5.1

1.2 在中国地图上绘制三个参数数据集信息。

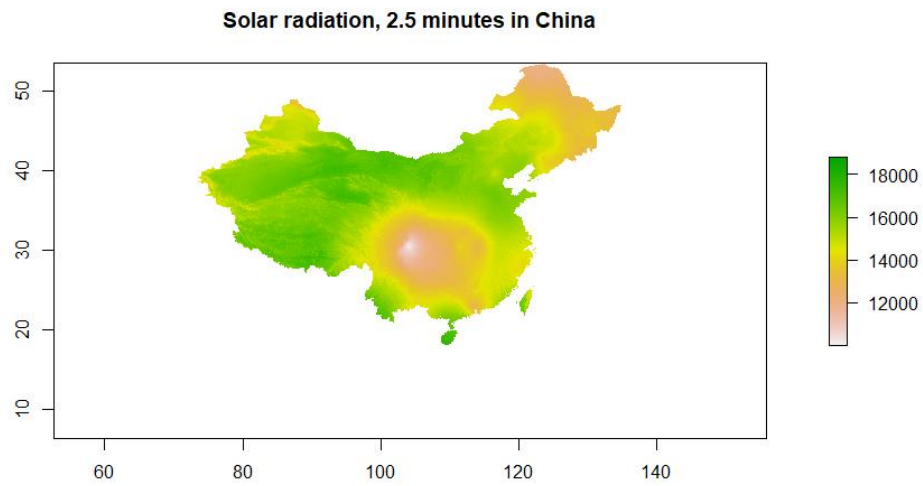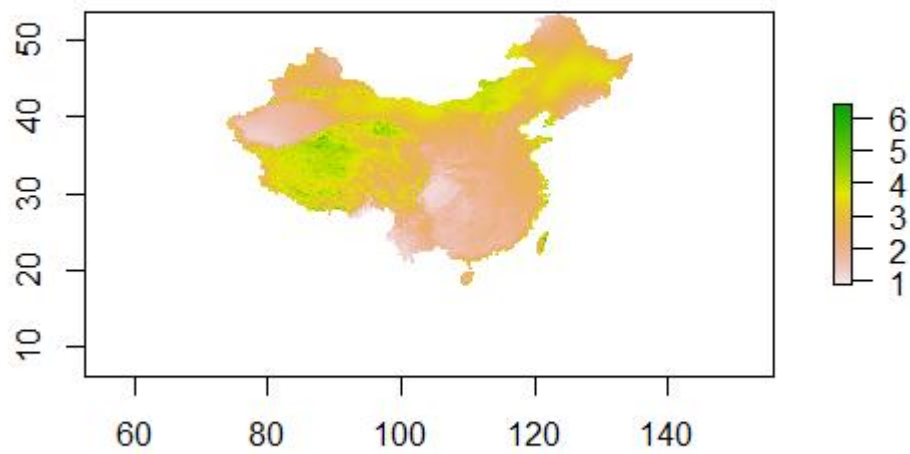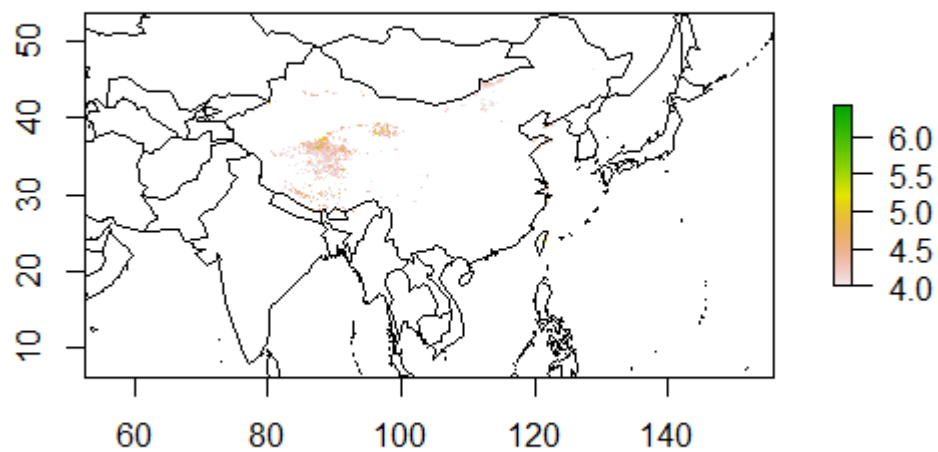**Solar radiation, 2.5 minutes in China**

