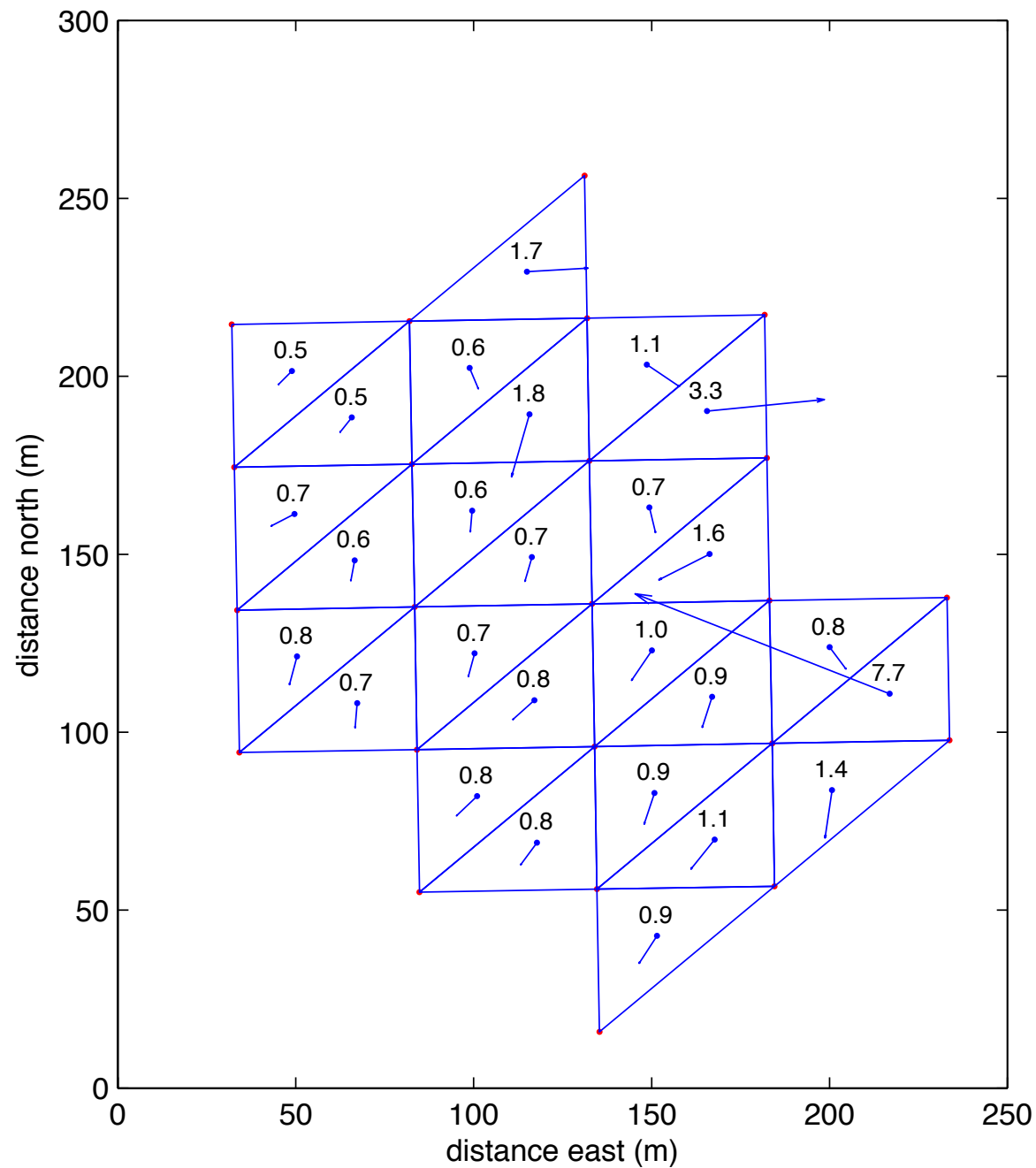


Meshgrid/Griddata Quiverplots

Isochron/Quiver Plot

- Plots from fire propagation.



