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Aggregate_ACORN

aggregation of ACORN hourly files

```
function Aggregate_ACORN
```

Aggregate_ACORN - aggregation of ACORN hourly files

The toolbox connects to opendap catalog to get a list of acorn files to download (comparing with the previous files already downloaded. Files are copied locally, then aggregated together in a folder 'dataACORN.path' A config file called config.txt can be modified. This file is read by the subroutine readConfig.

if the aggregation succeeds, a mat file alreadyAggregated.mat is updated in each station folder in order to know which file/dataset has already been used. Then all the temporary files (NCML and NetCDF) are deleted from the working directory.

Different requirements are essential to run this toolbox. 1)python must be installed 2)all the other toolboxes required are given with this toolbox if the java class has to be modified and recompiled :

```
javac -classpath myJavaClasses/toolsUI-4.2.jar AggregateNcML.java launch in shell java -  
classpath ".myJavaClasses/toolsUI-4.2.jar" AggregateNcML NCMN_INPUT.ncml  
NETCDF_OUTPUT.nc
```

Syntax: Aggregate_ACORN

Inputs:

Outputs: aggregationLog.txt (stored in DATA_FOLDER)

Example: Aggregate_ACORN

Other m-files required:readConfig Other files required: config.txt Subfunctions: none MAT-files required: none

See also:
Aggregation_Sub_ACORN,readConfig,aggregateFiles,moveAggregatedFilestoDF,deleteSimilarFiles

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<http://imos.org.au/> <http://froggyscripts.blogspot.com> June 2012; Last revision: 7-Sept-2012
global SCRIPT_FOLDER;

Add to the Matlab path *.m and *.jar

```
whereAreScripts=what;  
SCRIPT_FOLDER=whereAreScripts.path;  
addpath(genpath(SCRIPT_FOLDER));
```

```
% Add any *.jar java library to the classpath. WARNING, this function
% clears all the global variables, so we have to create them again !!
addJarToPath([SCRIPT_FOLDER filesep 'myJavaClasses'])
clear SCRIPT_FOLDER

global SCRIPT_FOLDER;
SCRIPT_FOLDER=WhereAreScripts.path;

% we read config.txt to get the location of the folder where files will be
% processed
global AGGREGATED_DATA_FOLDER;
AGGREGATED_DATA_FOLDER = readConfig('dataACORN.path', 'config.txt', '=');
mkpath(AGGREGATED_DATA_FOLDER);
```

Log File

```
diary (strcat(AGGREGATED_DATA_FOLDER,filesep,readConfig('logFile.name', 'config.txt', '=')));
```

List of the ACORN station to process

```
acornStation=textscan(readConfig('acornStation.code', 'config.txt', '='), '%s', 'delimiter', ',');
acornStation=acornStation{1};
acornStation=acornStation(~cellfun('isempty',acornStation));

nStation=length(acornStation);
for iStation=1:nStation
    try
        Aggregation_Sub_ACORN(acornStation{iStation})
    catch
        fprintf('%s - ERROR for station: %s - Manual debug required\n',datestr(now),acornStation{iStation})
    end
end

diary off

end

function Aggregation_Sub_ACORN(acornStation)
```

Aggregation_Sub_ACORN

process the aggregation for each station

Syntax: Aggregation_Sub_ACORN(acornStation)

Inputs:

Outputs:

Example: Aggregation_Sub_ACORN(acornStation)

Other m-files required: readConfig, moveAggregatedFilestoDF, deleteSimilarFiles
Other files required: config.txt
Subfunctions: none
MAT-files required: none

See also: Aggregation_Sub_ACORN, readConfig, downloadFiles, aggregateFiles, moveAggregatedFilestoDF, deleteSimilarFiles