Precipitation, 2.5 minutes in China
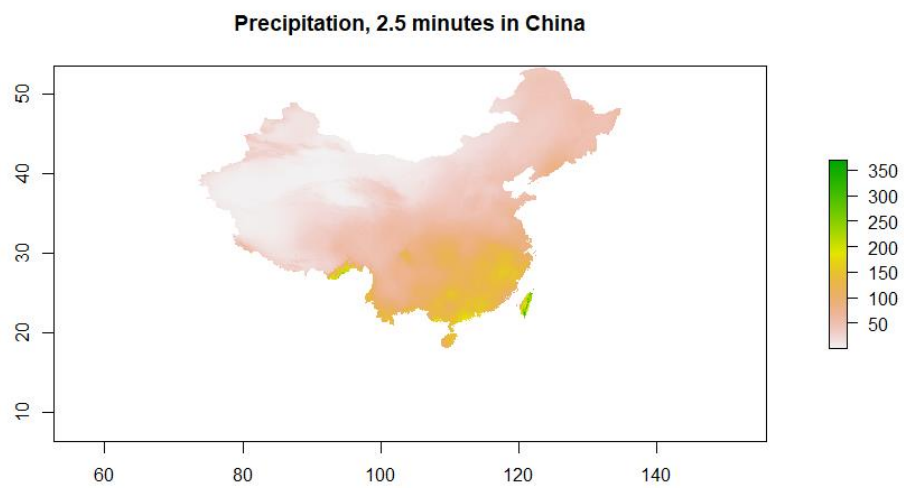
Wind speed, 2.5 minutes in China

