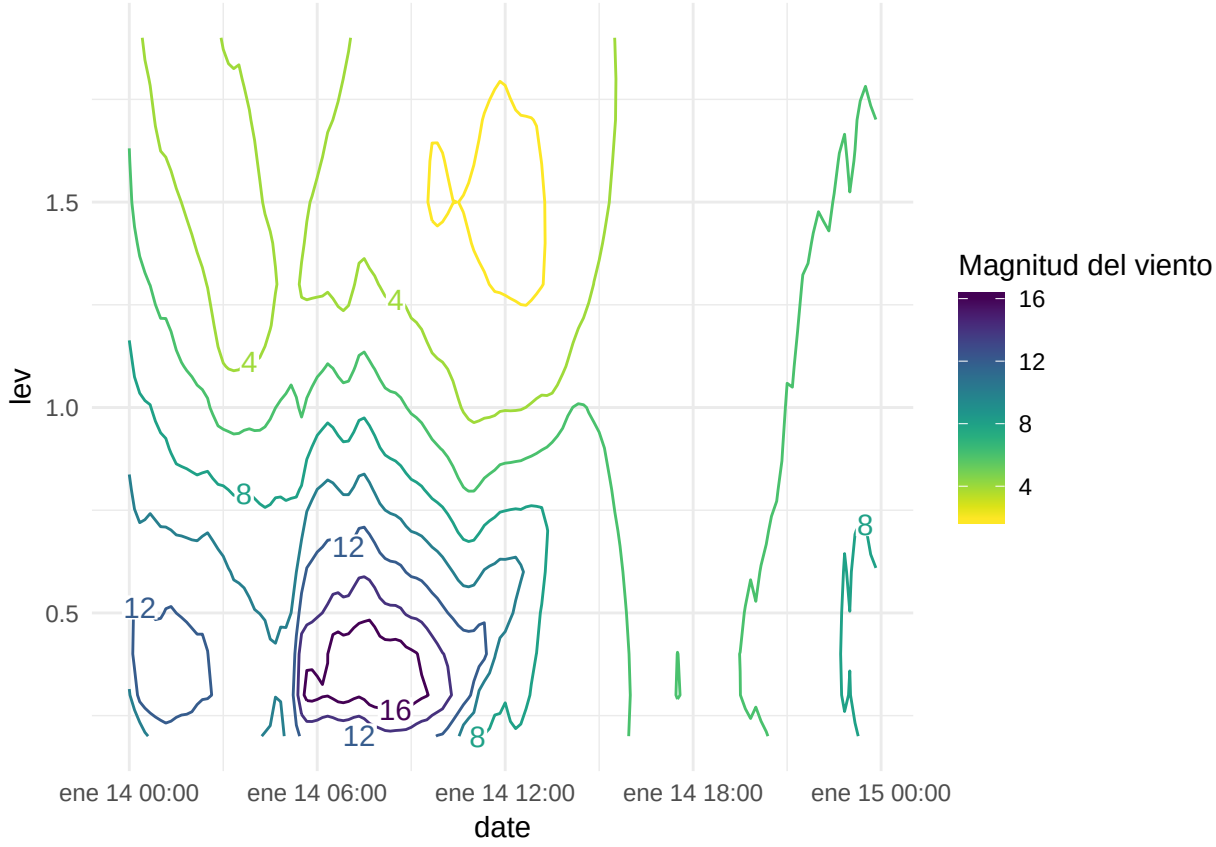
Preliminar

Pao

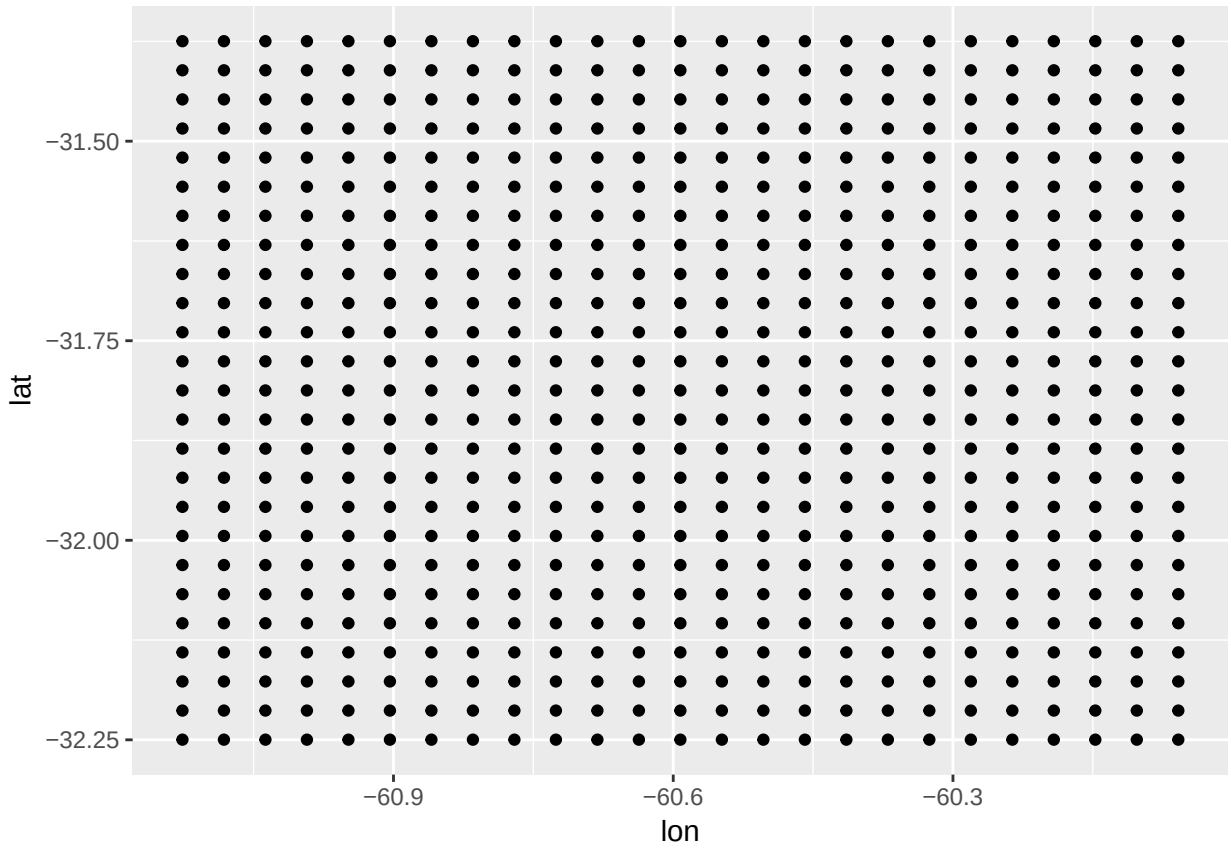
December 11, 2017

YSU

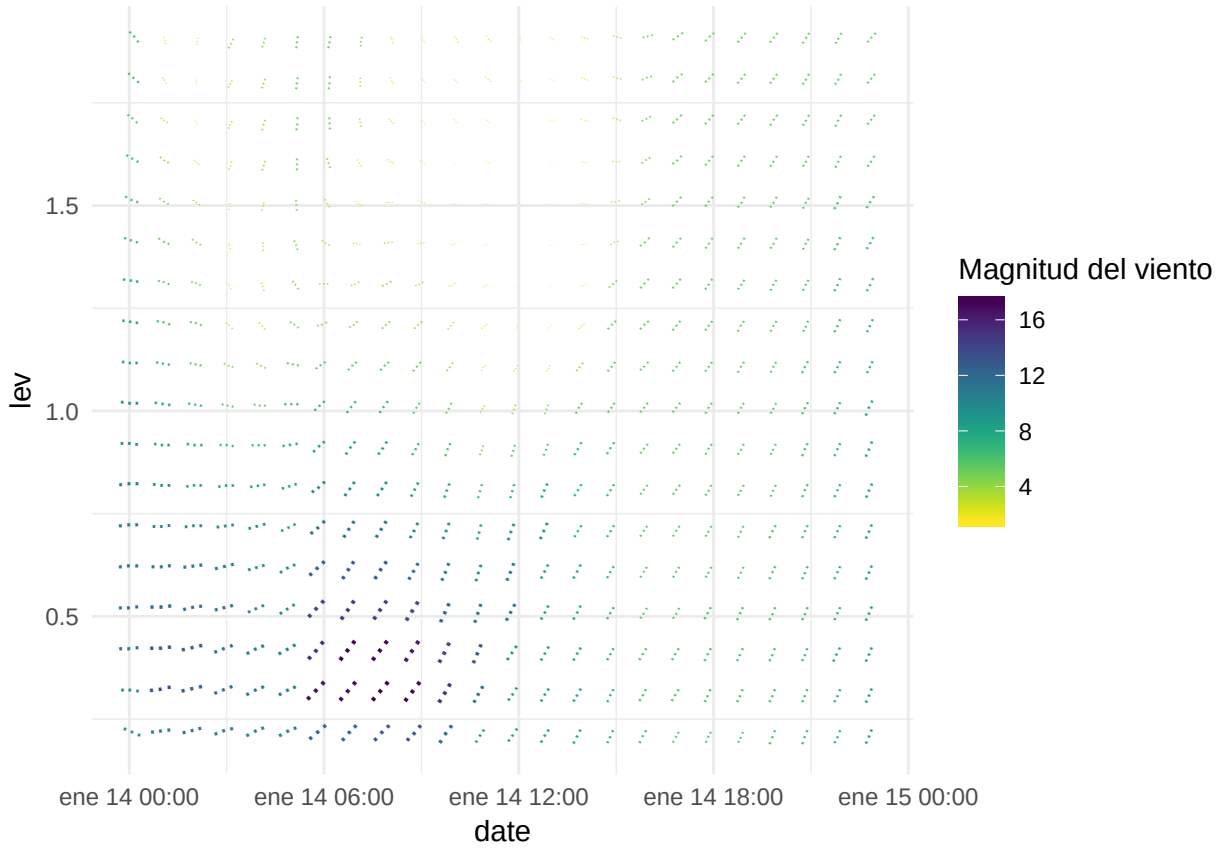
```
ggplot(subset(caso.YSU, lon%~%-60.53 & lat%~%-31.858 & lev < 2 & day(date)==14),
       aes(date, lev)) +
  geom_contour(aes(z = spd, color =..level..), binwidth = 2) +
  geom_contourlabel(aes(z = spd, color =..level..)) +
  #geom_point(aes(date, pblh/1000)) +
  scale_color_viridis(name = "Magnitud del viento", option = "viridis", direction = -1) +
  theme_minimal()
```



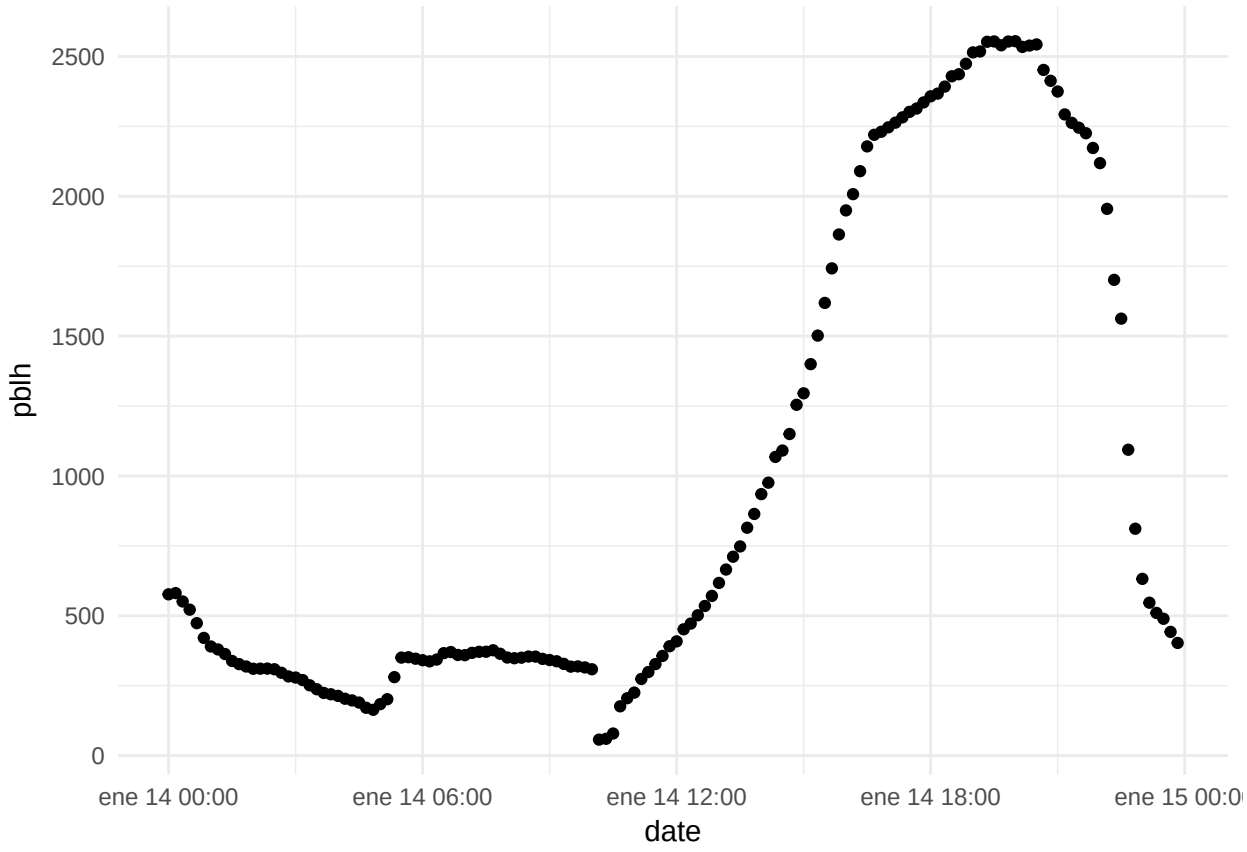

```
ggplot(subset(caso.YSU, date == "2016-01-14 06:00:00 -03" & lev == 0.9), aes(lon, lat)) +
  geom_point()
```