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```
clear queryResult

global CREATION_DATE
global AGGREGATED_DATA_FOLDER;
```

```
global TEMPORARY_FOLDER;

fprintf('%s - Station %s currently processed\n',datestr(now),char(acornStation))
TEMPORARY_FOLDER=char(strcat(AGGREGATED_DATA_FOLDER,filesep,'DATA_FOLDER/temporary_',acornStation));
mkpath(TEMPORARY_FOLDER);

% unique creation date for all the same files
[Y, M, D, H, ~, ~]=datevec(now);
CREATION_DATE=datestr(denum([Y, M, D, H, 0, 0]),'yyyymmddTHHMMSSZ');
```

27-Sep-2012 18:12:34 - Station CBG currently processed

28-Sep-2012 03:08:06 - Station ROT currently processed

Harvest of the ACORN station OpenDaP catalog

```
fprintf('%s - harvest the thredds catalog for the station %s.This might take a while.\n',datestr(now),char(acornStation))
url_catalog=strcat(readConfig('opendap1.address', 'config.txt','='),char(acornStation),'/catalog.xml');
[queryResult,urlNotReached]=List_NC_recur(url_catalog);
```

27-Sep-2012 18:12:34 - harvest the thredds catalog for the station CBG.This might take a while.
27-Sep-2012 19:00:24 ERROR: UNREACHABLE URL:"http://opendap-qcif.arcs.org.au/thredds/catalog/IMOS/ACORN/gridded_1h-avg-current-map_non-QC/CBG/2011/05/06/catalog.xml"

28-Sep-2012 03:08:06 - harvest the thredds catalog for the station ROT.This might take a while.
28-Sep-2012 03:10:10 ERROR: UNREACHABLE URL:"http://opendap-qcif.arcs.org.au/thredds/catalog/IMOS/ACORN/gridded_1h-avg-current-map_non-QC/ROT/2010/04/06/catalog.xml"
28-Sep-2012 03:47:36 ERROR: UNREACHABLE URL:"http://opendap-qcif.arcs.org.au/thredds/catalog/IMOS/ACORN/gridded_1h-avg-current-map_non-QC/ROT/2012/07/20/catalog.xml"

Download the file which have to be processed

```
if isempty(queryResult)
    fprintf('%s - The QCIF catalog is empty/not accessible.lets try with VPAC\n',datestr(now))
    url_catalog=strcat(readConfig('opendap2.address', 'config.txt','='),char(acornStation),'/catalog.xml');

    [queryResult]=List_NC_recur(url_catalog);

    % [queryResult]=List_NC_recur_IO_toolbox(url_catalog);%use xml_io_tools
    % toolbox. but it appears to be much slower that the other toolbox used
    % aboved