1.3 基于风力数据绘制全国年平均风速大于 4m/s 的风力分布图，这些地方适合开发风电场。

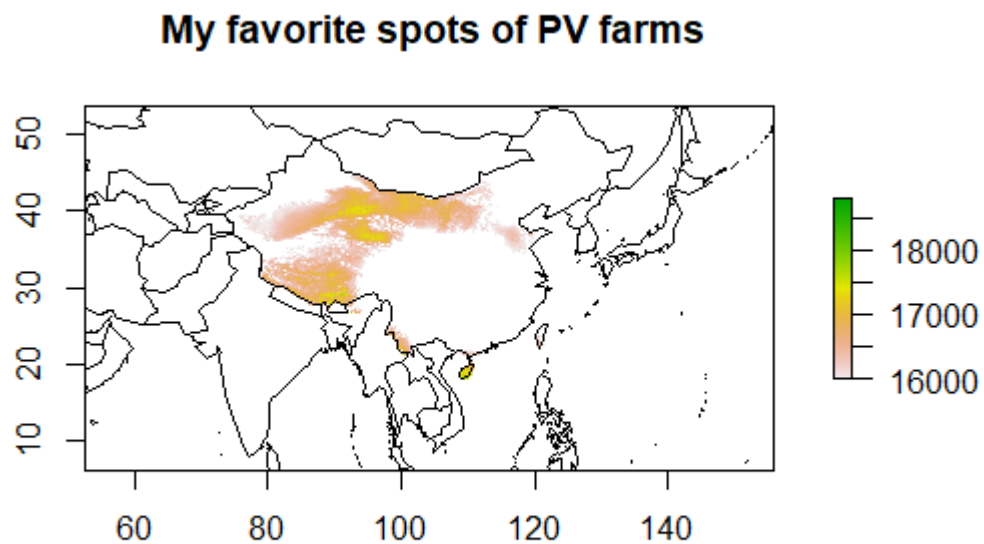## My favorite spots to build wind farms

青藏和新疆比较适合建风电场，内蒙古中部地区也适合。

1.4 基于太阳辐射和降水数据绘制全国年平均降水小于 400ML&太阳辐射大于

16000KJ 的地区分布图，这些地方适合开发光伏电场。

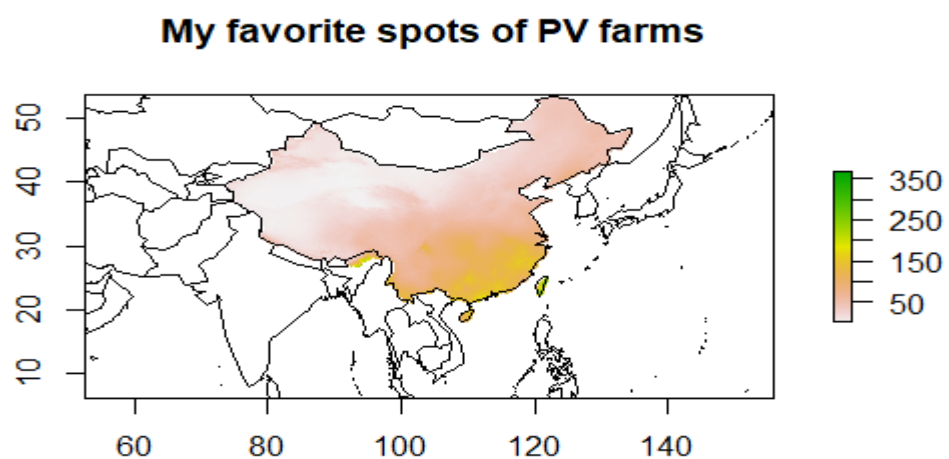plot(srad_crop3,main =' My favorite spots of PV farms')

maps::map('world',add=T)

My favorite spots of PV farms

plot(prec_crop3,main =' My favorite spots of PV farms')

maps::map('world',add=T)

My favorite spots of PV farms

青藏与新疆地区适合开发光伏电场。

5.2

2.1

```
[ese-xuep@login01 /]$ cd ~
[ese-xuep@login01 ~]$ ln -s data_demo data_demo_link
[ese-xuep@login01 ~]$ ll
total 3
drwxr-xr-x  2 root      root      4096 Sep 26 15:20 billing_report
drwxr-xr-x 10 ese-xuep ese-ouycc 4096 Nov 21 11:48 data_demo
lrwxrwxrwx  1 ese-xuep ese-ouycc    9 Nov 21 13:38 data_demo_link -> data_demo
drwxr-xr-x  2 ese-xuep ese-ouycc 4096 Sep 12 11:03 exam
-rw-r--r--  1 ese-xuep ese-ouycc    5 Nov 19 19:44 file1
drwxr-xr-x  2 ese-xuep ese-ouycc 4096 Nov 19 20:25 TEST
```

2.2

```
[ese-xuep@login01 data]$ touch planets.txt_lst
[ese-xuep@login01 data]$ ll
total 260
-rw-r--r-- 1 ese-xuep ese-ouycc   283 Nov 19 19:46 amino-acids.txt
drwxr-xr-x 2 ese-xuep ese-ouycc  4096 Nov 19 19:20 animal-counts
-rw-r--r-- 1 ese-xuep ese-ouycc   136 Nov 19 19:46 animals.txt
-rw-r--r-- 1 ese-xuep ese-ouycc    37 Nov 19 20:16 draft666
drwxr-xr-x 2 ese-xuep ese-ouycc  4096 Nov 19 19:20 elements
-rw-r--r-- 1 ese-xuep ese-ouycc   554 Nov 19 19:46 morse.txt
drwxr-xr-x 2 ese-xuep ese-ouycc  4096 Nov 19 19:20 pdb
-rw-r--r-- 1 ese-xuep ese-ouycc  8898 Nov 19 19:46 planets.txt
-rw-r--r-- 1 ese-xuep ese-ouycc     0 Nov 21 13:45 planets.txt_lst
-rw-r--r-- 1 ese-xuep ese-ouycc    45 Nov 19 19:46 salmon.txt
-rw-r--r-- 1 ese-xuep ese-ouycc 73861 Nov 19 19:46 sunspot.txt
```

2.3

```
[ese-xuep@login01 data]$ echo $HOME
/work/ese-xuep
```

2.4

```
[ese-xuep@login01 ~]$ cd data_demo/data
[ese-xuep@login01 data]$ find . -name "*.pdb" | wc -l
48
```

2.5

```
[ese-xuep@login01 data]$ cd pdb
[ese-xuep@login01 pdb]$ cd tnt.pdb
-bash: cd: tnt.pdb: Not a directory
[ese-xuep@login01 pdb]$ grep -o 'c' tnt.pdb | wc -l
0
```