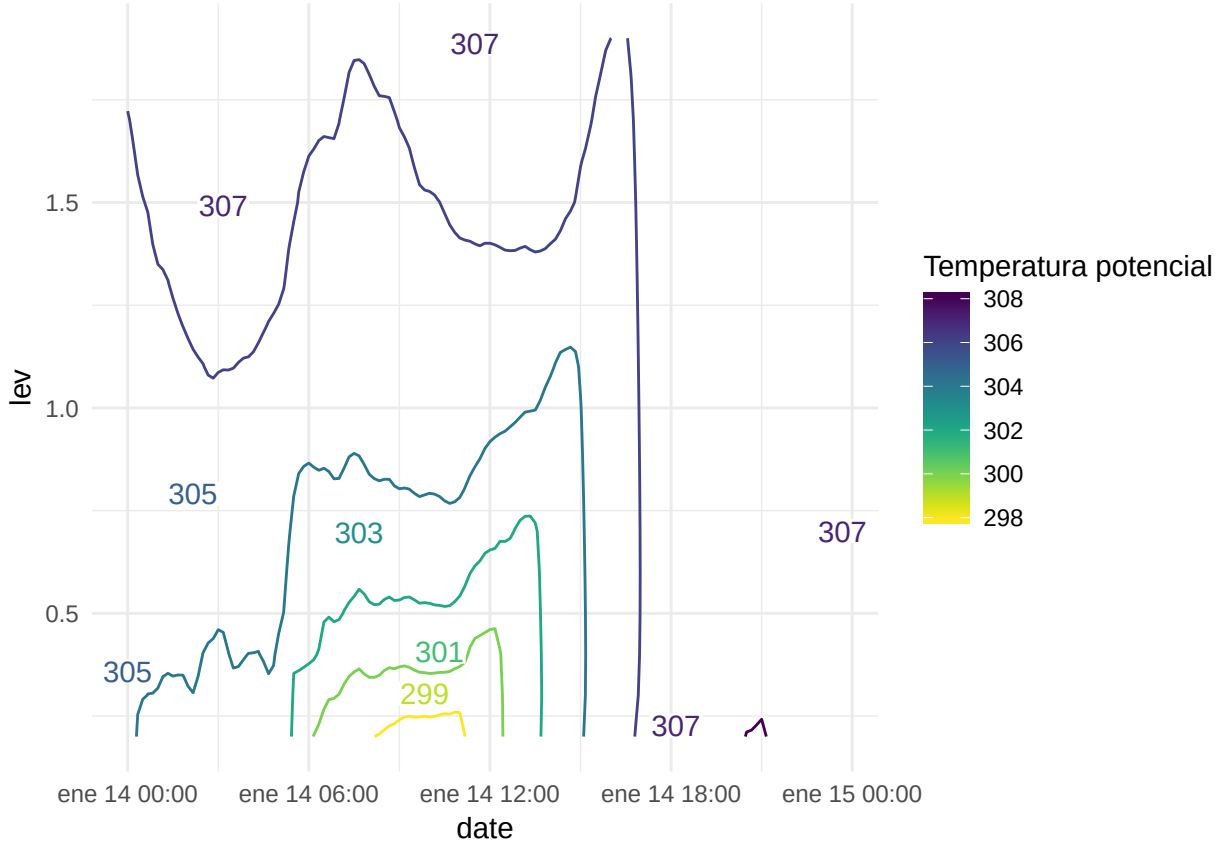

```
ggplot(subset(caso.YSU, lon%~%-60.53  & lat%~%-31.858 & !is.na(spd) & minute(date)==0 & lev < 2 & day(da
  geom_arrow(aes(mag = spd, angle = dir, color = spd), start = -90, direction = -1) +
  scale_size_continuous(range = c(0, 5), guide = "none") +
  scale_color_viridis(name = "Magnitud del viento", option = "viridis", direction = -1) +
  theme_minimal()
```



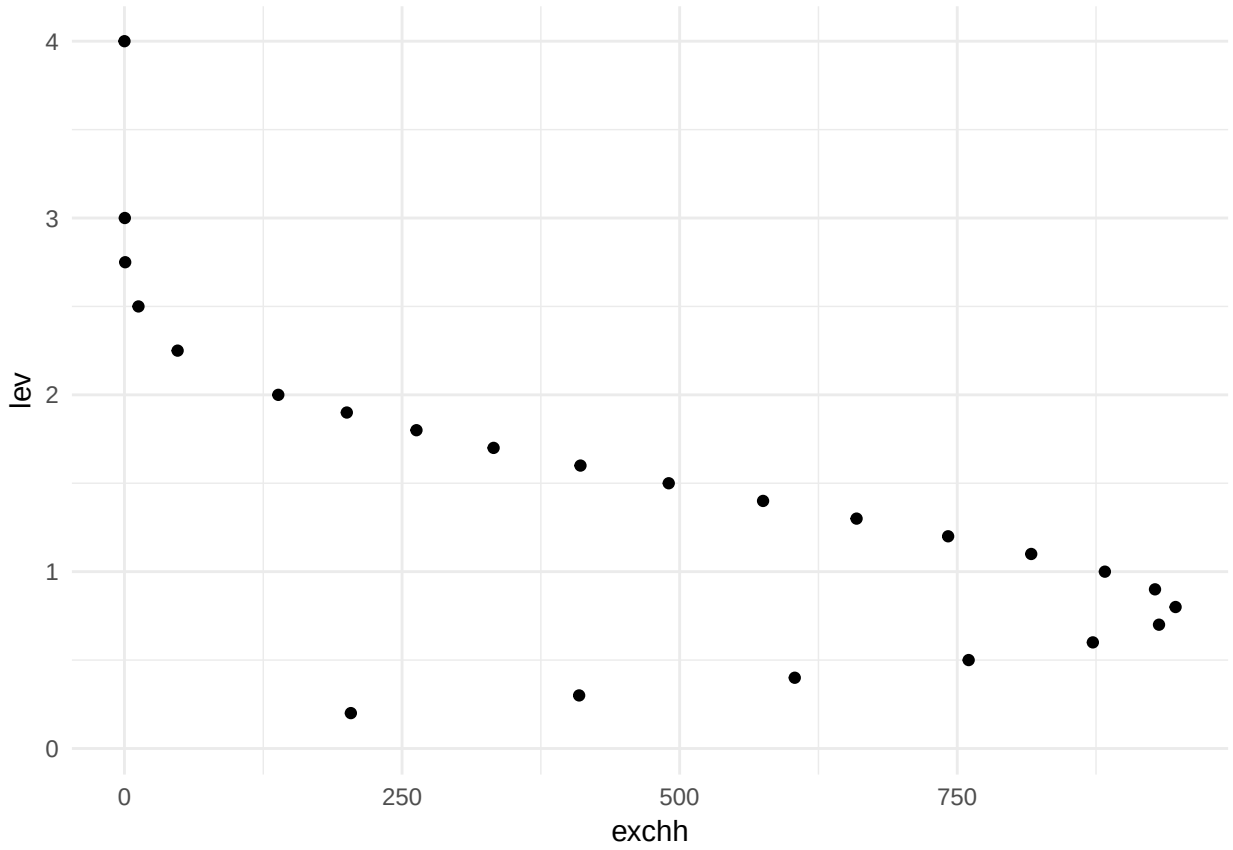

```
ggplot(subset(caso.YSU, lon%~%-60.53  & lat%~%-31.858 & day(date) == 14), aes(date, pblh)) +
        geom_point() +
        theme_minimal()
```



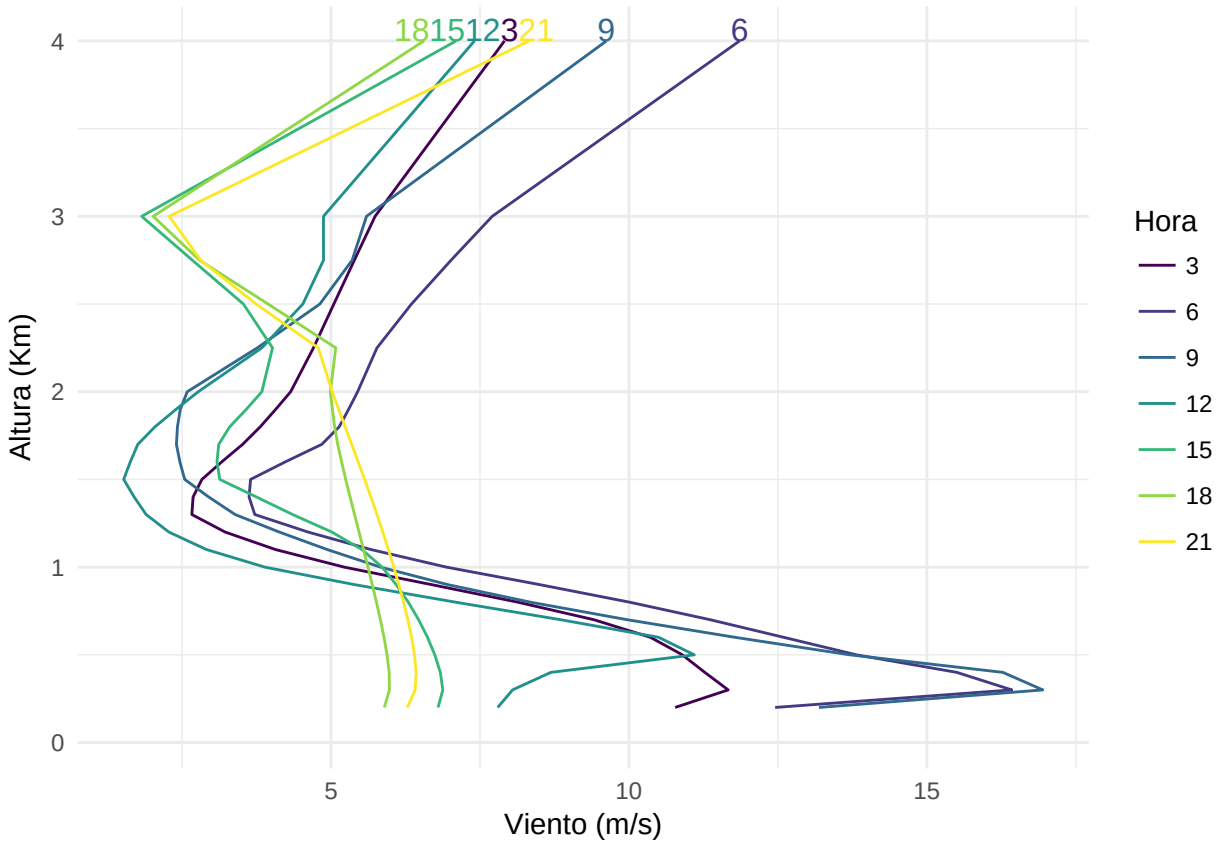

```
ggplot(subset(caso.YSU, lon%~%-60.53 & lat%~%-31.858 & lev < 2 & day(date)==14),
       aes(date, lev)) +
  geom_contour(aes(z = theta, color =..level..), binwidth = 2) +
  geom_contourlabel(aes(z = theta, color =..level..)) +
  #geom_point(aes(date, pblh/1000)) +
  scale_color_viridis(name = "Temperatura potencial", option = "viridis", direction = -1) +
  theme_minimal()
```




```
ggplot(subset(caso.YSU, lon%~%-60.53 & lat%~%-31.858 & date == "2016-01-14 18:00:00 -03"),
       aes(exchh, lev)) +
  geom_point() +
  theme_minimal()
```

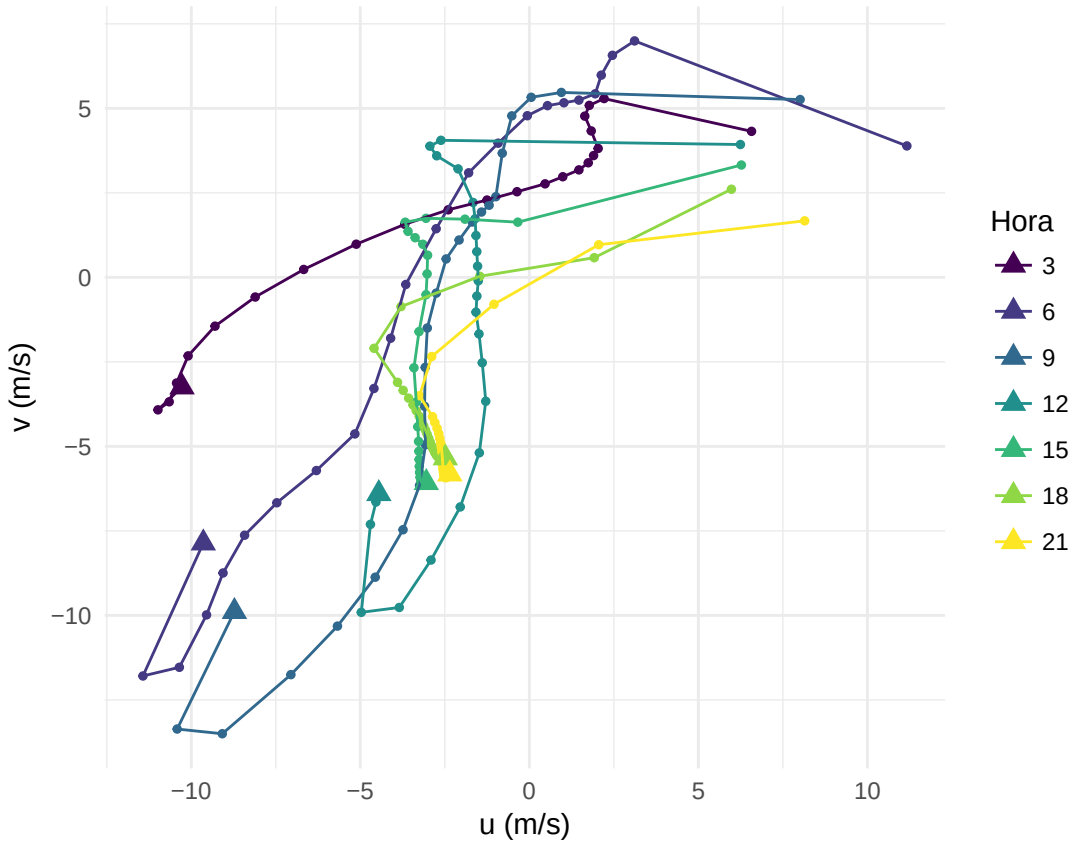



```
ggplot(subset(caso.YSU, lon%~%-60.53 & lat%~%-31.858 & day(date) == 14 & minute(date) == 00 & hour(date
  geom_line() +
  coord_flip() +
  scale_color_viridis(name = "Hora", discrete = T) +
  geom_dl(aes(label = as.factor(hour(date))), method = "top.qp") +
  ylab("Viento (m/s)") +
  xlab("Altura (Km)") +
  theme_minimal()
```

