (in minutes). Must be negative.
BATOR_SLOT_LEN : width of a standard timeslot (in minutes) [1, 9999]
BATOR_CENTER_LEN : width of the centred timeslot (in minutes) [1, 9999]

a) some rules

- All the variables are mandatory.
 - If **BATOR_CENTER_LEN** is set to 0, it is assumed you ask for regular timeslot(s) (as far as possible). In this case, **ABS(BATOR_WINDOW_SHIFT)** must be lesser than **BATOR_WINDOW_LEN** and **BATOR_SLOT_LEN** value does not matter as it will be computed by BATOR.
 - If **BATOR_CENTER_LEN > 0**, then it is assumed you ask for a centred timeslot (relative to the analysis date and time) and several timeslots around it. In this case, all the variables must be set following the following rules :
 - **BATOR_WINDOW_LEN > BATOR_SLOT_LEN**
 - **BATOR_WINDOW_LEN > BATOR_CENTER_LEN**
 - **BATOR_WINDOW_SHIFT <= -NINT(BATOR_CENTER_LEN/2)**
 - **BATOR_WINDOW_SHIFT > NINT((BATOR_CENTER_LEN/2) - BATOR_WINDOW_LEN)**
- Note also that the first and/or the last timeslot can have a different length than these specified by **BATOR_SLOT_LEN** variable.

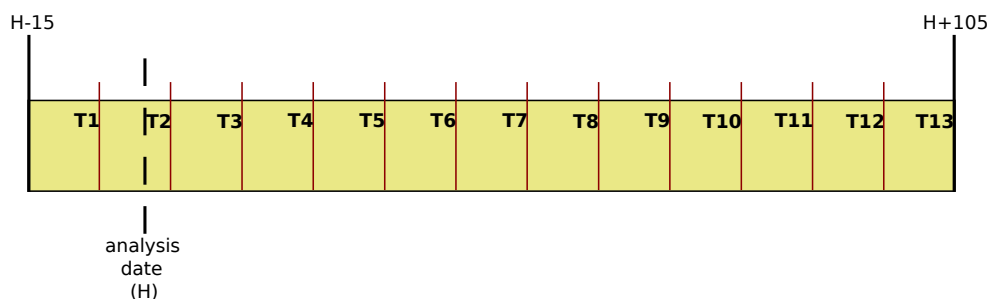


in any case, BATOR will stop if any inconsistent set of values is provided as input.

b) Some examples

```
ODB_ANALYSIS_DATE = analysis date
ODB_ANALYSIS_TIME = analysis time
BATOR_NBSLOT      = 13
BATOR_WINDOW_LEN  = 120
BATOR_WINDOW_SHIFT = -15
BATOR_SLOT_LEN    = must be set to 0
BATOR_CENTER_LEN  = must be set to 0
```

=> length of the 12 first timeslots is 553 sec.
length of the last timeslot is 564 sec.

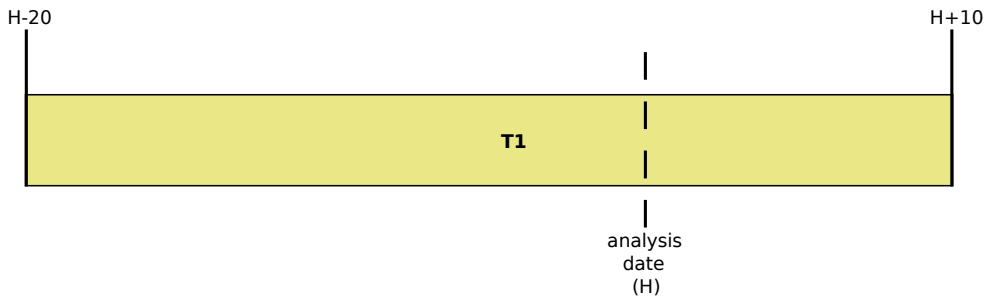


```

ODB_ANALYSIS_DATE = analysis date
ODB_ANALYSIS_TIME = analysis time
BATOR_NBSLOT      = 1
BATOR_WINDOW_LEN = 30
BATOR_WINDOW_SHIFT = -20
BATOR_SLOT_LEN   = must be set to 0
BATOR_CENTER_LEN = must be set to 0

```

=> length of the unique timeslot is 1800 sec,
with a -1200 sec. shift.

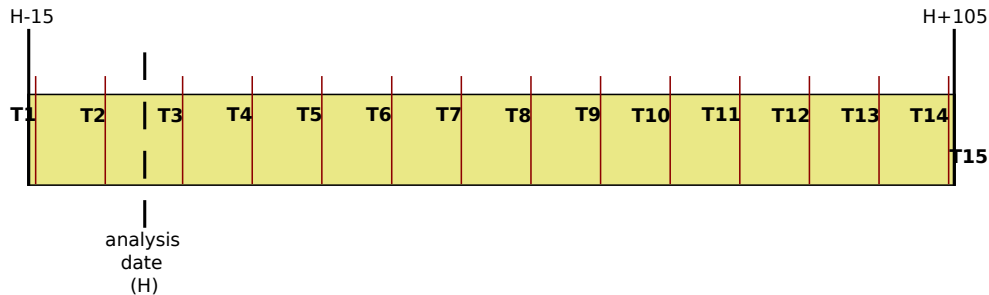


```

ODB_ANALYSIS_DATE = analysis date
ODB_ANALYSIS_TIME = analysis time
BATOR_NBSLOT      = 15
BATOR_WINDOW_LEN = 120
BATOR_WINDOW_SHIFT = -15
BATOR_SLOT_LEN   = 9
BATOR_CENTER_LEN = 10

```

=> Length of the first and last timeslots is
60 sec. Length of the centred timeslot (T3)
is 600 sec. and 540 sec. for the others.



2. Date and time processing in BATOR

All the functions and subroutines concerning date and time are included in `bator_datetime_mod.F90`. They are all based on julian date. See the source file for more information.

3. REFDATA and batormap files

'REFDATA' file use is now deprecated. It is replaced by a 'batormap' file which lists all the input data files (BUFR,NETCDF,HDF5,OBSOUL) to translate and put in a **particular ODB database**. Several records can be stored in this file, each one composed by the following 4 fields (blank spaces are used as separator) :

- The ECMA database extension in which data will be stored, up to 8 characters.
- The data filename extension, up to 8 characters.
- Data filename format, up to 8 characters.
- Kind of data or instrument, up to 16 characters. Must match a kind of data in subroutine `bator_initlong()` (`bator_init_mod.F90`)

You can see an example (used for ARPEGE) below :

conv	conv	OBSOUL	conv
conv	synop	BUFR	synop
conv	acar	BUFR	acar
conv	airep	BUFR	airep
conv	amdar	BUFR	amdar
conv	bathy	BUFR	bathy
conv	europro	BUFR	europro
conv	profil	BUFR	profil
conv	tesac	BUFR	tesac
conv	temp	BUFR	temp
conv	drift	BUFR	drift
conv	moored	BUFR	moored