    if isempty(queryResult)
        fprintf('%s - The VPAC catalog is empty/not accessible.No data will be downloaded\n',datestr(now))
    else
        %download all the files for the station, create one directory per year
        downloadFiles(queryResult,acornStation);
    end
else
    %download all the files for the station, create one directory per year
    downloadFiles(queryResult,acornStation);
end
```

27-Sep-2012 19:23:11 - Station:CBG - No new files to aggregate for month 200710
27-Sep-2012 19:23:11 - Station:CBG - No new files to aggregate for month 200711
27-Sep-2012 19:23:11 - Station:CBG - No new files to aggregate for month 200712
27-Sep-2012 19:23:11 - Station:CBG - No new files to aggregate for month 200801
27-Sep-2012 19:23:11 - Station:CBG - No new files to aggregate for month 200802
27-Sep-2012 19:23:11 - Station:CBG - No new files to aggregate for month 200803
27-Sep-2012 19:23:11 - Station:CBG - No new files to aggregate for month 200804
27-Sep-2012 19:23:11 - Station:CBG - No new files to aggregate for month 200805
27-Sep-2012 19:23:11 - Station:CBG - No new files to aggregate for month 200806
27-Sep-2012 19:23:11 - Station:CBG - No new files to aggregate for month 200807
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200808
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200809
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200810
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200811
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200812
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200901

27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200902
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200903
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200906
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200907
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200908
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200909
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200910
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200911
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 200912
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201001
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201002
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201003
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201004
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201005
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201006
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201007
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201008
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201009
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201010
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201011
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201012
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201102
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201103
27-Sep-2012 19:23:12 - Station:CBG - No new files to aggregate for month 201104
27-Sep-2012 19:23:13 - Station:CBG - -24 file(s) has(ve) disappeared from OpenDap(?) for year/month 201105,not normal. Manual check required
27-Sep-2012 19:23:13 - Station:CBG - No new files to aggregate for month 201106
27-Sep-2012 19:23:13 - Station:CBG - No new files to aggregate for month 201107
27-Sep-2012 19:23:13 - Station:CBG - No new files to aggregate for month 201108
27-Sep-2012 19:23:13 - Station:CBG - 288 new files to aggregate for year/month 201109
27-Sep-2012 19:57:20 - Station:CBG - 586 new files to aggregate for year/month 201110
27-Sep-2012 20:35:27 - Station:CBG - 641 new files to aggregate for year/month 201111
27-Sep-2012 21:21:03 - Station:CBG - 708 new files to aggregate for year/month 201112
27-Sep-2012 22:10:51 - Station:CBG - 722 new files to aggregate for year/month 201201
27-Sep-2012 23:00:48 - Station:CBG - 515 new files to aggregate for year/month 201202