Initial Attempt

```
quiver(xcenter,ycenter,uu,vv,scale);  
hold on;
```

```
text(xcenter - .05, ycenter + .05,  
num2str(speed,'%3.1f'), 'fontsize',  
8 );
```

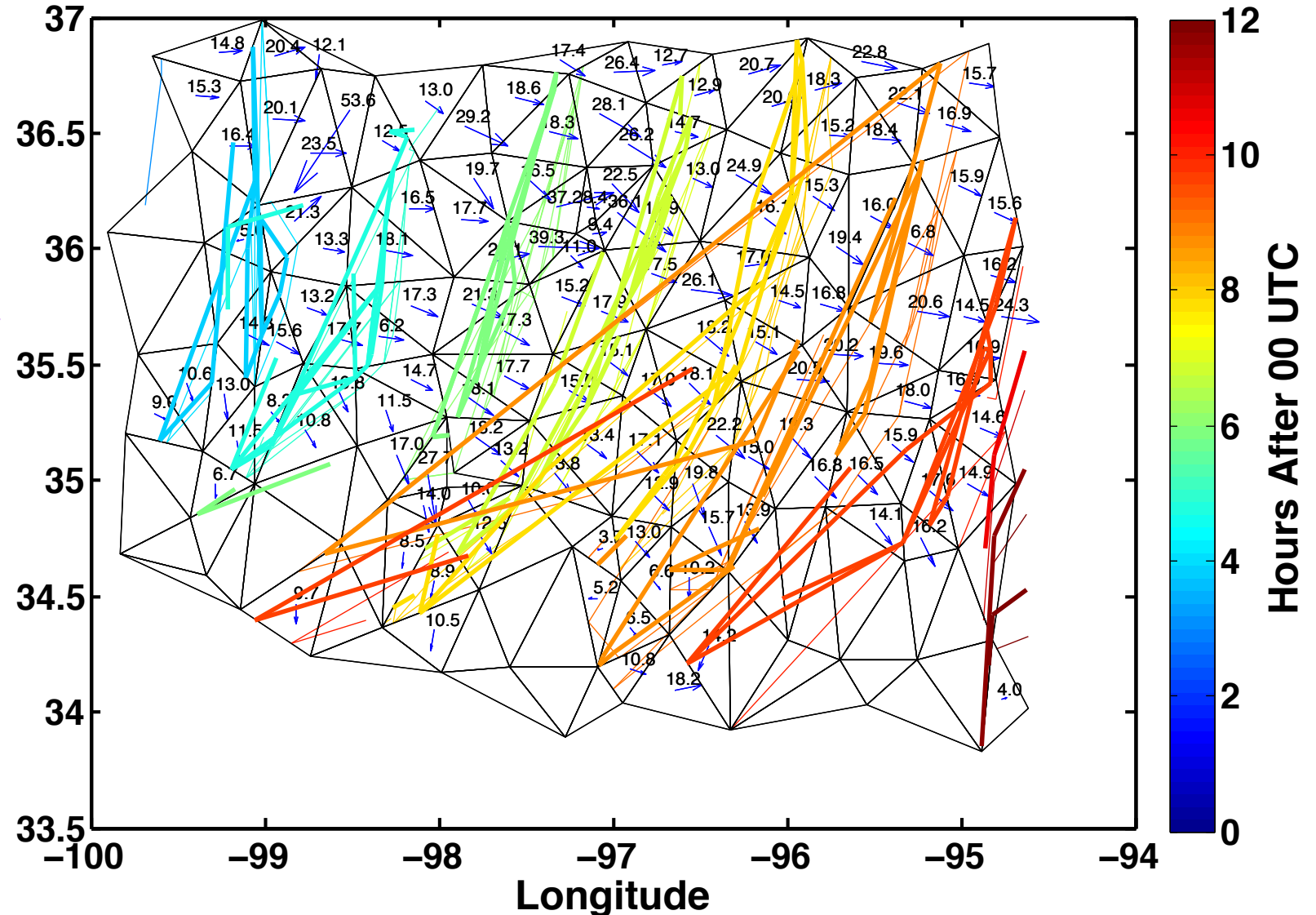
```
triplot(triangleset97,lon,lat,'Color',  
'k');
```

```
contour(xset,yset,tset ./  
12,10, 'LineWidth', 2);
```

```
h =  
colorbar('Location','eastoutside');  
ylabel(h,'Hours After 00  
UTC','FontSize',  
18,'FontWeight','bold');  
caxis([0 12]);
```

```
hold off;
```