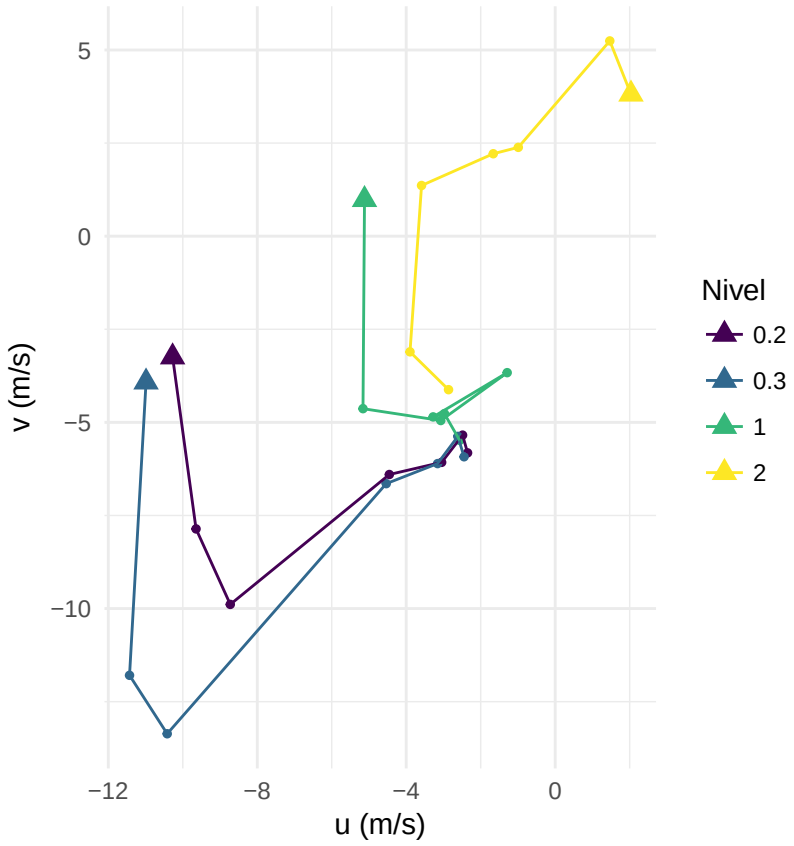



```
perfiles.YSU <- subset(caso.YSU, lon%~%-60.53 & lat%~%-31.858 & day(date) == 14 & minute(date) == 00 & h

ggplot(perfiles.YSU, aes(u, v,  color = as.factor(hour(date)))) +
  geom_point(data=subset(perfiles.YSU, lev != 0.2), size = 1) +
  geom_point(data=subset(perfiles.YSU, lev == 0.2), shape = 17, size = 3) +
  geom_path() +
  scale_color_viridis(name = "Hora", discrete = T) +
  xlab("u (m/s)") + ylab("v (m/s)") +
  #xlim(c(-10,14)) +
  #ylim(c(-10,14)) +
  coord_equal() +
  theme_minimal()
```

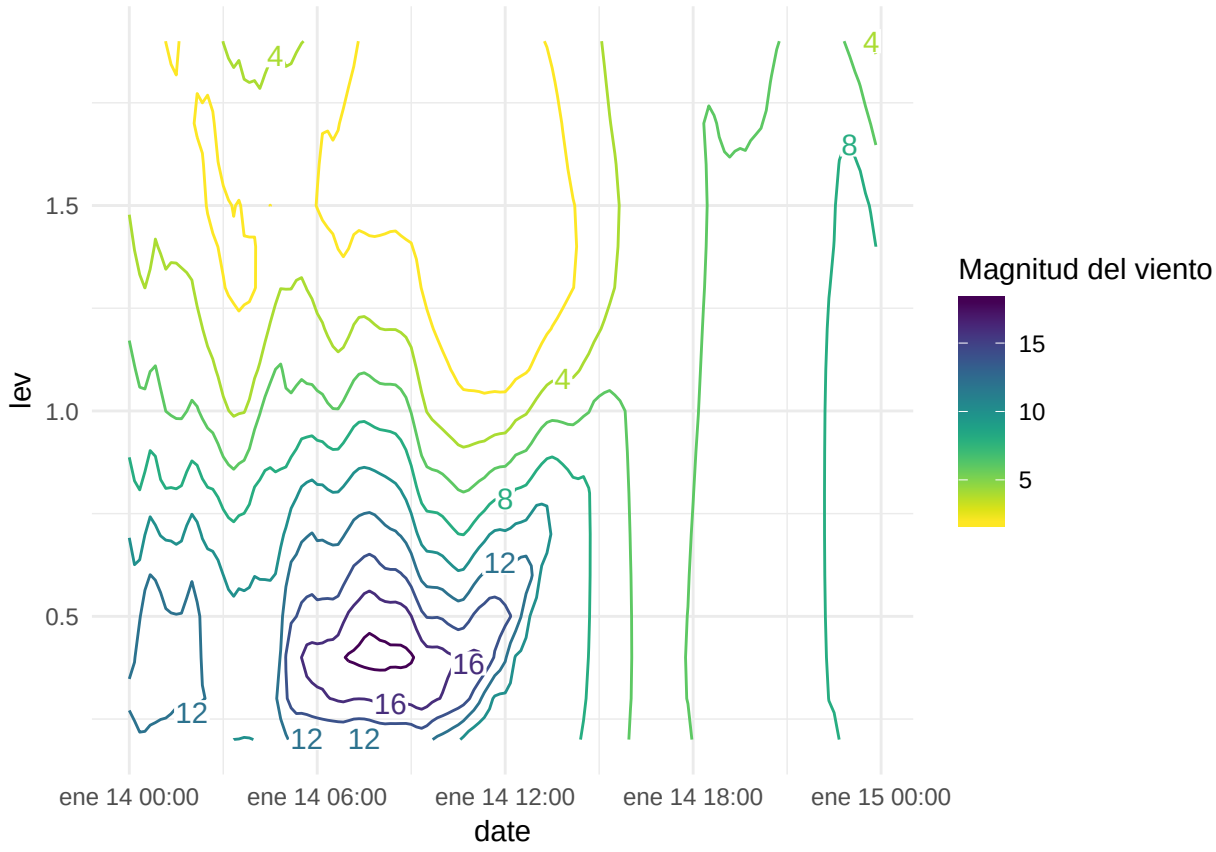



```
ggplot(subset(perfiles.YSU, lev %in% c(0.2, 0.3, 1.0, 2.0)), aes(u, v, color = as.factor(lev))) +
  geom_point(aes(x = ifelse(hour(date) != 0, u, NA)), size = 1) +
  geom_point(aes(x = ifelse(hour(date) == 3, u, NA)), shape = 17, size = 3) +
  geom_path() +
  scale_color_viridis(name = "Nivel", discrete = T) +
  xlab("u (m/s)") + ylab("v (m/s)") +
  #xlim(c(-12,10)) +
  #ylim(c(-14,10)) +
  coord_equal() +
  theme_minimal()
```

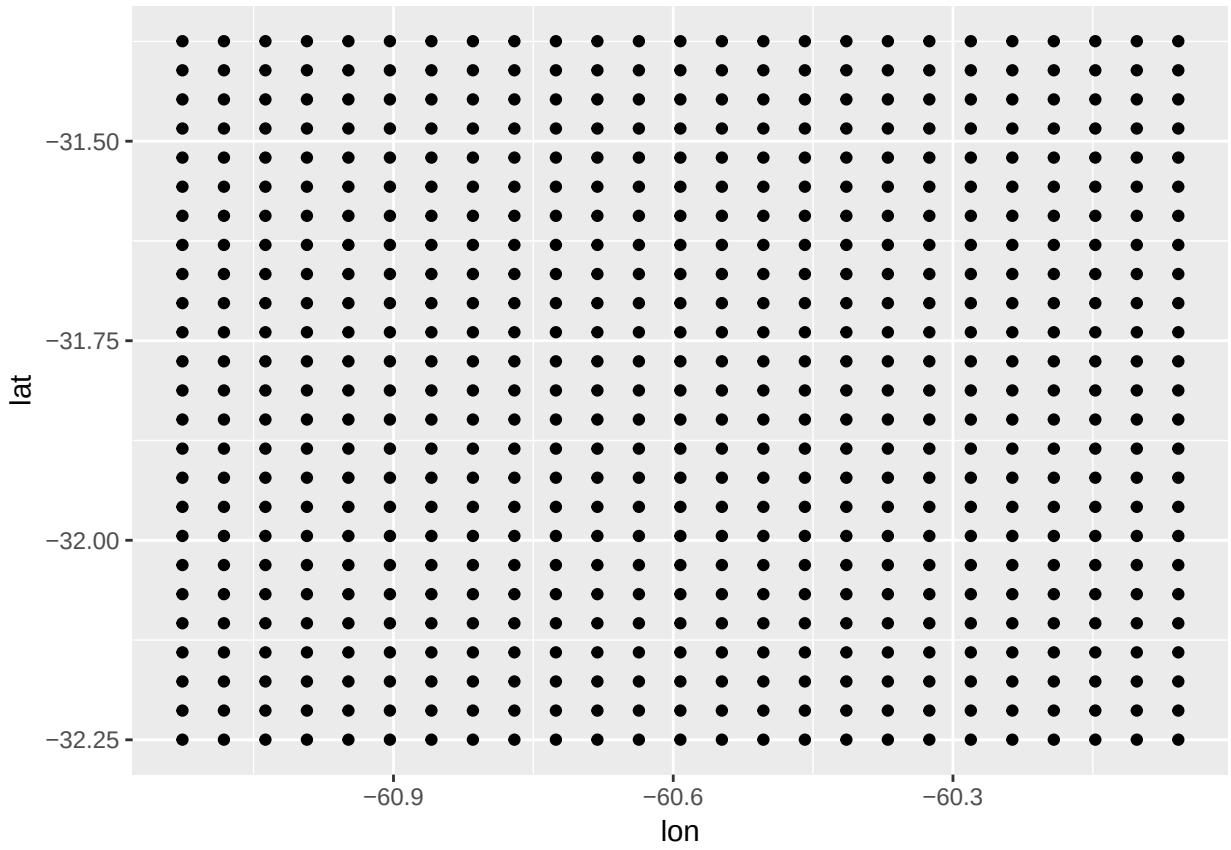


MYJ

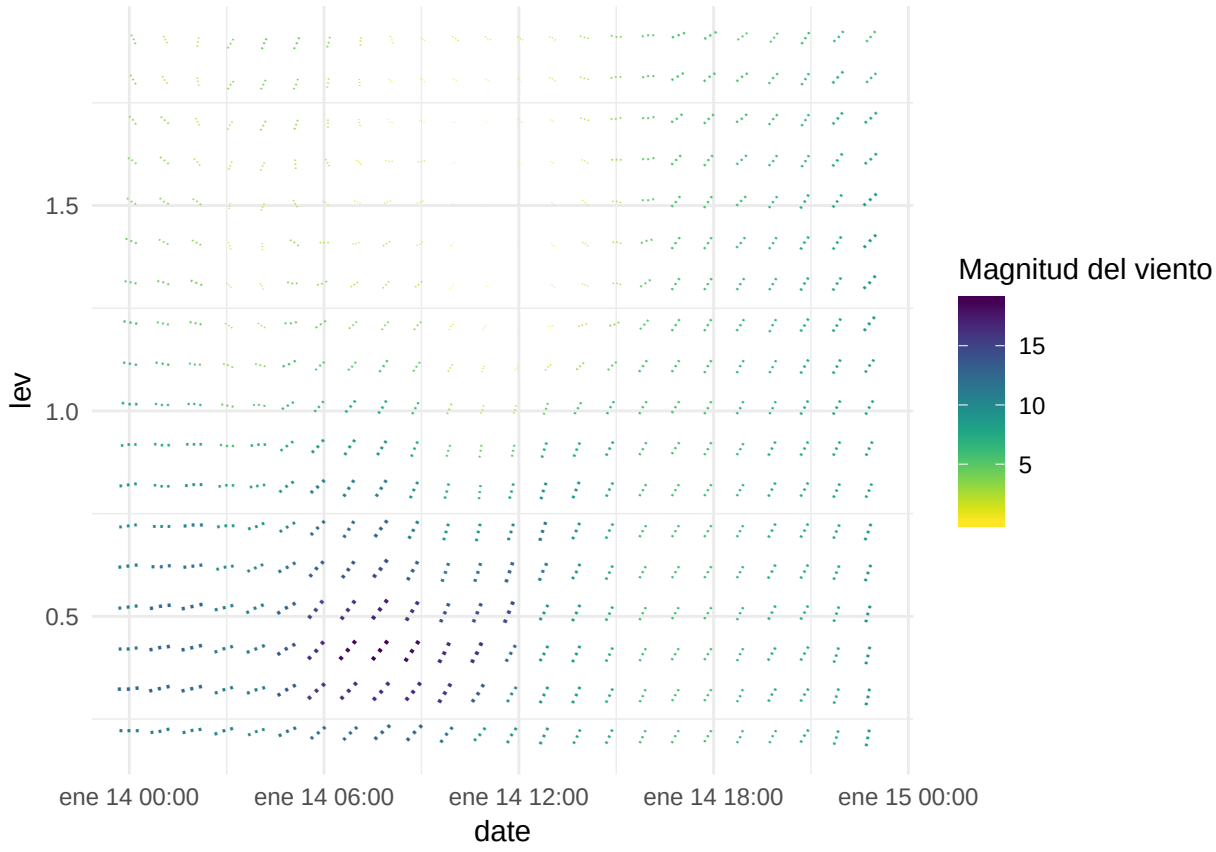
```
ggplot(subset(caso.MYJ, lon%~%-60.53 & lat%~%-31.858 & lev < 2 & day(date)==14),
       aes(date, lev)) +
  geom_contour(aes(z = spd, color =..level..), binwidth = 2) +
  geom_contourlabel(aes(z = spd, color =..level..)) +
  #geom_point(aes(date, pblh/1000)) +
  scale_color_viridis(name = "Magnitud del viento", option = "viridis", direction = -1) +
  theme_minimal()
```