27-Sep-2012 23:23:09 - ERROR: UNREACHABLE URL:"http://opendap-qcif.arcs.org.au/thredds/fileServer/IMOS/ACORN/gridded_1h-avg-current-map_non-QC/CBG/2012/02/16/IMOS_ACORN_V_20120216T043000Z_CBG_FV00_1-hour-av
27-Sep-2012 23:24:43 - ERROR: Tried to download the file http://opendap-vpac.arcs.org.au/thredds/fileServer/IMOS/ACORN/gridded_1h-avg-current-map_non-QC/CBG/2012/02/16/IMOS_ACORN_V_20120216T043000Z_CBG_FV00_1-hour-av
27-Sep-2012 23:40:33 - Station:CBG - 700 new files to aggregate for year/month 201203
28-Sep-2012 00:26:18 - ERROR: UNREACHABLE URL:"http://opendap-qcif.arcs.org.au/thredds/fileServer/IMOS/ACORN/gridded_1h-avg-current-map_non-QC/CBG/2012/03/29/IMOS_ACORN_V_20120329T163000Z_CBG_FV00_1-hour-av
28-Sep-2012 00:30:09 - Station:CBG - 273 new files to aggregate for year/month 201204
28-Sep-2012 00:49:04 - Station:CBG - 683 new files to aggregate for year/month 201205
28-Sep-2012 01:35:45 - Station:CBG - 466 new files to aggregate for year/month 201206
28-Sep-2012 02:06:51 - Station:CBG - 343 new files to aggregate for year/month 201207
28-Sep-2012 02:27:00 - Station:CBG - 497 new files to aggregate for year/month 201208
28-Sep-2012 02:54:19 - Station:CBG - 144 new files to aggregate for year/month 201209

28-Sep-2012 03:49:34 - First launch of this script for the station: "ROT". All files found on the opendap catalog will be downloaded
28-Sep-2012 03:49:36 - Station:ROT - 477 new files to aggregate for year/month 201003
28-Sep-2012 04:17:06 - Station:ROT - 665 new files to aggregate for year/month 201004
28-Sep-2012 04:54:14 - Station:ROT - 545 new files to aggregate for year/month 201005
28-Sep-2012 05:24:13 - Station:ROT - 462 new files to aggregate for year/month 201006
28-Sep-2012 05:49:00 - Station:ROT - 62 new files to aggregate for year/month 201007
28-Sep-2012 05:52:30 - Station:ROT - 708 new files to aggregate for year/month 201008
28-Sep-2012 06:31:30 - Station:ROT - 616 new files to aggregate for year/month 201009
28-Sep-2012 07:04:09 - Station:ROT - 615 new files to aggregate for year/month 201010
28-Sep-2012 07:36:42 - Station:ROT - 448 new files to aggregate for year/month 201011
28-Sep-2012 08:01:01 - Station:ROT - 451 new files to aggregate for year/month 201012
28-Sep-2012 08:25:02 - Station:ROT - 714 new files to aggregate for year/month 201101
28-Sep-2012 09:03:15 - Station:ROT - 491 new files to aggregate for year/month 201102
28-Sep-2012 09:28:55 - Station:ROT - 666 new files to aggregate for year/month 201103
28-Sep-2012 10:04:27 - Station:ROT - 684 new files to aggregate for year/month 201104
28-Sep-2012 10:40:58 - Station:ROT - 706 new files to aggregate for year/month 201105
28-Sep-2012 11:21:14 - Station:ROT - 671 new files to aggregate for year/month 201106
28-Sep-2012 11:58:21 - Station:ROT - 632 new files to aggregate for year/month 201107
28-Sep-2012 12:35:39 - Station:ROT - 398 new files to aggregate for year/month 201108
28-Sep-2012 12:57:24 - Station:ROT - 561 new files to aggregate for year/month 201109
28-Sep-2012 13:29:14 - Station:ROT - 569 new files to aggregate for year/month 201110
28-Sep-2012 14:01:30 - Station:ROT - 563 new files to aggregate for year/month 201111
28-Sep-2012 14:34:02 - Station:ROT - 654 new files to aggregate for year/month 201112
28-Sep-2012 15:11:14 - Station:ROT - 674 new files to aggregate for year/month 201201
28-Sep-2012 15:49:17 - Station:ROT - 493 new files to aggregate for year/month 201202
28-Sep-2012 16:16:48 - Station:ROT - 595 new files to aggregate for year/month 201203
28-Sep-2012 16:52:57 - Station:ROT - 444 new files to aggregate for year/month 201204
28-Sep-2012 17:20:35 - Station:ROT - 668 new files to aggregate for year/month 201205
28-Sep-2012 18:02:19 - Station:ROT - 379 new files to aggregate for year/month 201206

Aggregation of the downloaded files

28-Sep-2012 03:03:21 - Aggregation of the downloaded files.

Move all files founds locally to the DF