13 June 1997 0-12 UTC Case Frontal Passages



```
xset(137,3)  
yset(137,3)  
tset(137,3)
```

Placeholder

```

quiver(xcenter,ycenter,uu,vv,scale);
hold on;

text(xcenter - .05, ycenter + .05,
num2str(speed,'%3.1f'), 'fontsize',
8 );

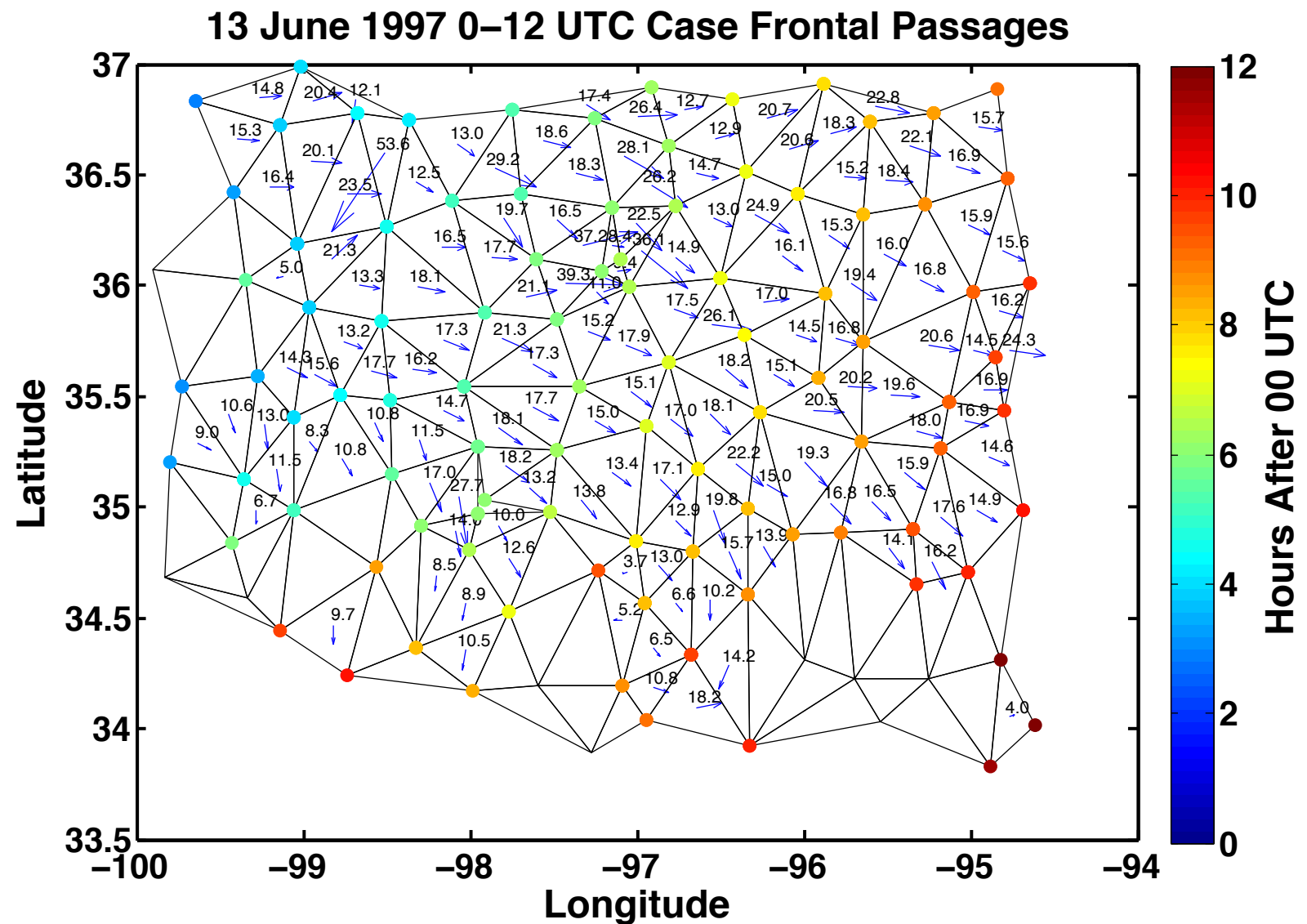
triplot(triangleset97,lon,lat,'Color',
'k');

s=60;
scatter(xlist,ylist,s,tlist
./ 12,'fill');
%contour(xset,yset,tset ./ 12,10,
'LineWidth', 2);

h =
colorbar('Location','eastoutside');
ylabel(h,'Hours After 00
UTC','FontSize',
18,'FontWeight','bold');
caxis([0 12]);

hold off;