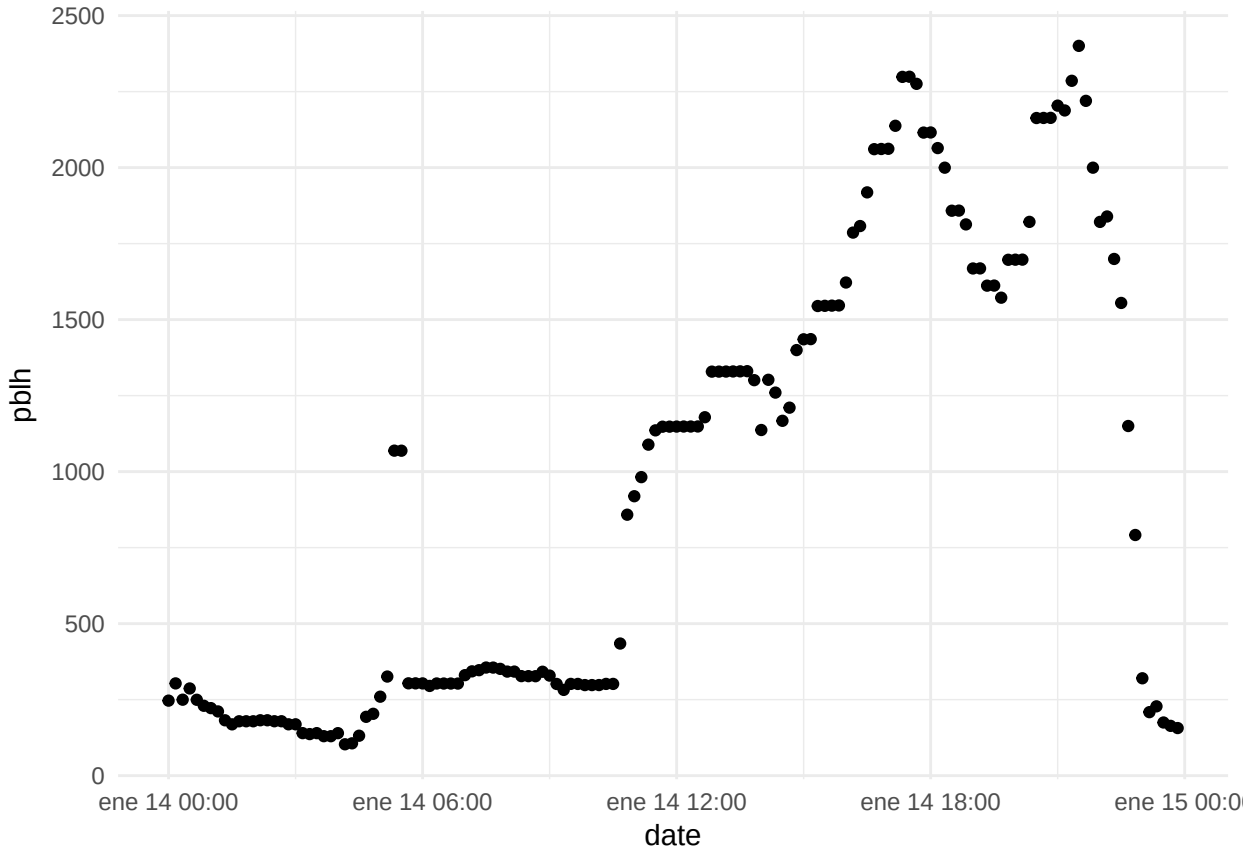

```
ggplot(subset(caso.MYJ, date == "2016-01-14 06:00:00 -03" & lev == 0.9), aes(lon, lat)) +
  geom_point()
```



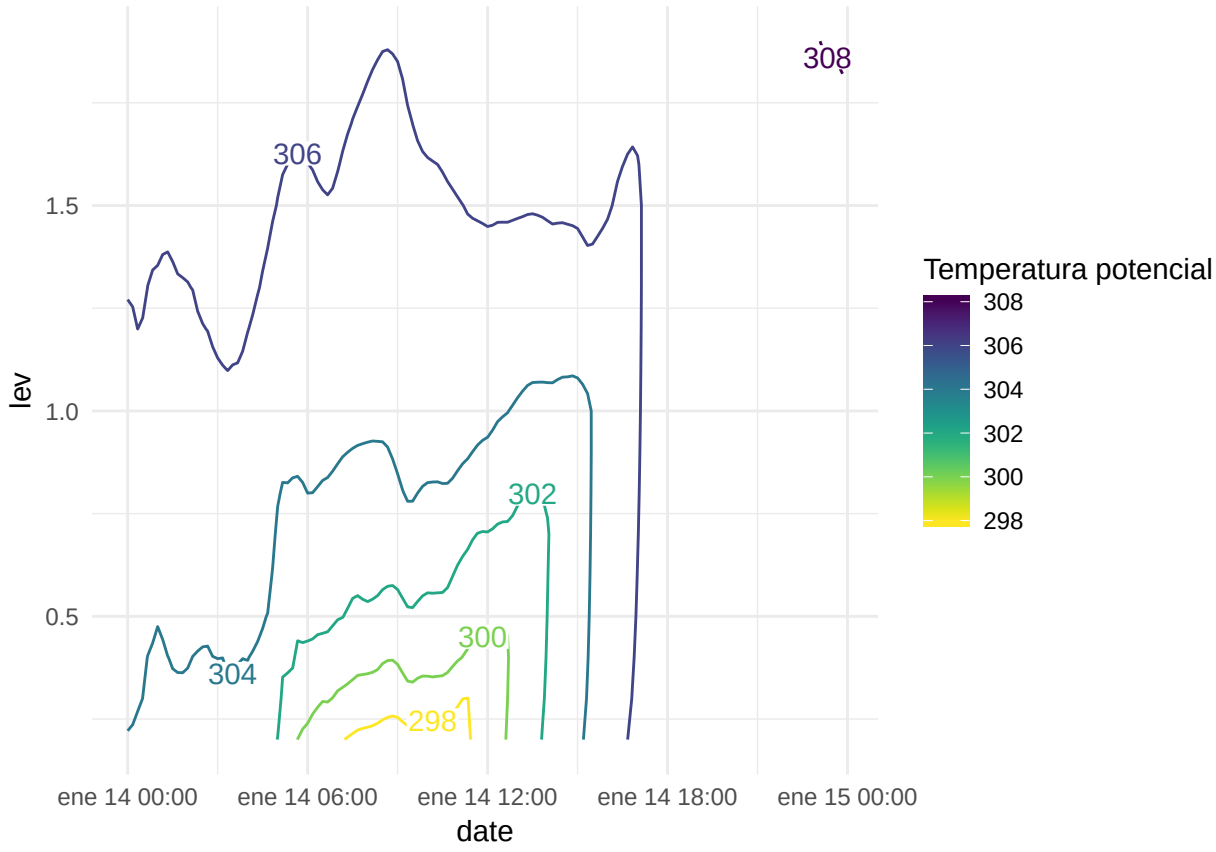

```
ggplot(subset(caso.MYJ, lon%~%-60.53  & lat%~%-31.858 & !is.na(spd) & minute(date)==0 & lev < 2 & day(da
  geom_arrow(aes(mag = spd, angle = dir, color = spd), start = -90, direction = -1) +
  scale_size_continuous(range = c(0, 5), guide = "none") +
  scale_color_viridis(name = "Magnitud del viento", option = "viridis", direction = -1) +
  theme_minimal()
```



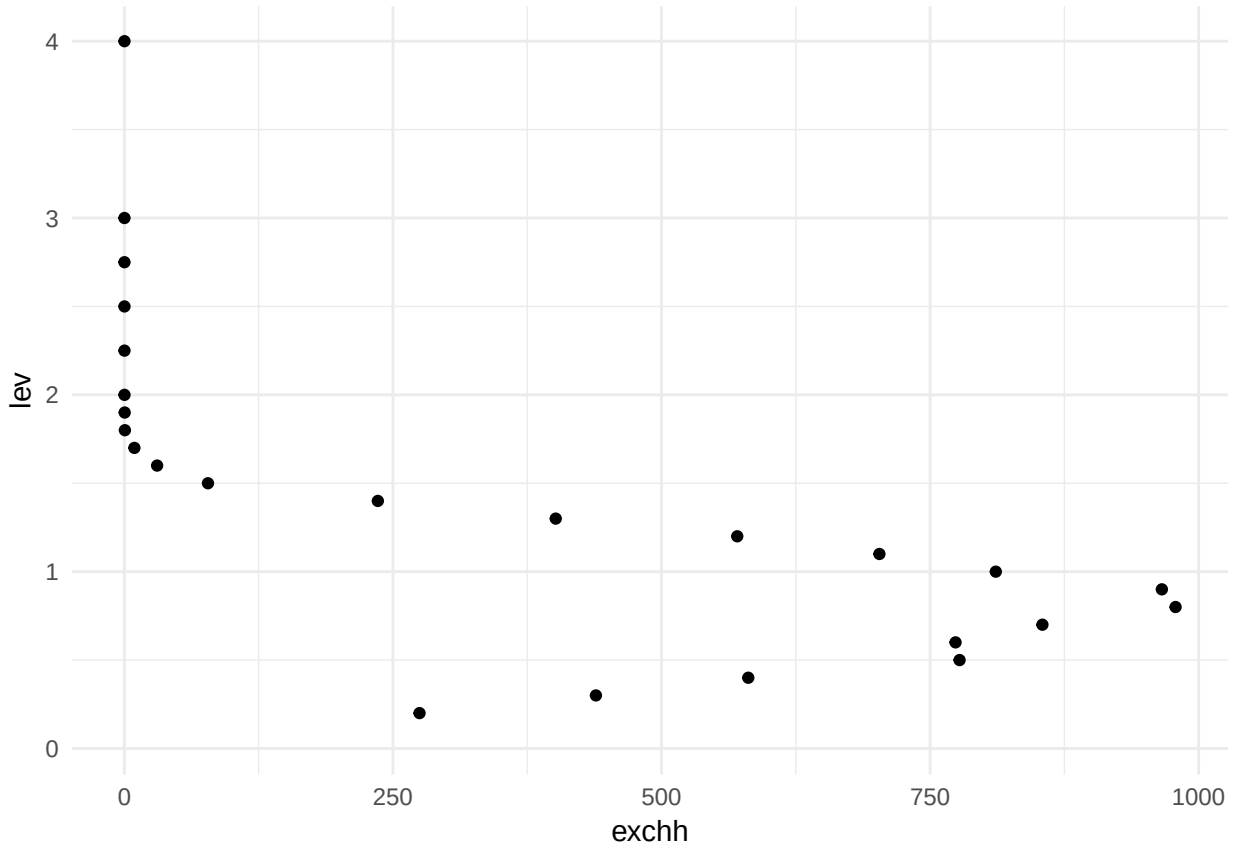

```
ggplot(subset(caso.MYJ, lon%~%-60.53  & lat%~%-31.858 & day(date) == 14), aes(date, pblh)) +
        geom_point() +
        theme_minimal()
```



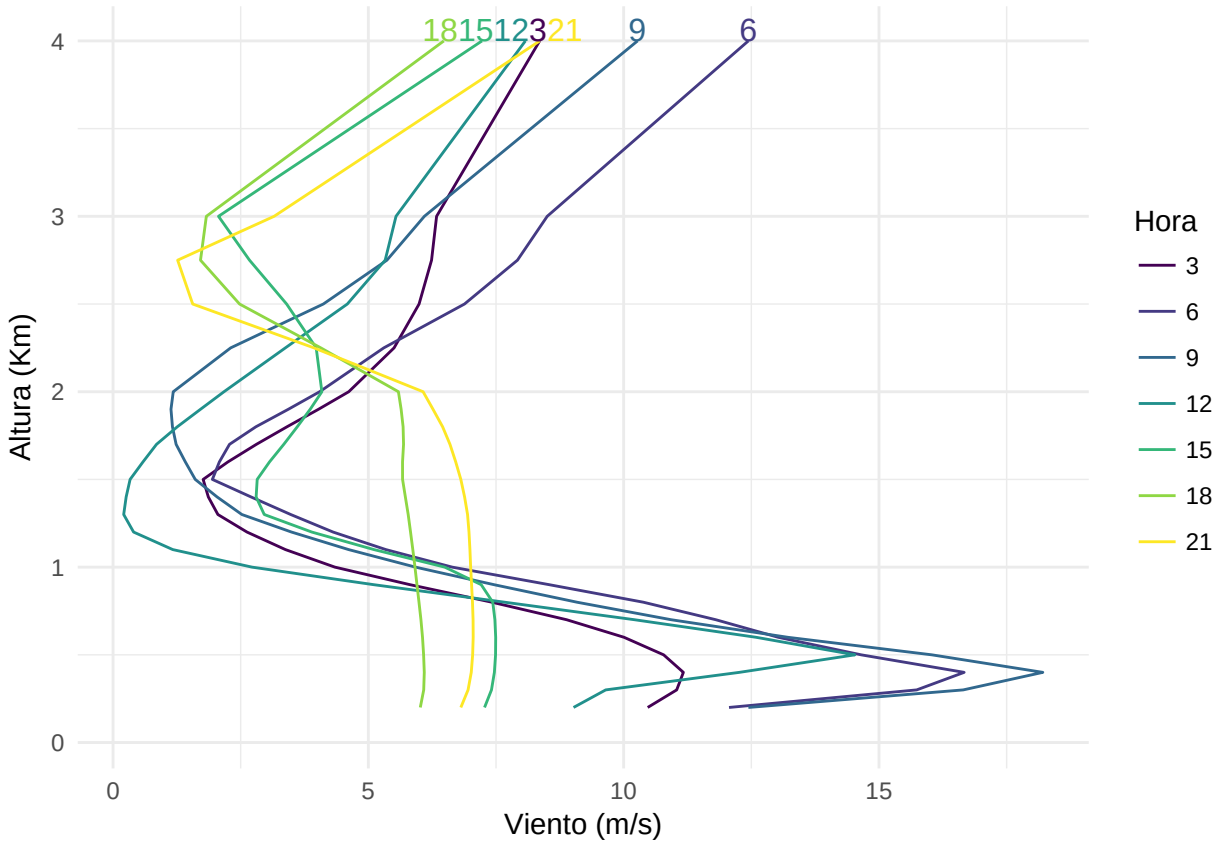

```
ggplot(subset(caso.MYJ, lon%~%-60.53 & lat%~%-31.858 & lev < 2 & day(date)==14),
       aes(date, lev)) +
  geom_contour(aes(z = theta, color =..level..), binwidth = 2) +
  geom_contourlabel(aes(z = theta, color =..level..)) +
  #geom_point(aes(date, pblh/1000)) +
  scale_color_viridis(name = "Temperatura potencial", option = "viridis", direction = -1) +
  theme_minimal()
```




```
ggplot(subset(caso.MYJ, lon%~%-60.53 & lat%~%-31.858 & date == "2016-01-14 18:00:00 -03"),
       aes(exchh, lev)) +
  geom_point() +
  theme_minimal()
```