2.6

```
[ese-xuep@login01 pdb]$ diff ethane.pdb ethanol.pdb
1,11c1,12
< COMPND      ETHANE
< AUTHOR      DAVE WOODCOCK  95 12 18
< ATOM        1  C       1        -0.752    0.001   -0.141  1.00   0.00
< ATOM        2  C       1         0.752   -0.001    0.141  1.00   0.00
< ATOM        3  H       1        -1.158    0.991    0.070  1.00   0.00
< ATOM        4  H       1        -1.240   -0.737    0.496  1.00   0.00
< ATOM        5  H       1        -0.924   -0.249   -1.188  1.00   0.00
< ATOM        6  H       1         1.158   -0.991   -0.070  1.00   0.00
< ATOM        7  H       1         0.924    0.249    1.188  1.00   0.00
< ATOM        8  H       1         1.240    0.737   -0.496  1.00   0.00
< TER         9               1
---
> COMPND      ETHANOL
> AUTHOR      DAVE WOODCOCK  96 01 03
> ATOM        1  C       1        -0.426   -0.115   -0.147  1.00   0.00
> ATOM        2  O       1        -0.599    1.244   -0.481  1.00   0.00
> ATOM        3  H       1        -0.750   -0.738   -0.981  1.00   0.00
> ATOM        4  H       1        -1.022   -0.351    0.735  1.00   0.00
> ATOM        5  H       1        -1.642    1.434   -0.689  1.00   0.00
> ATOM        6  C       1         1.047   -0.383    0.147  1.00   0.00
> ATOM        7  H       1         1.370    0.240    0.981  1.00   0.00
> ATOM        8  H       1         1.642   -0.147   -0.735  1.00   0.00
> ATOM        9  H       1         1.180   -1.434    0.405  1.00   0.00
> TER        10               1
```

2.7

```
[ese-xuep@login01 ~]$ df -h data_demo
Filesystem      Size  Used Avail Use% Mounted on
work            501T  167T  334T  34% /work
[ese-xuep@login01 ~]$
```

2.8

```
[ese-xuep@login01 ~]$ cp -r data_demo data_demo_new
[ese-xuep@login01 ~]$ ll
total 4
drwxr-xr-x  2 root     root     4096 Sep 26 15:20 billing_report
drwxr-xr-x 10 ese-xuep ese-ouycc 4096 Nov 21 11:48 data_demo
lrwxrwxrwx  1 ese-xuep ese-ouycc    9 Nov 21 13:38 data_demo_link -> data_demo
drwxr-xr-x 10 ese-xuep ese-ouycc 4096 Nov 21 15:01 data_demo_new
drwxr-xr-x  2 ese-xuep ese-ouycc 4096 Sep 12 11:03 exam
-rw-r--r--  1 ese-xuep ese-ouycc    5 Nov 19 19:44 file1
drwxr-xr-x  2 ese-xuep ese-ouycc 4096 Nov 19 20:25 TEST
```

```
[ese-xuep@login01 ~]$ zip ddl.zip data_demo_link
updating: data_demo_link/ (stored 0%)
[ese-xuep@login01 ~]$ unzip ddl.zip
Archive:  ddl.zip
replace data_demo_link/molecules/methane.pdb? [y]es, [n]o, [A]ll, [N]one, [r]ename: y
  inflating: data_demo_link/molecules/methane.pdb
replace data_demo_link/molecules/pentane.pdb? [y]es, [n]o, [A]ll, [N]one, [r]ename: N
[ese-xuep@login01 ~]$
```

2.9

```
[ese-xuep@login01 ~]$ chmod 750 data_demo_new
[ese-xuep@login01 ~]$ ll
total 4
drwxr-xr-x  2 root     root      4096 Sep 26 15:20 billing_report
drwxr-xr-x 10 ese-xuep ese-ouycc 4096 Nov 21 11:48 data_demo
lrwxrwxrwx  1 ese-xuep ese-ouycc    9 Nov 21 13:38 data_demo_link -> data_demo
drwxr-x--- 10 ese-xuep ese-ouycc 4096 Nov 21 15:01 data_demo_new
drwxr-xr-x  2 ese-xuep ese-ouycc 4096 Sep 12 11:03 exam
-rw-r--r--  1 ese-xuep ese-ouycc    5 Nov 19 19:44 file1
drwxr-xr-x  2 ese-xuep ese-ouycc 4096 Nov 19 20:25 TEST
```

2.10

```
[ese-xuep@login01 ~]$ history 10
  268  chmod -v
  269  chmod u=rwx,g=rx
  270  cd ..
  271  chmod 750 data_demo_new
  272  chmod -v
  273  chmod 750 data_demo_new
  274  ll
  275  history | tail=10
  276  history | tail-10
  277  history 10
[ese-xuep@login01 ~]$
```