```



```

xlist(137*3,1)
ylist(137*3,1)
tlist(137*3,1)

```

Meshgrid

- Generates x and y matrices.

Example:

```
[X,Y] = meshgrid(1:3,10:14)
```

X =

1	2	3
1	2	3
1	2	3
1	2	3
1	2	3

Y =

10	10	10
11	11	11
12	12	12
13	13	13
14	14	14

Meshgrid

```
[xi,yi] =  
meshgrid(-100.1:.1:-94.5,33.7:.1:37.1);  
zi = griddata(xlist, ylist, tlist ./ 12,  
xi, yi);
```

```
xi =  
-100.1 -100 -99.9 ...  
-100.1 -100 -99.9 ...  
-100.1 -100 -99.9 ...  
-100.1 -100 -99.9 ...  
...      ...      ...      ...
```

```
yi =  
33.7 33.7 33.7 ...  
33.8 33.8 33.8 ...  
33.9 33.9 33.9 ...  
34   34   34   ...  
...  ...  ...  ...
```

Griddata

- Griddata fits the regularly spaced surface $f(x_i, y_i)$ to the irregularly spaced data (xlist, ylist, tlist / I2).

Example:

```
xy = -2.5 + 5*gallery('uniformdata',[200 2],0);  
x = xy(:,1); y = xy(:,2);  
v = x.*exp(-x.^2-y.^2);
```

```
[xq,yq] = meshgrid(-2:.2:2, -2:.2:2);
```

```
vq = griddata(x,y,v,xq,yq);
```