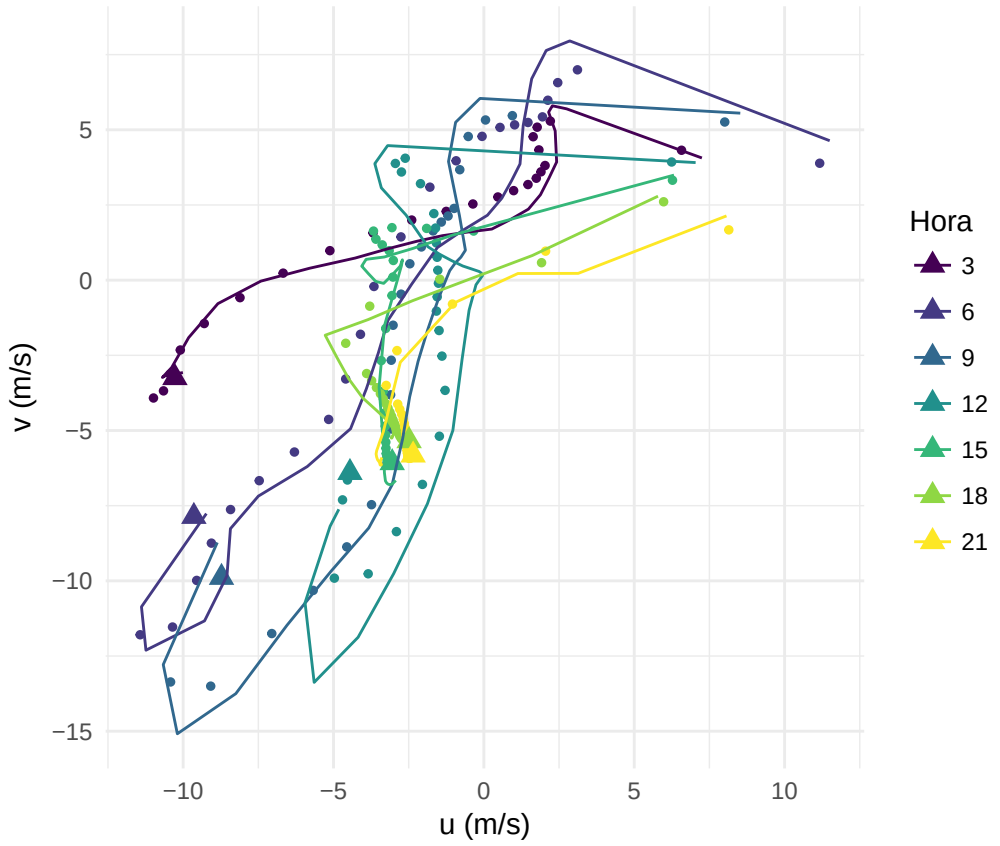



```
ggplot(subset(caso.MYJ, lon%~%-60.53 & lat%~%-31.858 & day(date) == 14 & minute(date) == 00 & hour(date
  geom_line() +
  coord_flip() +
  scale_color_viridis(name = "Hora", discrete = T) +
  geom_dl(aes(label = as.factor(hour(date))), method = "top.qp") +
  ylab("Viento (m/s)") +
  xlab("Altura (Km)") +
  theme_minimal()
```

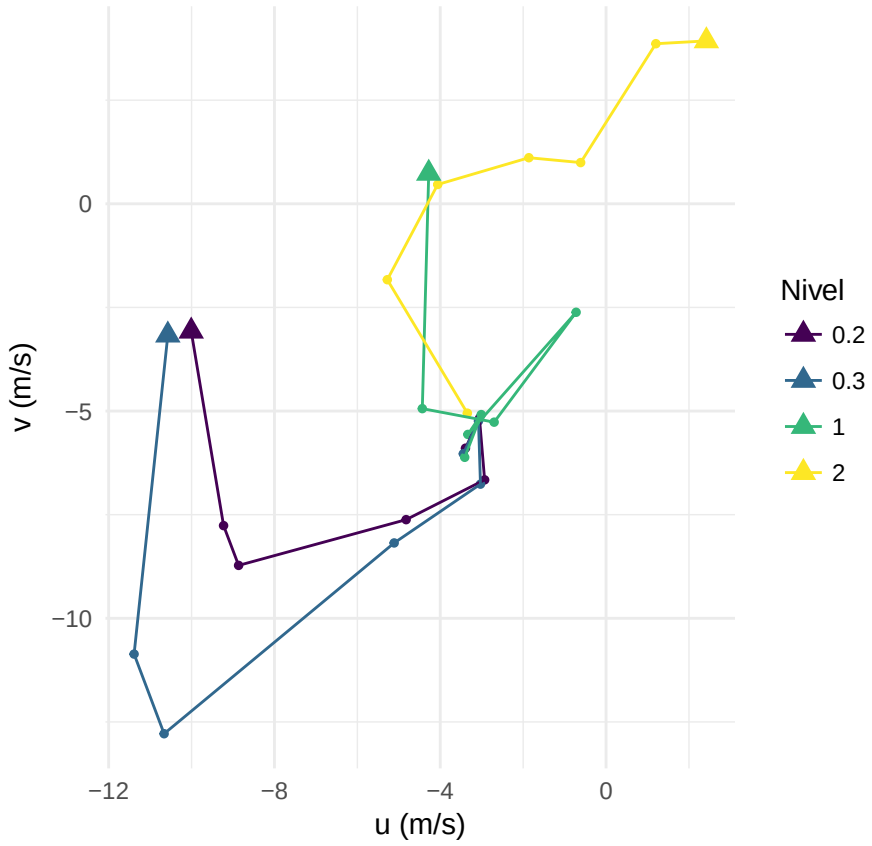



```
perfiles.MYJ <- subset(caso.MYJ, lon%~%-60.53 & lat%~%-31.858 & day(date) == 14 & minute(date) == 00 & h

ggplot(perfiles.MYJ, aes(u, v,  color = as.factor(hour(date)))) +
  geom_point(data=subset(perfiles.YSU, lev != 0.2), size = 1) +
  geom_point(data=subset(perfiles.YSU, lev == 0.2), shape = 17, size = 3) +
  geom_path() +
  scale_color_viridis(name = "Hora", discrete = T) +
  xlab("u (m/s)") + ylab("v (m/s)") +
  #xlim(c(-10,14)) +
  #ylim(c(-10,14)) +
  coord_equal() +
  theme_minimal()
```

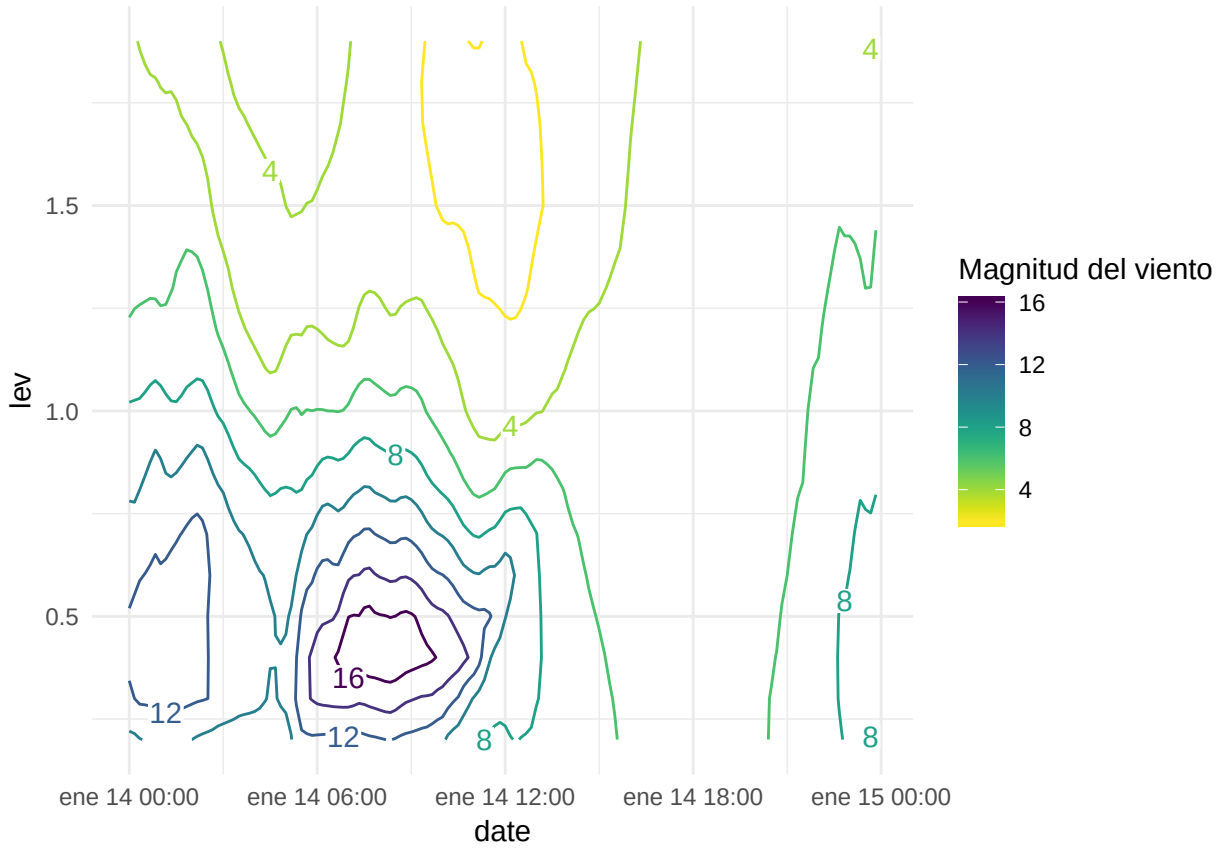



```
ggplot(subset(perfiles.MYJ, lev %in% c(0.2, 0.3, 1.0, 2.0)), aes(u, v, color = as.factor(lev))) +
  geom_point(aes(x = ifelse(hour(date) != 0, u, NA)), size = 1) +
  geom_point(aes(x = ifelse(hour(date) == 3, u, NA)), shape = 17, size = 3) +
  geom_path() +
  scale_color_viridis(name = "Nivel", discrete = T) +
  xlab("u (m/s)") + ylab("v (m/s)") +
  #xlim(c(-12,10)) +
  #ylim(c(-14,10)) +
  coord_equal() +
  theme_minimal()
```

