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MOSAIK Winter Scenarios

```
In [1]: %matplotlib inline
from scenariotk import Scenario, diurnal_cycle, load_cosmo_data, plot_panel
from scenariotk import SCHOENEFELD, FUHLBUETTEL, ECHTERDINGEN
```

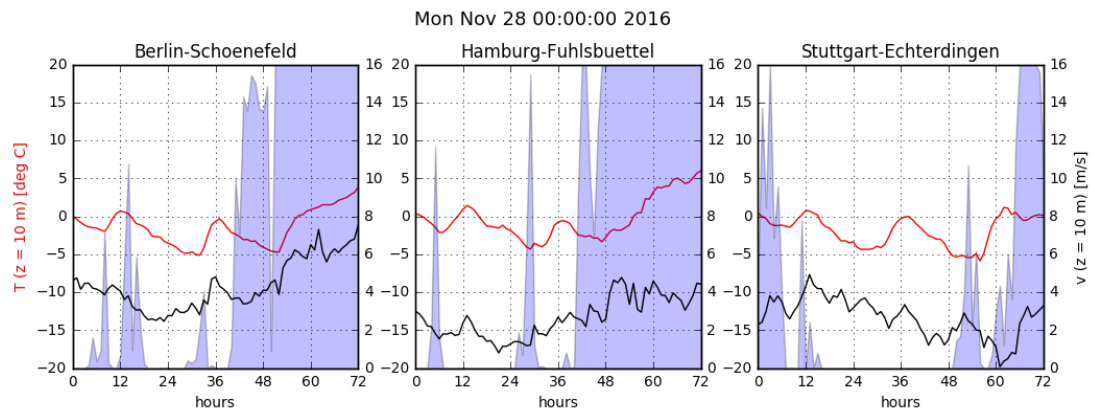
```
In [2]: # Create list of the democities (i.e. list of objects providing the respective coordinates)
democities = [SCHOENEFELD, FUHLBUETTEL, ECHTERDINGEN]
```

```
# Create scenarios
dec2016 = Scenario('2016120200', '2016120500', \
                  '/data/ekadasch/scenario-data/winter/20161202')
nov2016 = Scenario('2016112800', '2016120100', \
                  '/data/ekadasch/scenario-data/winter/20161128')
feb2017 = Scenario('2017021400', '2017021700', \
                  '/data/ekadasch/scenario-data/winter/20170214')
```

```
Scenario [2016120200 - 2016120500] created successfully
Scenario [2016112800 - 2016120100] created successfully
Scenario [2017021400 - 2017021700] created successfully
```

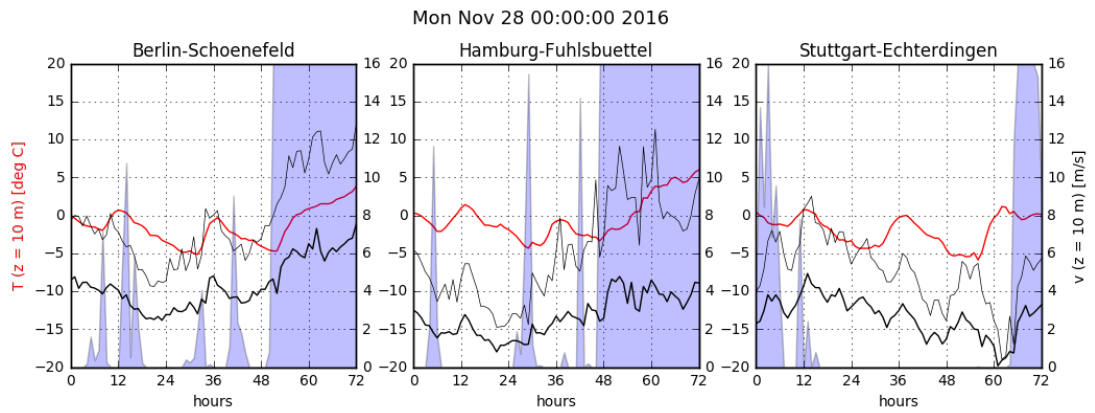
28th - 30th November 2016

```
In [3]: diurnal_cycle(nov2016, democities);
```



