

```
clear all; clc; clear variables;
```

```
Nlyr = 100; %Number of layers
```

```
Nrow = 126; %Number of rows
```

```
Ncol = 131; %Number of columns
```

```
Ncells = Nlyr*Nrow*Ncol; %Total number of cells in our 3D matrix
```

```
heads_import = readmatrix('C:\Users\nyamaa.mendsaikhan\CPTS575_project\stp1_30\CPRAS_trans-v2.h
```

```
heads_import(isnan(heads_import))=0; %change NaN values in the imported heads matrix to 0
```

```
heaads = sum(heads_import,2); %add columns together to obtain the correct vector of head output
```

```
hds1 = heaads(1:Ncells); %stress period 1 (predevelopment)
```

```
hds2 = heaads((Ncells+1):(2*Ncells)); %stress period 2
```

```
hds3 = heaads((2*Ncells+1):(3*Ncells)); %stress period 3
```

```
hds4 = heaads((3*Ncells+1):(4*Ncells)); %stress period 4
```

```
hds5 = heaads((4*Ncells+1):(5*Ncells)); %stress period 5
```

```
hds6 = heaads((5*Ncells+1):(6*Ncells)); %stress period 6
```

```
hds7 = heaads((6*Ncells+1):(7*Ncells)); %stress period 7
```

```
hds8 = heaads((7*Ncells+1):(8*Ncells)); %stress period 8
```

```
hds9 = heaads((8*Ncells+1):(9*Ncells)); %stress period 9
```

```
hds10 = heaads((9*Ncells+1):(10*Ncells)); %stress period 10
```

```
hds11 = heaads((10*Ncells+1):(11*Ncells)); %stress period 11
```

```
hds12 = heaads((11*Ncells+1):(12*Ncells)); %stress period 12
```

```
hds13 = heaads((12*Ncells+1):(13*Ncells)); %stress period 13
```

```
hds14 = heaads((13*Ncells+1):(14*Ncells)); %stress period 14
```

```
hds15 = heaads((14*Ncells+1):(15*Ncells)); %stress period 15
```

```
hds16 = heaads((15*Ncells+1):(16*Ncells)); %stress period 16
```

```
hds17 = heaads((16*Ncells+1):(17*Ncells)); %stress period 17
```

```
hds18 = heaads((17*Ncells+1):(18*Ncells)); %stress period 18
```

```
hds19 = heaads((18*Ncells+1):(19*Ncells)); %stress period 19
```

```
hds20 = heaads((19*Ncells+1):(20*Ncells)); %stress period 20
```

```
hds21 = heaads((20*Ncells+1):(21*Ncells)); %stress period 21
```

```
hds22 = heaads((21*Ncells+1):(22*Ncells)); %stress period 22
```

```
hds23 = heaads((22*Ncells+1):(23*Ncells)); %stress period 23
```

```
hds24 = heaads((23*Ncells+1):(24*Ncells)); %stress period 24
```

```
hds25 = heaads((24*Ncells+1):(25*Ncells)); %stress period 25
```

```
hds26 = heaads((25*Ncells+1):(26*Ncells)); %stress period 26
```

```
hds27 = heaads((26*Ncells+1):(27*Ncells)); %stress period 27
```

```
hds28 = heaads((27*Ncells+1):(28*Ncells)); %stress period 28
```

```
hds29 = heaads((28*Ncells+1):(29*Ncells)); %stress period 29
```

```
hds30 = heaads((29*Ncells+1):(30*Ncells)); %stress period 30
```

```
heads_1_30=[];
```

```
heads_1_30 = horzcat(hds1,hds2,hds3,hds4,hds5,hds6,hds7,hds8,hds9,hds10);
```

```
heads_1_30 = horzcat(heads_1_30,hds11,hds12,hds13,hds14,hds15,hds16,hds17,hds18,hds19,hds20);
```

```