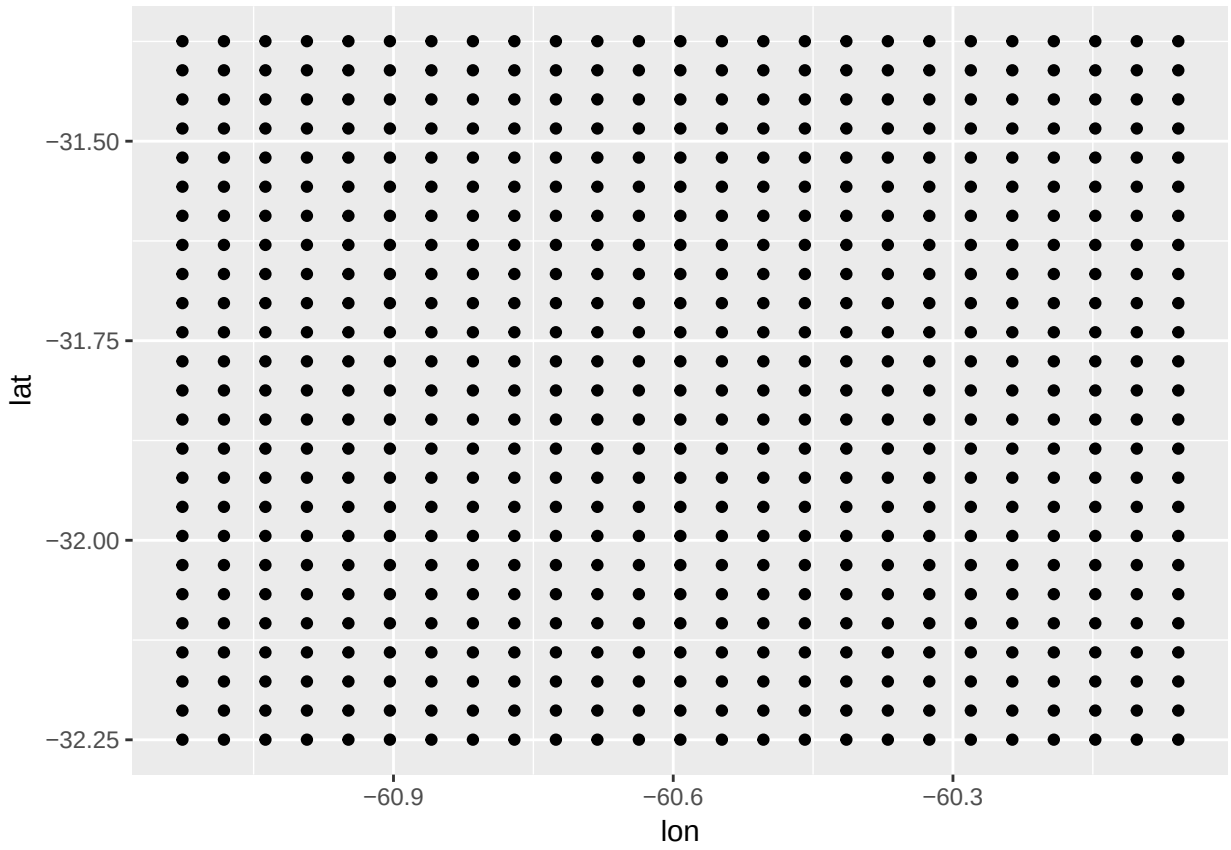


ACM2

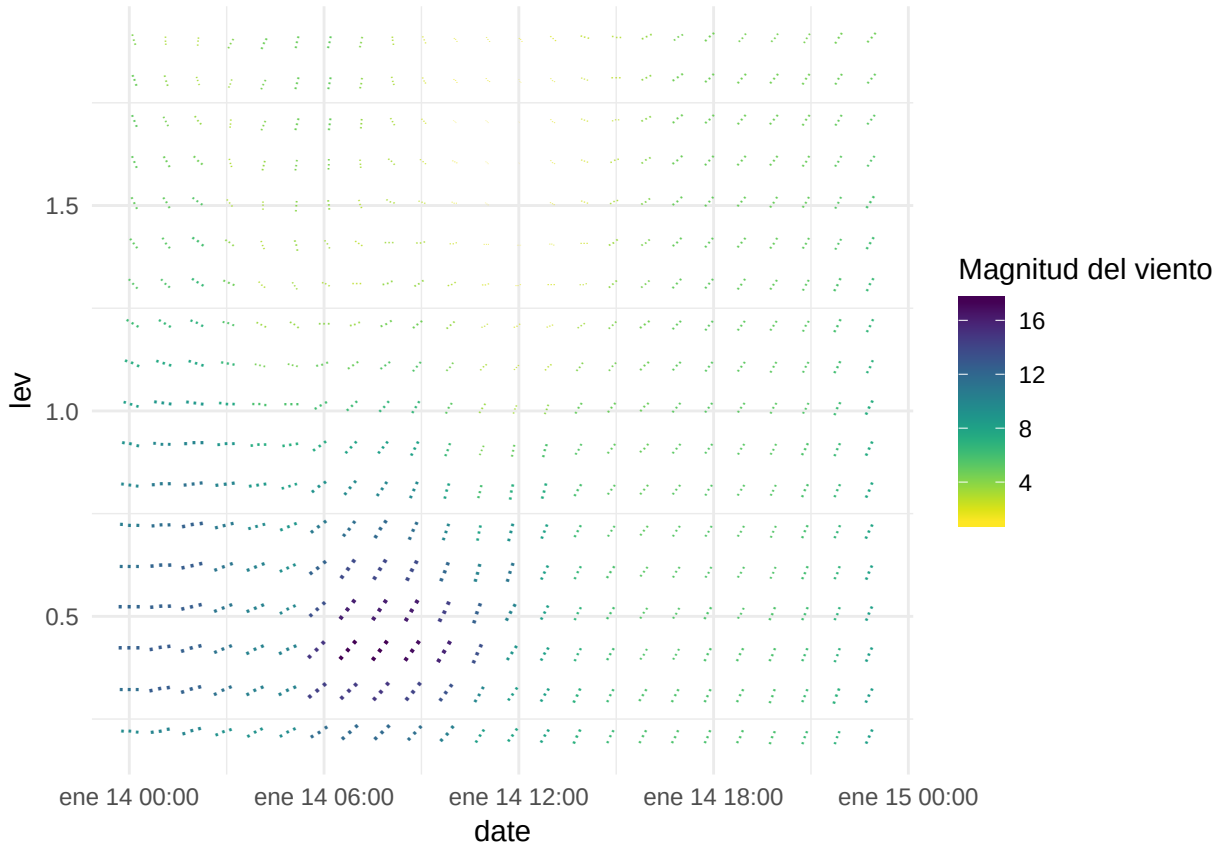
```
ggplot(subset(caso.ACM2, lon%~%-60.53 & lat%~%-31.858 & lev < 2 & day(date)==14),
       aes(date, lev)) +
  geom_contour(aes(z = spd, color =..level..), binwidth = 2) +
  geom_contourlabel(aes(z = spd, color =..level..)) +
  #geom_point(aes(date, pblh/1000)) +
  scale_color_viridis(name = "Magnitud del viento", option = "viridis", direction = -1) +
  theme_minimal()
```



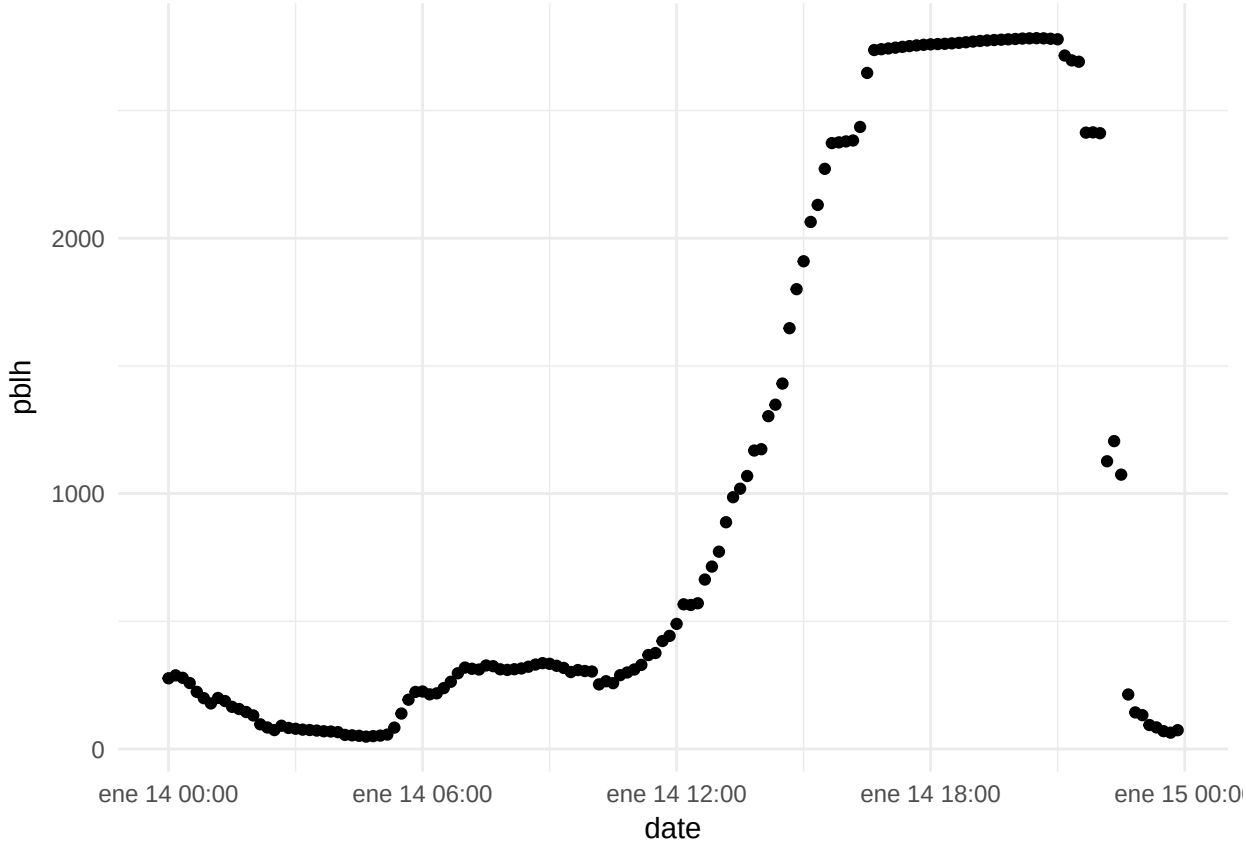

```
ggplot(subset(caso.ACM2, date == "2016-01-14 06:00:00 -03" & lev == 0.9), aes(lon, lat)) +
  geom_point()
```



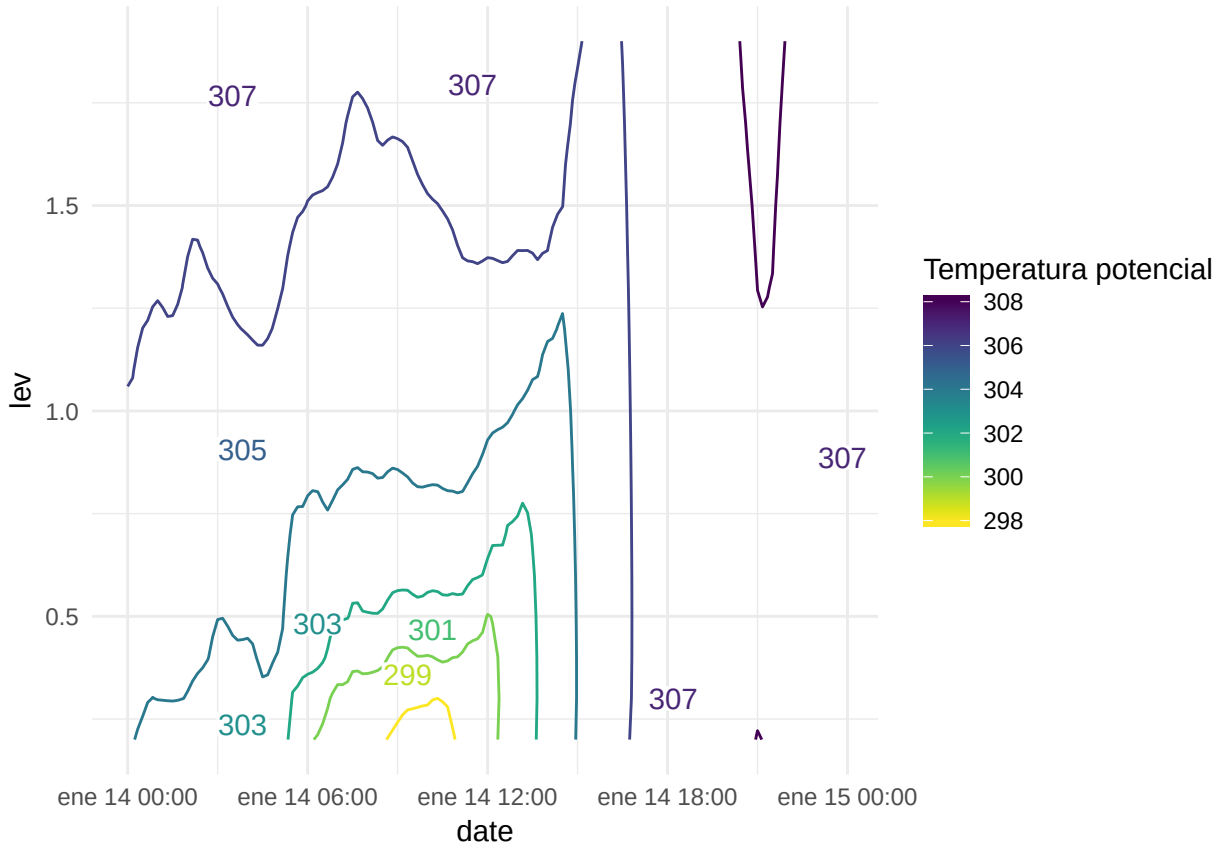

```
ggplot(subset(caso.ACM2, lon%~%-60.53  & lat%~%-31.858 & !is.na(spd) & minute(date)==0 & lev < 2 & day(
  geom_arrow(aes(mag = spd, angle = dir, color = spd), start = -90, direction = -1) +
  scale_size_continuous(range = c(0, 5), guide = "none") +
  scale_color_viridis(name = "Magnitud del viento", option = "viridis", direction = -1) +
  theme_minimal()
```



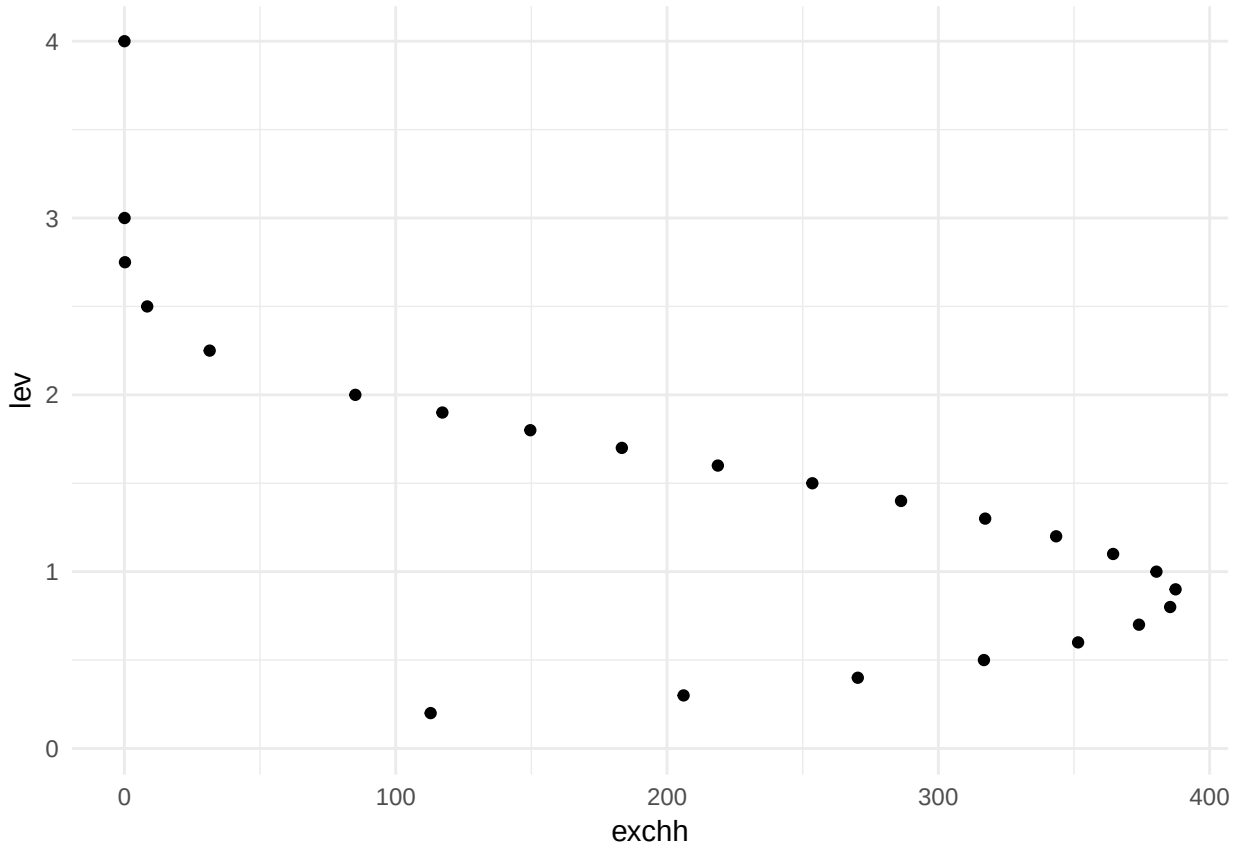

```
ggplot(subset(caso.ACM2, lon%~%-60.53  & lat%~%-31.858 & day(date) == 14), aes(date, pblh)) +
         geom_point() +
         theme_minimal()
```