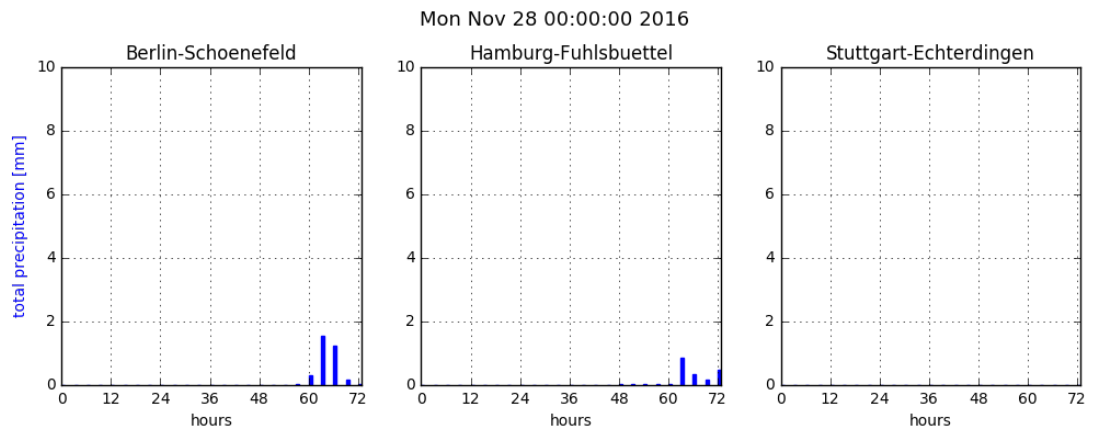
Legend: 2m temperature (red), 10m instantaneous wind (black), and total cloud cover (blue shading)

```
In [4]: diurnal_cycle(nov2016, democities, plot_vmax=True, low_and_medium_clc=True);
```

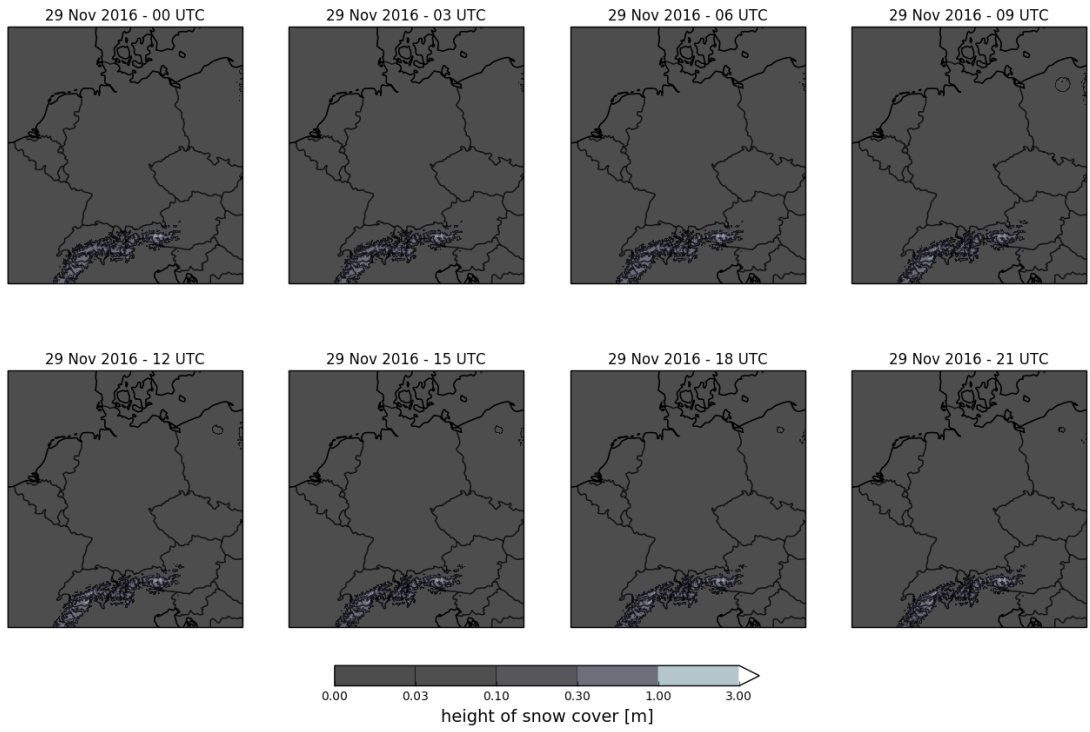


Legend: As above but with the maximum of low and medium cloud cover (blue shading) and 1h gusts (thin black lines)