heads_1_30 = horzcat(heads_1_30,hds21,hds22,hds23,hds24,hds25,hds26,hds27,hds28,hds29,hds30);
```

```
% STRESS PERIOD 31-60
```

```
heads_import = readmatrix('C:\Users\nyamaa.mendsaikhan\CPTS575_project\stp31_60\CPRAS_trans-v2.h
```

```
heads_import(isnan(heads_import))=0; %change NaN values in the imported heads matrix to 0
```

```
heaads_30_60 = sum(heads_import,2); %add columns together to obtain the correct vector of head
```

```
hds1 = heaads_30_60(1:Ncells); %stress period 31
```

```
hds2 = heaads_30_60((Ncells+1):(2*Ncells)); %stress period 32
```

```
hds3 = heaads_30_60((2*Ncells+1):(3*Ncells)); %stress period 33
```

```

hds4 = heaads_30_60((3*Ncells+1):(4*Ncells)); %stress period 34
hds5 = heaads_30_60((4*Ncells+1):(5*Ncells)); %stress period 35
hds6 = heaads_30_60((5*Ncells+1):(6*Ncells)); %stress period 36
hds7 = heaads_30_60((6*Ncells+1):(7*Ncells)); %stress period 37
hds8 = heaads_30_60((7*Ncells+1):(8*Ncells)); %stress period 38
hds9 = heaads_30_60((8*Ncells+1):(9*Ncells)); %stress period 39
hds10 = heaads_30_60((9*Ncells+1):(10*Ncells)); %stress period 40
hds11 = heaads_30_60((10*Ncells+1):(11*Ncells)); %stress period 41
hds12 = heaads_30_60((11*Ncells+1):(12*Ncells)); %stress period 42
hds13 = heaads_30_60((12*Ncells+1):(13*Ncells)); %stress period 43
hds14 = heaads_30_60((13*Ncells+1):(14*Ncells)); %stress period 44
hds15 = heaads_30_60((14*Ncells+1):(15*Ncells)); %stress period 45
hds16 = heaads_30_60((15*Ncells+1):(16*Ncells)); %stress period 46
hds17 = heaads_30_60((16*Ncells+1):(17*Ncells)); %stress period 47
hds18 = heaads_30_60((17*Ncells+1):(18*Ncells)); %stress period 48
hds19 = heaads_30_60((18*Ncells+1):(19*Ncells)); %stress period 49
hds20 = heaads_30_60((19*Ncells+1):(20*Ncells)); %stress period 50
hds21 = heaads_30_60((20*Ncells+1):(21*Ncells)); %stress period 51
hds22 = heaads_30_60((21*Ncells+1):(22*Ncells)); %stress period 52
hds23 = heaads_30_60((22*Ncells+1):(23*Ncells)); %stress period 53
hds24 = heaads_30_60((23*Ncells+1):(24*Ncells)); %stress period 54
hds25 = heaads_30_60((24*Ncells+1):(25*Ncells)); %stress period 55
hds26 = heaads_30_60((25*Ncells+1):(26*Ncells)); %stress period 56
hds27 = heaads_30_60((26*Ncells+1):(27*Ncells)); %stress period 57
hds28 = heaads_30_60((27*Ncells+1):(28*Ncells)); %stress period 58
hds29 = heaads_30_60((28*Ncells+1):(29*Ncells)); %stress period 59
hds30 = heaads_30_60((29*Ncells+1):(30*Ncells)); %stress period 60

heads_31_60=[];
heads_31_60 = horzcat(hds1,hds2,hds3,hds4,hds5,hds6,hds7,hds8,hds9,hds10);
heads_31_60 = horzcat(heads_31_60,hds11,hds12,hds13,hds14,hds15,hds16,hds17,hds18,hds19,hds20);
heads_31_60 = horzcat(heads_31_60,hds21,hds22,hds23,hds24,hds25,hds26,hds27,hds28,hds29,hds30);

heads_import = readmatrix('C:\Users\nyamaa.mendsaikhan\CPTS575_project\stp61_90\CPRAS_trans-v2.