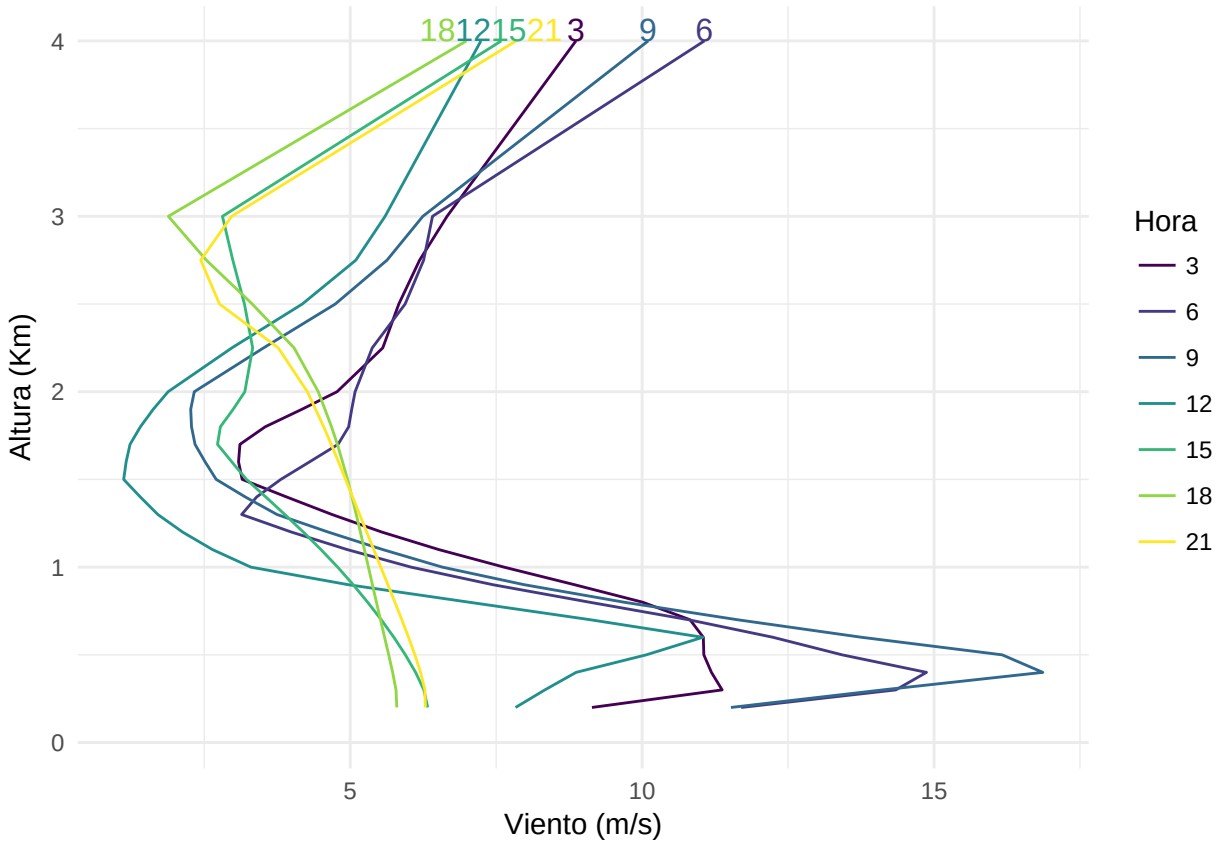

```
ggplot(subset(caso.ACM2, lon%~%-60.53 & lat%~%-31.858 & lev < 2 & day(date)==14),
       aes(date, lev)) +
  geom_contour(aes(z = theta, color =..level..), binwidth = 2) +
  geom_contourlabel(aes(z = theta, color =..level..)) +
  #geom_point(aes(date, pblh/1000)) +
  scale_color_viridis(name = "Temperatura potencial", option = "viridis", direction = -1) +
  theme_minimal()
```




```
ggplot(subset(caso.ACM2, lon%~%-60.53 & lat%~%-31.858 & date == "2016-01-14 18:00:00 -03"),
       aes(exchh, lev)) +
  geom_point() +
  theme_minimal()
```

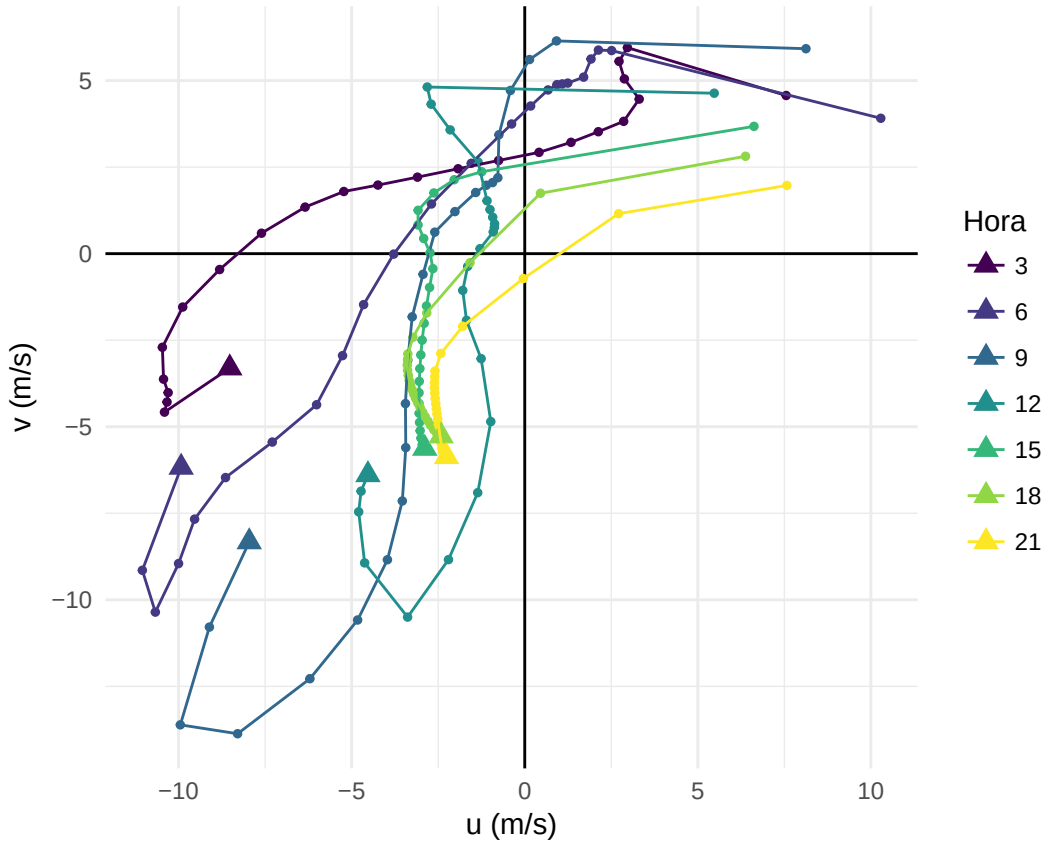



```
ggplot(subset(caso.ACM2, lon%~%-60.53 & lat%~%-31.858 & day(date) == 14 & minute(date) == 00 & hour(dat
  geom_line() +
  coord_flip() +
  scale_color_viridis(name = "Hora", discrete = T) +
  geom_dl(aes(label = as.factor(hour(date))), method = "top.qp") +
  ylab("Viento (m/s)") +
  xlab("Altura (Km)") +
  theme_minimal()
```

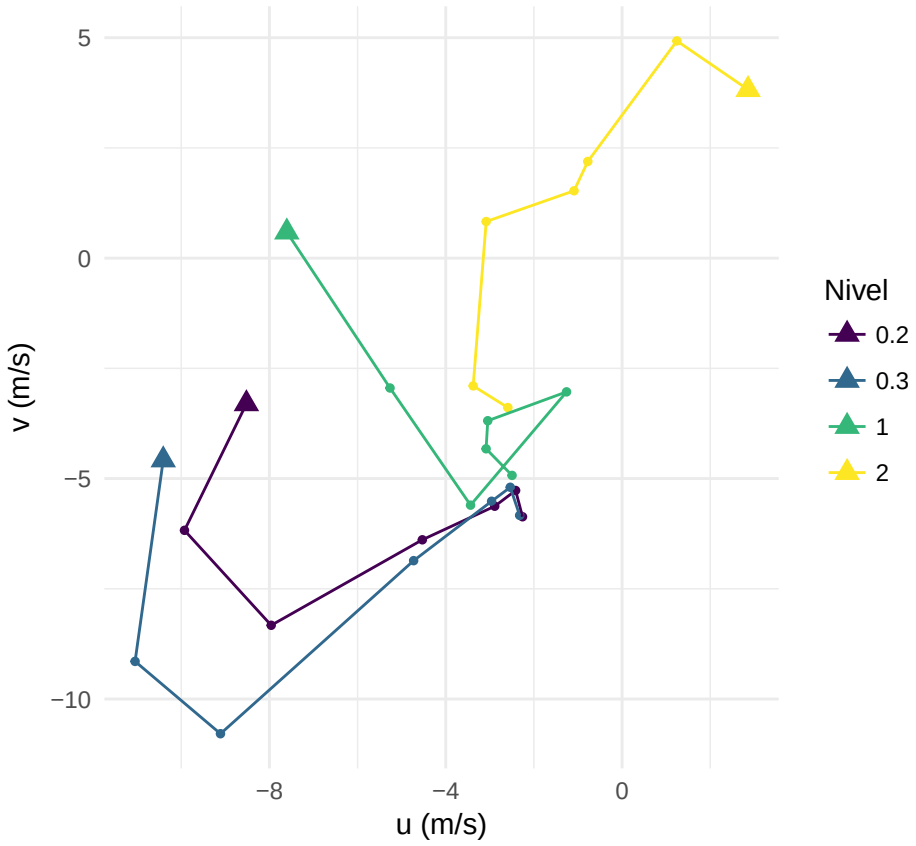



```
perfiles.ACM2 <- subset(caso.ACM2, lon%~%-60.53 & lat%~%-31.858 & day(date) == 14 & minute(date) == 00 &

ggplot(perfiles.ACM2, aes(u, v,  color = as.factor(hour(date)))) +
  geom_hline(yintercept = 0) +
  geom_vline(xintercept = 0) +
  geom_point(data=subset(perfiles.ACM2, lev != 0.2), size = 1) +
  geom_point(data=subset(perfiles.ACM2, lev == 0.2), shape = 17, size = 3) +
  geom_path() +
  scale_color_viridis(name = "Hora", discrete = T) +
  xlab("u (m/s)") + ylab("v (m/s)") +
  #xlim(c(-10,14)) +
  #ylim(c(-10,14)) +
  coord_equal() +
  theme_minimal()
```