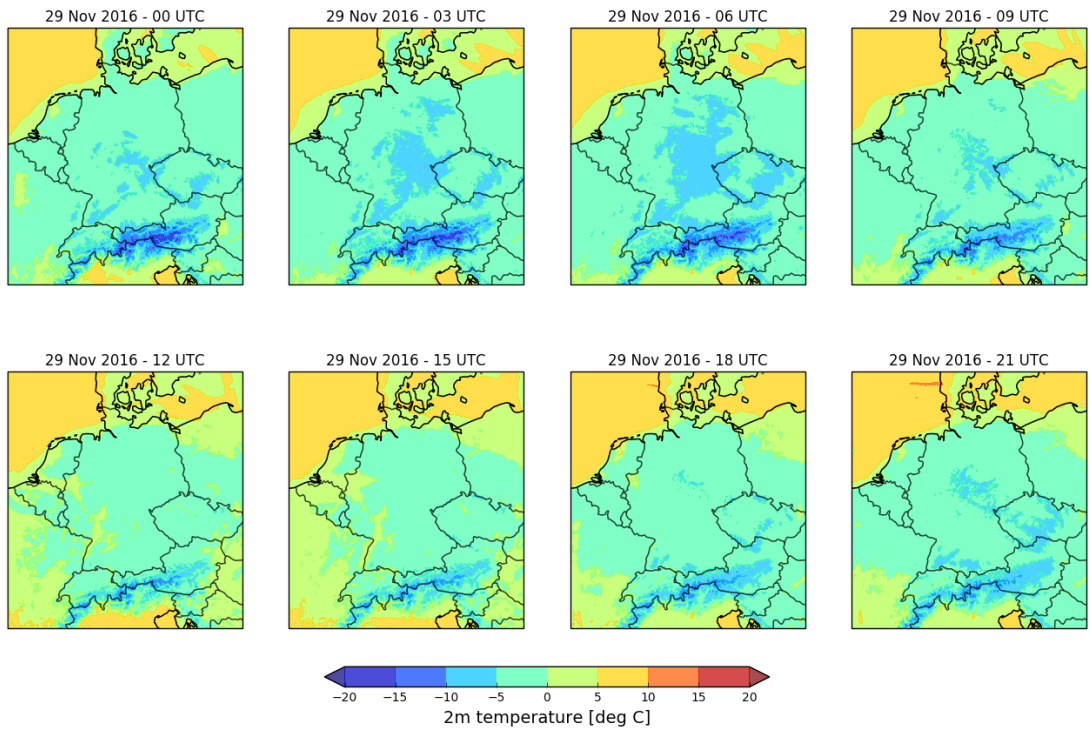
```
In [5]: diurnal_cycle(nov2016, democities, only_precip=True);
```