Plot the gridded data as a mesh and the

scattered data as dots.

```
figure
```

```
mesh(xq,yq,vq);
```

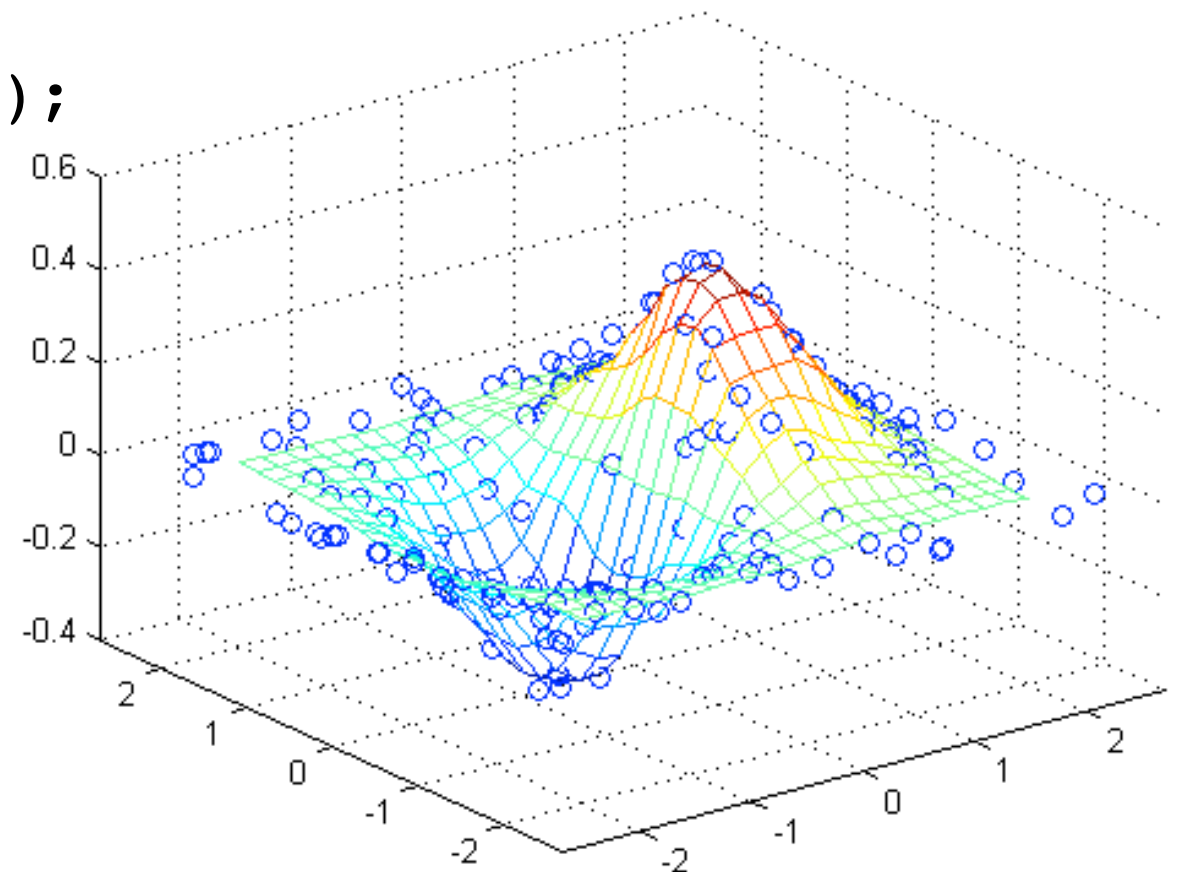
```
hold on
```

```
plot3(x,y,v,'o');
```

```
h = gca;
```

```
set(h,'XLim',[-2.7 2.7]);
```

```
set(h,'YLim',[-2.7 2.7]);
```



