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```
% created by Trent Dillon on May 30th 2018
% code loads data from cdip buoy and synthesizes with historical
 forecasts
% to create a 'forecast matrix'

clear all, close all, clc
```

set up data path

```
localpath = '/Users/tmd1502/Dropbox/'; %laptop
%localpath = '\Users\Trent Dillon\Dropbox\'; %sahale
%localpath = 'E:\Users\Trent Dillon\Dropbox\'; %MRElab
datapath = '/Research/Unconfigured Data/WETS/';
```

load data

```
%forecast
rawforecast = [];
files = dir([localpath datapath 'buoy.51210 forecast/*.table']);
for i=1:length(files)
    file = load([localpath datapath 'buoy.51210 forecast/'
 files(i).name]);
    forecast_header(i) = file(1,1);
    sizes(i) = length(file);
    rawforecast = [rawforecast ;
 forecast_header(i)*ones(length(file),1) file];
    clear file
end

%wave data
delimiterIn = ' ';
headerlinesIn = 3;
rawdata = importdata([localpath datapath '225 buoy all/data'], ...
    delimiterIn,headerlinesIn);

clear i headerlinesIn delimiterIn sizes localpath datapath files forecast_header
```

reformat data

```
formatIn_f = 'yyyymmddHHMM';

tic
%forecast
for i=1:length(rawforecast)
   forecast(i,1) =
 datenum(num2str(rawforecast(i,1)*100),formatIn_f); %forecast
   forecast(i,2) =
 datenum(num2str(rawforecast(i,2)*100),formatIn_f); %time
   forecast(i,3) = rawforecast(i,4); %Hs
   forecast(i,4) = rawforecast(i,7); %Tp
end
toc

tic
%wavedata
for i=1:length(rawdata.data)/2
    Y = rawdata.data(i*2,1);
    M = rawdata.data(i*2,2);
    D = rawdata.data(i*2,3);
    H = rawdata.data(i*2,4);
    wavedata(i,1) = datenum(Y,M,D,H,00,00);
    wavedata(i,2) = rawdata.data(i*2,6); %Hs
    wavedata(i,3) = rawdata.data(i*2,7); %Tp
end
toc

clear Y M D H formatIn_f i
```

```
Elapsed time is 25.289930 seconds.
Elapsed time is 0.126739 seconds.
```

create forecast matrix

```
formatIn_f = 'yyyymmddHHMM';

%time
FM = zeros(181,length(forecast_header),3); %initialize forecast matrix
% FM(1,:,1) = datetime(

% samples = 365*24; %in hours
% for t=0:s-1
%     time = datenum('2017','01',num2str(21+i),'00')
```

```
Undefined function or variable 'forecast_header'.

Error in createForecastMatrix (line 69)
FM = zeros(181,length(forecast_header),3); %initialize forecast matrix
```

convert time to matlab serial

```
forecastdata = rawforecast;
formatIn_f = 'yyyymmddHHMM';
for i=1:length(rawforecast)
    forecastdata(i,1) =
 datenum(num2str(rawforecast(i,1)*100),formatIn_f);
end
```

add in NaN for data gaps

save/return

```
save('WETSwaves_2017.mat','WETSwaves_2017')
```

Published with MATLAB® R2018a