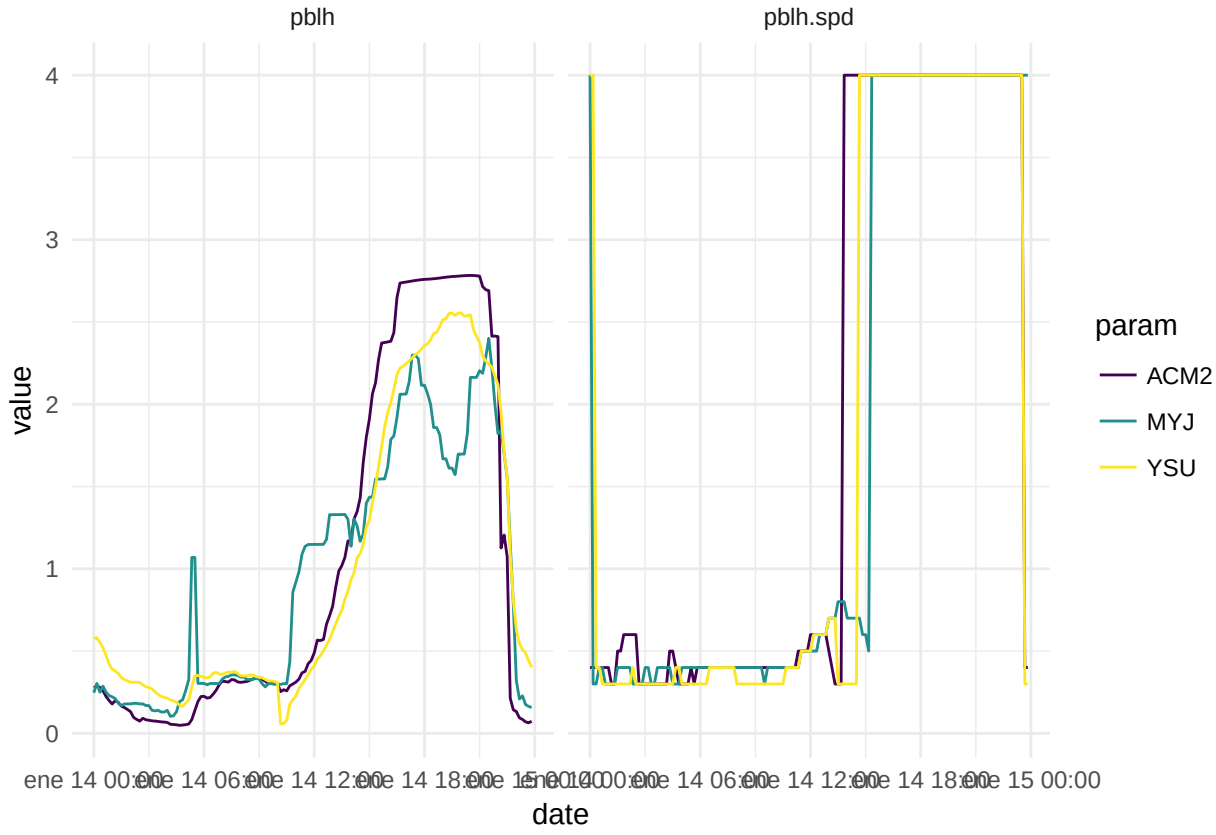

```
ggplot(subset(perfiles.ACM2, lev %in% c(0.2, 0.3, 1.0, 2.0)), aes(u, v, color = as.factor(lev))) +
  geom_point(aes(x = ifelse(hour(date) != 0, u, NA)), size = 1) +
  geom_point(aes(x = ifelse(hour(date) == 3, u, NA)), shape = 17, size = 3) +
  geom_path() +
  scale_color_viridis(name = "Nivel", discrete = T) +
  xlab("u (m/s)") + ylab("v (m/s)") +
  #xlim(c(-12,10)) +
  #ylim(c(-14,10)) +
  coord_equal() +
  theme_minimal()
```



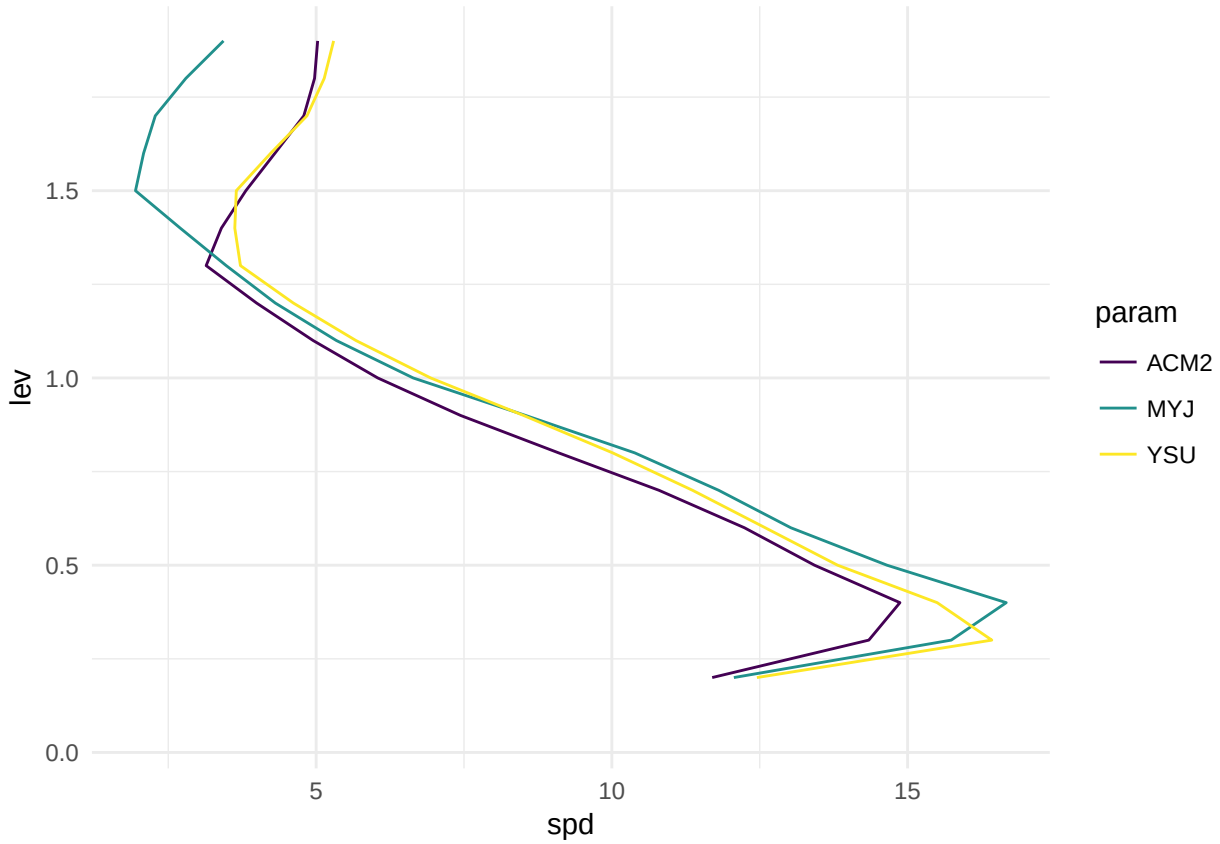
Comparación

```
all <- readRDS("all.param.rds")
all[, day:=day(date)]
```

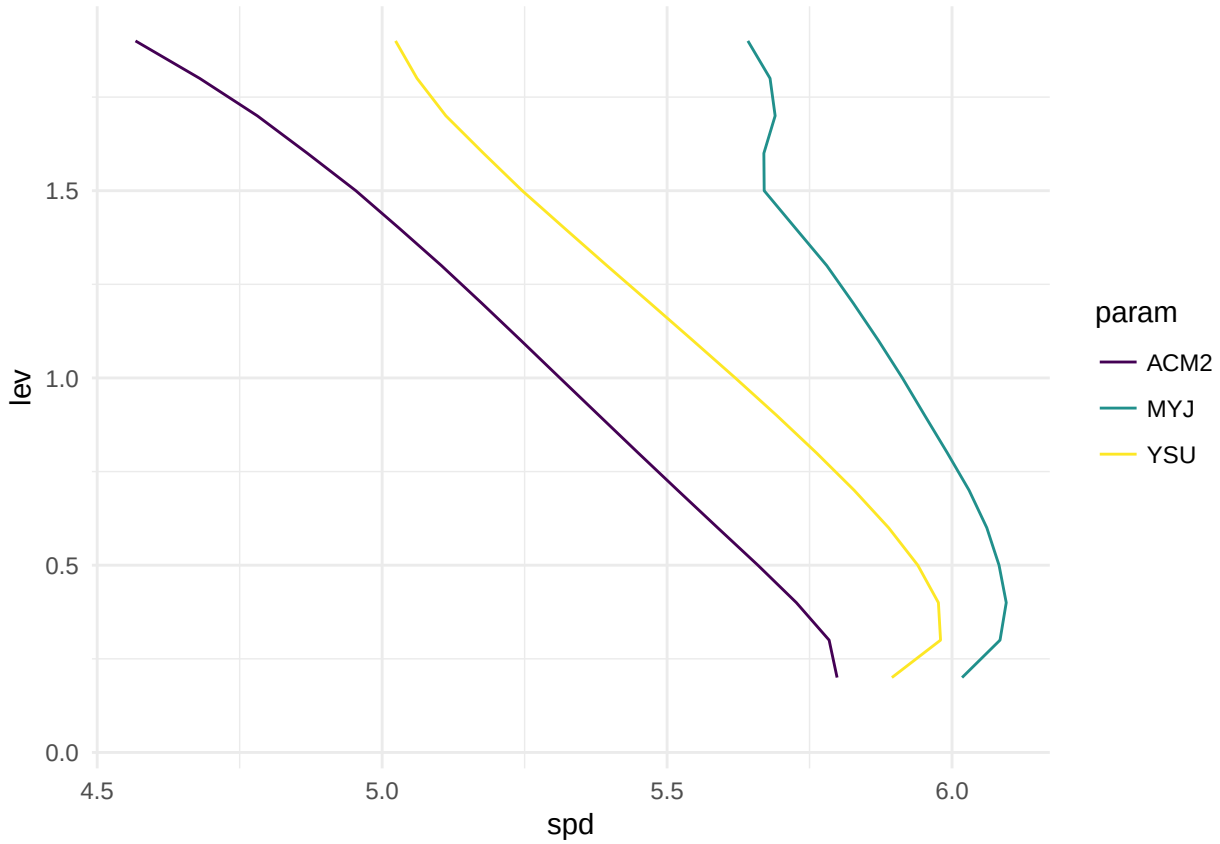
```
all[lon%~%-60.53 & lat%~%-31.858 & day==14, .(pblh = pblh/1000, pblh.spd = lev[which.max(spd)]), by = .
  .[!is.na(pblh), ] %>%
  melt(., id.vars = c("date", "param")) %>%
  ggplot(aes(date, value)) +
  # geom_area(aes(y = pblh.spd, fill = param), position = "identity", alpha = 0.5) +
  geom_line(aes(color = param), linetype = 1) +
  # geom_point(aes(y = pblh.spd, color = param)) +
  scale_color_viridis(discrete = T, option = "viridis") +
  scale_fill_viridis(discrete = T, option = "viridis") +
  theme_minimal() +
  facet_wrap(~variable)
```



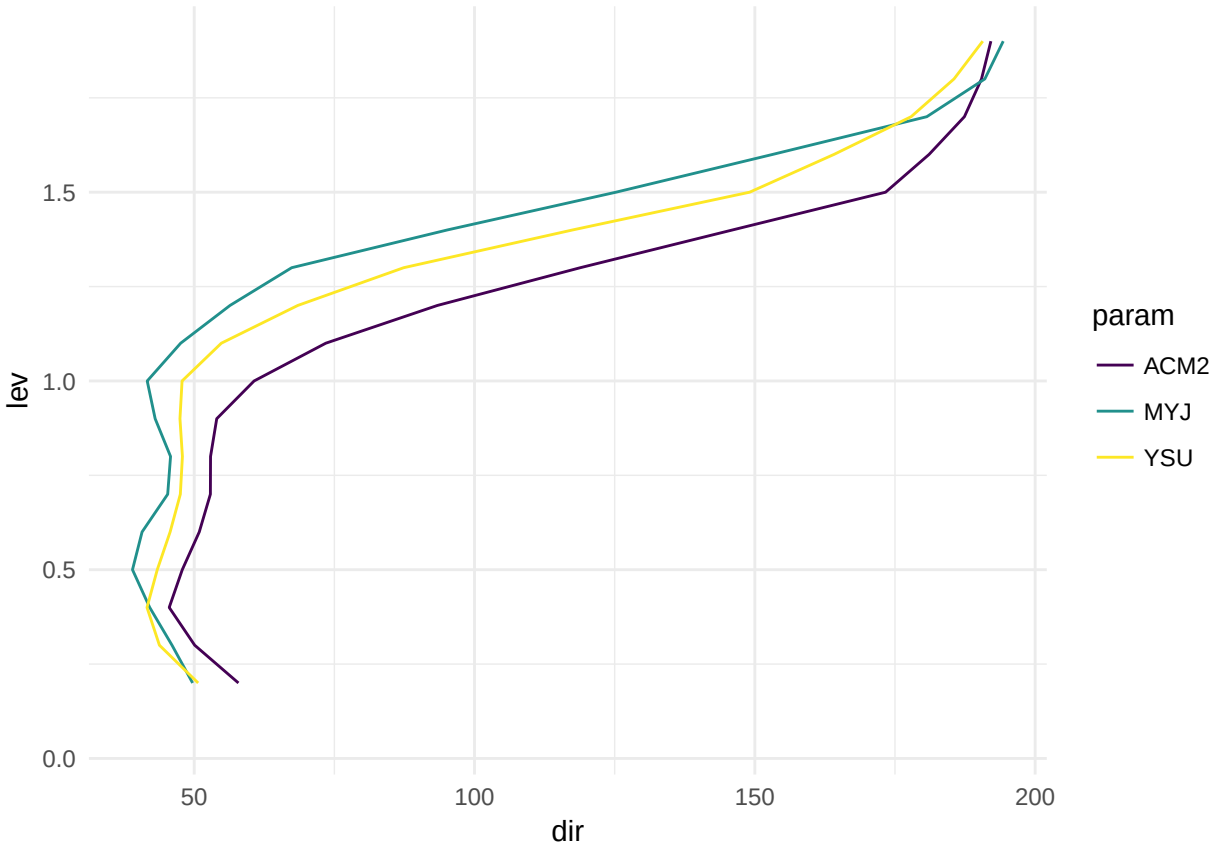

```
all[lon%~%-60.53 & lat%~%-31.858 & day==14 & date == "2016-01-14 06:00:00 -03" & lev < 2, ] %>%
  ggplot(aes(lev, spd)) +
  geom_line(aes(color = param)) +
  scale_color_viridis(discrete = T, option = "viridis") +
  coord_flip() +
  theme_minimal()
```




```
all[lon%~%-60.53 & lat%~%-31.858 & day==14 & date == "2016-01-14 18:00:00 -03" & lev < 2, ] %>%
  ggplot(aes(lev, spd)) +
  geom_line(aes(color = param)) +
  scale_color_viridis(discrete = T, option = "viridis") +
  coord_flip() +
  theme_minimal()
```




```
all[lon%~%-60.53 & lat%~%-31.858 & day==14 & date == "2016-01-14 06:00:00 -03" & lev < 2, ] %>%
  ggplot(aes(lev, dir)) +
  geom_line(aes(color = param)) +
  scale_color_viridis(discrete = T, option = "viridis") +
  coord_flip() +
  theme_minimal()
```


lev
1.5
1.0
0.5
0.0
50
100
150
200
dir
param
ACM2
MYJ
YSU