heads_import(isnan(heads_import))=0; %change NaN values in the imported heads matrix to 0
heaads_60_90 = sum(heads_import,2); %add columns together to obtain the correct vector of head
hds1 = heaads_60_90(1:Ncells); %stress period 61
hds2 = heaads_60_90((Ncells+1):(2*Ncells)); %stress period 62
hds3 = heaads_60_90((2*Ncells+1):(3*Ncells)); %stress period 63
hds4 = heaads_60_90((3*Ncells+1):(4*Ncells)); %stress period 64
hds5 = heaads_60_90((4*Ncells+1):(5*Ncells)); %stress period 65
hds6 = heaads_60_90((5*Ncells+1):(6*Ncells)); %stress period 66
hds7 = heaads_60_90((6*Ncells+1):(7*Ncells)); %stress period 67
hds8 = heaads_60_90((7*Ncells+1):(8*Ncells)); %stress period 68
hds9 = heaads_60_90((8*Ncells+1):(9*Ncells)); %stress period 69
hds10 = heaads_60_90((9*Ncells+1):(10*Ncells)); %stress period 70
hds11 = heaads_60_90((10*Ncells+1):(11*Ncells)); %stress period 71
hds12 = heaads_60_90((11*Ncells+1):(12*Ncells)); %stress period 72
hds13 = heaads_60_90((12*Ncells+1):(13*Ncells)); %stress period 73
hds14 = heaads_60_90((13*Ncells+1):(14*Ncells)); %stress period 74
hds15 = heaads_60_90((14*Ncells+1):(15*Ncells)); %stress period 75
hds16 = heaads_60_90((15*Ncells+1):(16*Ncells)); %stress period 76
hds17 = heaads_60_90((16*Ncells+1):(17*Ncells)); %stress period 77

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hds18 = heaads_60_90((17*Ncells+1):(18*Ncells)); %stress period 78
hds19 = heaads_60_90((18*Ncells+1):(19*Ncells)); %stress period 79
hds20 = heaads_60_90((19*Ncells+1):(20*Ncells)); %stress period 80
hds21 = heaads_60_90((20*Ncells+1):(21*Ncells)); %stress period 81
hds22 = heaads_60_90((21*Ncells+1):(22*Ncells)); %stress period 82
hds23 = heaads_60_90((22*Ncells+1):(23*Ncells)); %stress period 83
hds24 = heaads_60_90((23*Ncells+1):(24*Ncells)); %stress period 84
hds25 = heaads_60_90((24*Ncells+1):(25*Ncells)); %stress period 85
hds26 = heaads_60_90((25*Ncells+1):(26*Ncells)); %stress period 86
hds27 = heaads_60_90((26*Ncells+1):(27*Ncells)); %stress period 87
hds28 = heaads_60_90((27*Ncells+1):(28*Ncells)); %stress period 88
hds29 = heaads_60_90((28*Ncells+1):(29*Ncells)); %stress period 89
hds30 = heaads_60_90((29*Ncells+1):(30*Ncells)); %stress period 90

heads_61_90=[];
heads_61_90 = horzcat(hds1,hds2,hds3,hds4,hds5,hds6,hds7,hds8,hds9,hds10);
heads_61_90 = horzcat(heads_61_90,hds11,hds12,hds13,hds14,hds15,hds16,hds17,hds18,hds19,hds20);
heads_61_90 = horzcat(heads_61_90,hds21,hds22,hds23,hds24,hds25,hds26,hds27,hds28,hds29,hds30);

% Combining the heads
heads_1_90 =horzcat(heads_1_30,heads_31_60,heads_61_90);
project_heads = heads_1_90(:,71:90);
project_heads = array2table(project_heads);
writetable(project_heads, 'C:\Users\nyamaa.mendsaikhan\CPTS575_project\Data\final\project_heads

```