Griddata

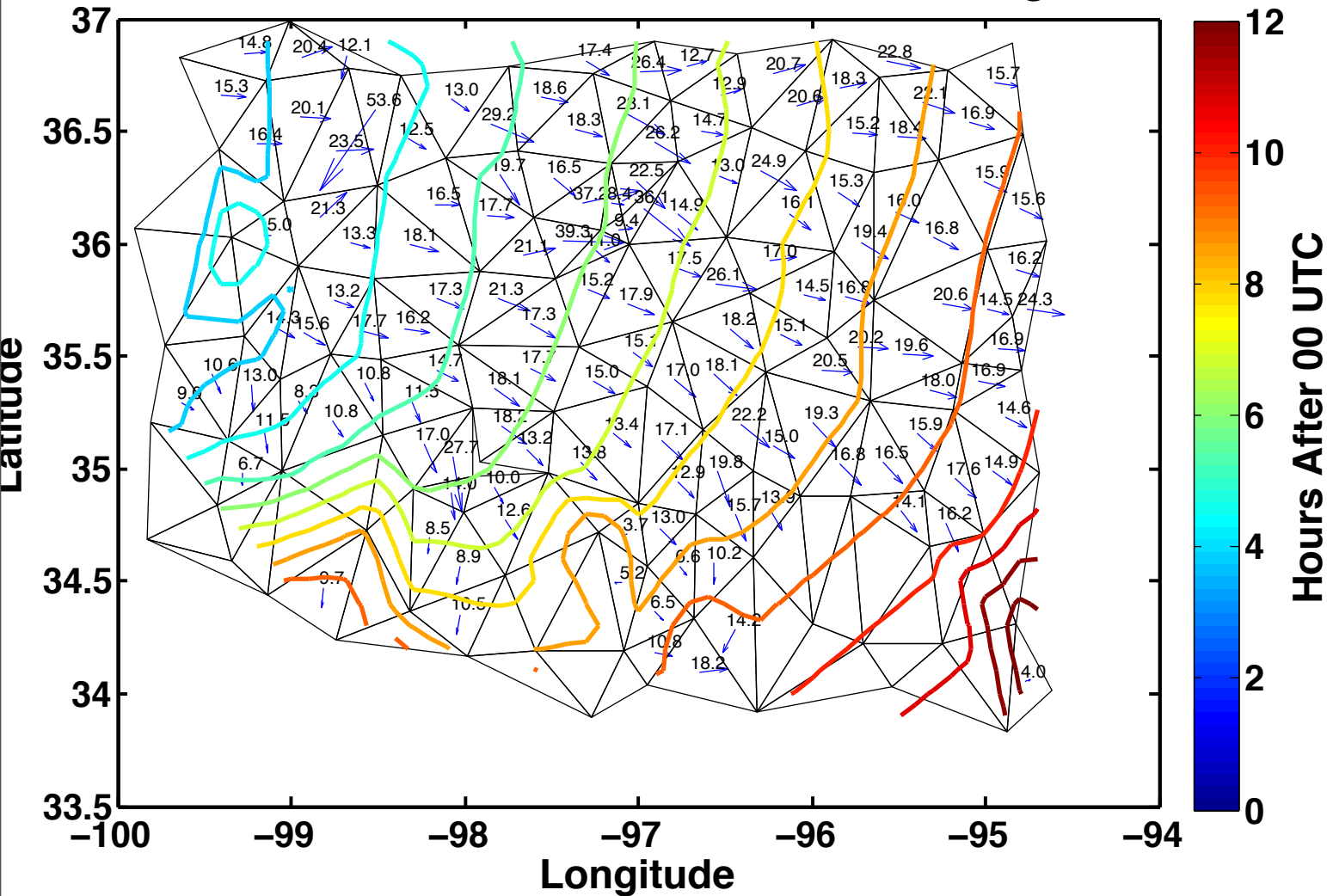
- Griddata fits the regularly spaced surface $f(x_i, y_i)$ to the irregularly spaced data $(xlist, ylist, tlist / 12)$.

```
[xi, yi] = meshgrid(-100.1:.1:-94.5, 33.7:.1:37.1);  
zi = griddata(xlist, ylist, tlist ./ 12, xi, yi);
```

```
xlist(137*3,1)  
ylist(137*3,1)  
tlist(137*3,1)
```