```

28-Sep-2012 03:07:29 - Data Fabric is connected, SWEET,)): We are copying aggregated files to it
28-Sep-2012 03:07:33 - SUCCESS: file "/media/Laurent_emII/ACORN/ACORN_AggregationDATA2/DATA_FOLDER/temporary_CBG/aggregated_datasets/IMOS_ACORN_V_20110901T000000Z_CBG_FV00_monthly-1-hour-avg_END-20110930T21Z"
28-Sep-2012 03:07:36 - SUCCESS: file "/media/Laurent_emII/ACORN/ACORN_AggregationDATA2/DATA_FOLDER/temporary_CBG/aggregated_datasets/IMOS_ACORN_V_20111002T010000Z_CBG_FV00_monthly-1-hour-avg_END-20111031T23Z"
28-Sep-2012 03:07:39 - SUCCESS: file "/media/Laurent_emII/ACORN/ACORN_AggregationDATA2/DATA_FOLDER/temporary_CBG/aggregated_datasets/IMOS_ACORN_V_20111101T000000Z_CBG_FV00_monthly-1-hour-avg_END-20111130T23Z"
28-Sep-2012 03:07:48 - SUCCESS: file "/media/Laurent_emII/ACORN/ACORN_AggregationDATA2/DATA_FOLDER/temporary_CBG/aggregated_datasets/IMOS_ACORN_V_20111201T000000Z_CBG_FV00_monthly-1-hour-avg_END-20111231T23Z"
28-Sep-2012 03:07:52 - SUCCESS: file "/media/Laurent_emII/ACORN/ACORN_AggregationDATA2/DATA_FOLDER/temporary_CBG/aggregated_datasets/IMOS_ACORN_V_20120101T000000Z_CBG_FV00_monthly-1-hour-avg_END-20120131T23Z"
28-Sep-2012 03:07:55 - SUCCESS: file "/media/Laurent_emII/ACORN/ACORN_AggregationDATA2/DATA_FOLDER/temporary_CBG/aggregated_datasets/IMOS_ACORN_V_20120201T000000Z_CBG_FV00_monthly-1-hour-avg_END-20120229T23Z"
28-Sep-2012 03:07:56 - SUCCESS: file "/media/Laurent_emII/ACORN/ACORN_AggregationDATA2/DATA_FOLDER/temporary_CBG/aggregated_datasets/IMOS_ACORN_V_20120301T000000Z_CBG_FV00_monthly-1-hour-avg_END-20120331T23Z"
28-Sep-2012 03:07:58 - SUCCESS: file "/media/Laurent_emII/ACORN/ACORN_AggregationDATA2/DATA_FOLDER/temporary_CBG/aggregated_datasets/IMOS_ACORN_V_20120401T000000Z_CBG_FV00_monthly-1-hour-avg_END-20120430T23Z"
28-Sep-2012 03:08:03 - SUCCESS: file "/media/Laurent_emII/ACORN/ACORN_AggregationDATA2/DATA_FOLDER/temporary_CBG/aggregated_datasets/IMOS_ACORN_V_20120501T000000Z_CBG_FV00_monthly-1-hour-avg_END-20120531T23Z"
28-Sep-2012 03:08:04 - SUCCESS: file "/media/Laurent_emII/ACORN/ACORN_AggregationDATA2/DATA_FOLDER/temporary_CBG/aggregated_datasets/IMOS_ACORN_V_20120601T030000Z_CBG_FV00_monthly-1-hour-avg_END-20120630T23Z"
28-Sep-2012 03:08:05 - SUCCESS: file "/media/Laurent_emII/ACORN/ACORN_AggregationDATA2/DATA_FOLDER/temporary_CBG/aggregated_datasets/IMOS_ACORN_V_20120701T010000Z_CBG_FV00_monthly-1-hour-avg_END-20120731T23Z"
28-Sep-2012 03:08:05 - SUCCESS: file "/media/Laurent_emII/ACORN/ACORN_AggregationDATA2/DATA_FOLDER/temporary_CBG/aggregated_datasets/IMOS_ACORN_V_20120801T003000Z_CBG_FV00_monthly-1-hour-avg_END-20120822T23Z"
28-Sep-2012 03:08:06 - SUCCESS: file "/media/Laurent_emII/ACORN/ACORN_AggregationDATA2/DATA_FOLDER/temporary_CBG/aggregated_datasets/IMOS_ACORN_V_20120903T143000Z_CBG_FV00_monthly-1-hour-avg_END-20120921T23Z"

```

Remove all files which have to be deleted from the DF

```
deleteSimilarFiles(acornStation)
```

```
28-Sep-2012 03:08:06 - Data Fabric is connected, : We are checking for duplicated files
```

```
28-Sep-2012 03:08:06 - SUCCESS: FILE DELETED FROM DF "/media/Laurent_emII/df_root/IMOS/opensap/ACORN/monthly_gridded_1h-avg-current-map_non-QC/CBG/2011/IMOS_ACORN_V_20110901T000000Z_CBG_FV00_monthly-1-hour-
```

```
28-Sep-2012 03:08:06 - SUCCESS: FILE DELETED FROM DF "/media/Laurent_emII/df_root/IMOS/opensap/ACORN/monthly_gridded_1h-avg-current-map_non-QC/CBG/2011/IMOS_ACORN_V_20110901T000000Z_CBG_FV00_monthly-1-hour-
```

```
28-Sep-2012 19:43:28 - Data Fabric is connected, : We are checking for duplicated files
```

```
end
```