New Version

13 June 1997 0–12 UTC Case Frontal Passages



```
[xi,yi] =
meshgrid(-100.1:.1:-94.5,33.7:.1:
37.1);
zi = griddata(xlist, ylist,
tlist ./ 12, xi, yi);
figure(2)
quiver(xcenter,ycenter,uu,vv,scale);
hold on;

text(xcenter - .05, ycenter + .05,
num2str(speed,'%3.1f'), 'fontsize',
8 )

triplot(triangle97,lon,lat,'Color'
,'k');

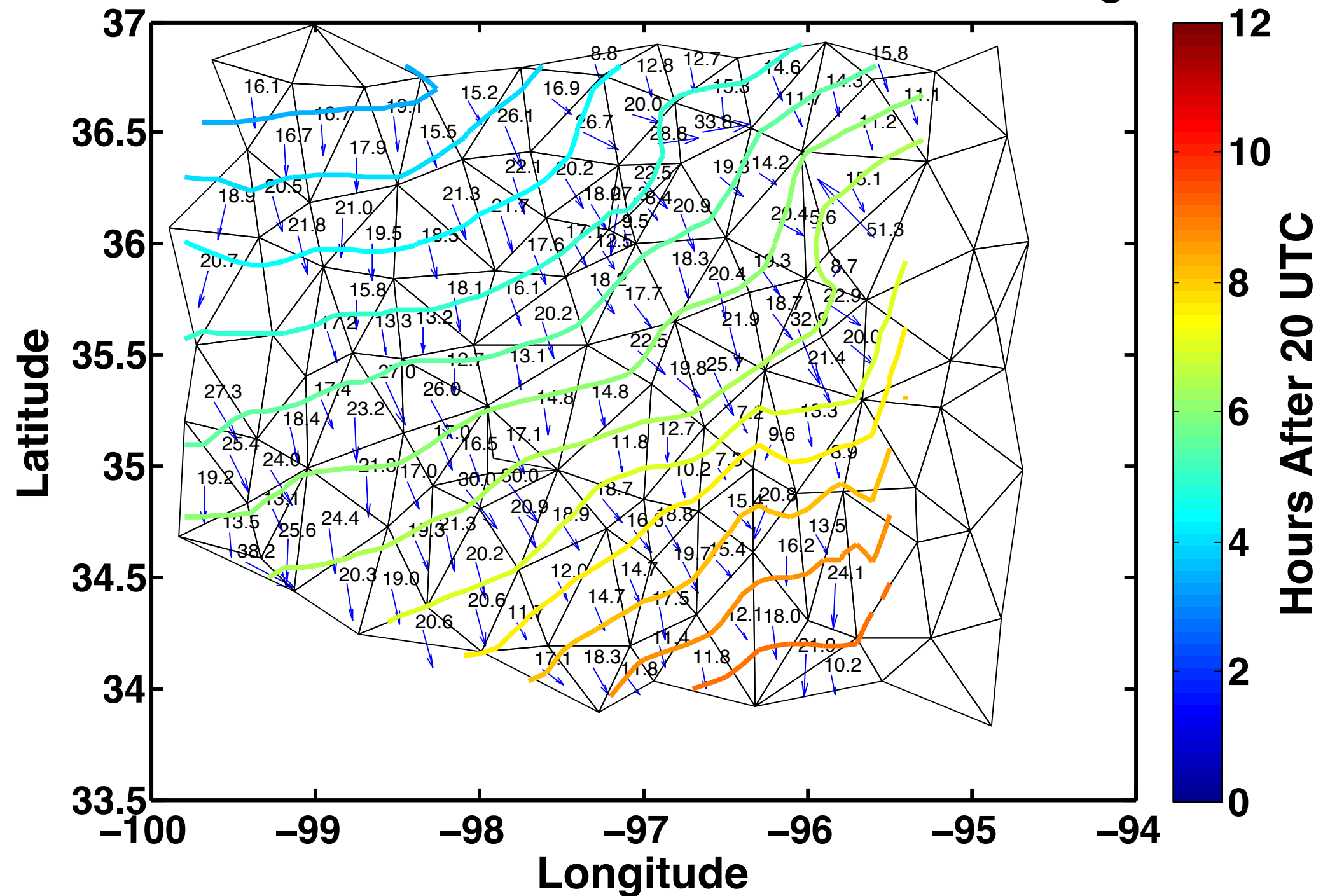
%s=60;
%scatter(xlist,ylist,s,tlist ./
12,'fill');

contour(xi, yi, zi, 12, 'LineWidth',
2);
h =
colorbar('Location','eastoutside');
ylabel(h,'Hours After 00
UTC','FontSize',
18,'FontWeight','bold');
caxis([0 12]);

hold off;
```

Other Cases

15–16 June 2002 20–8 UTC Case Frontal Passages



Other Cases

20 May 2011 8–20 UTC Case Frontal Passages