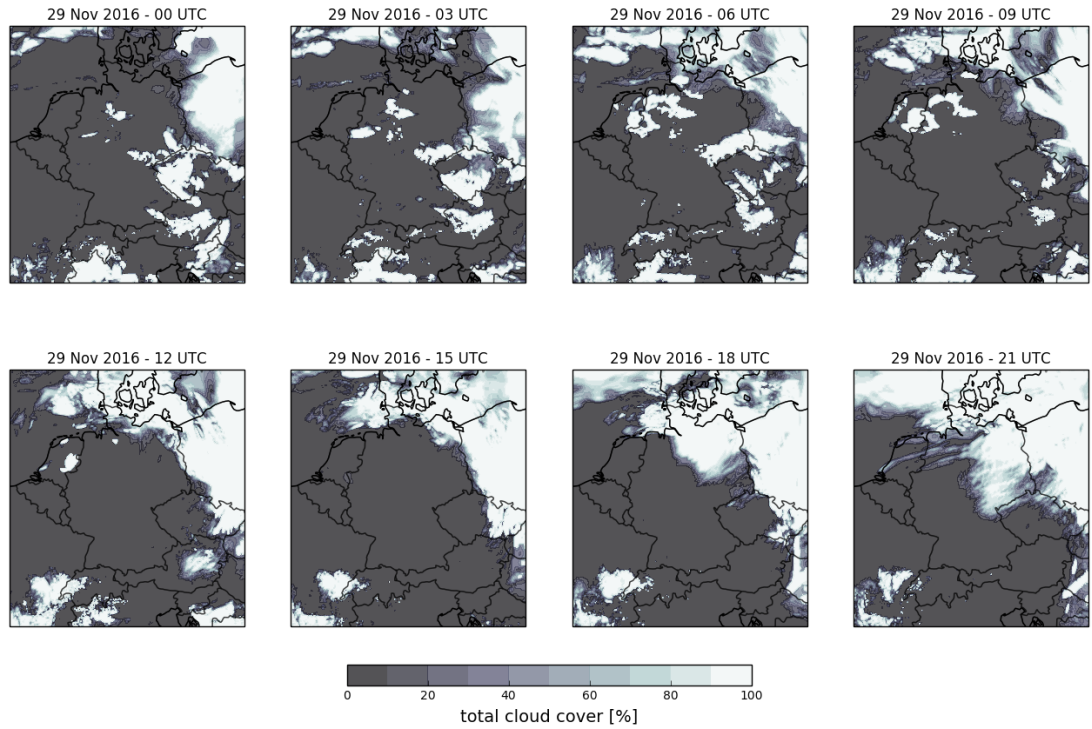
```
In [6]: cosmo_data_package = load_cosmo_data(nov2016)  
plot_panel(cosmo_data_package, var='h_snow', start=24, end=48)
```



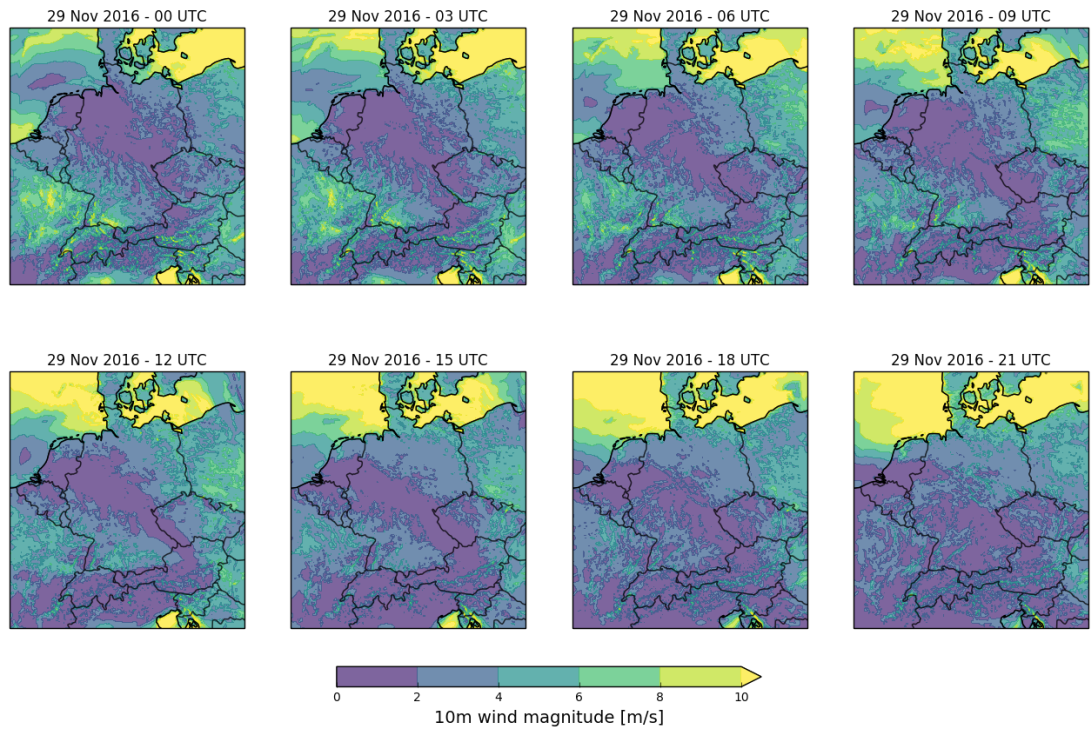
```
In [7]: plot_panel(cosmo_data_package, var='t2m', start=24, end=48)
```



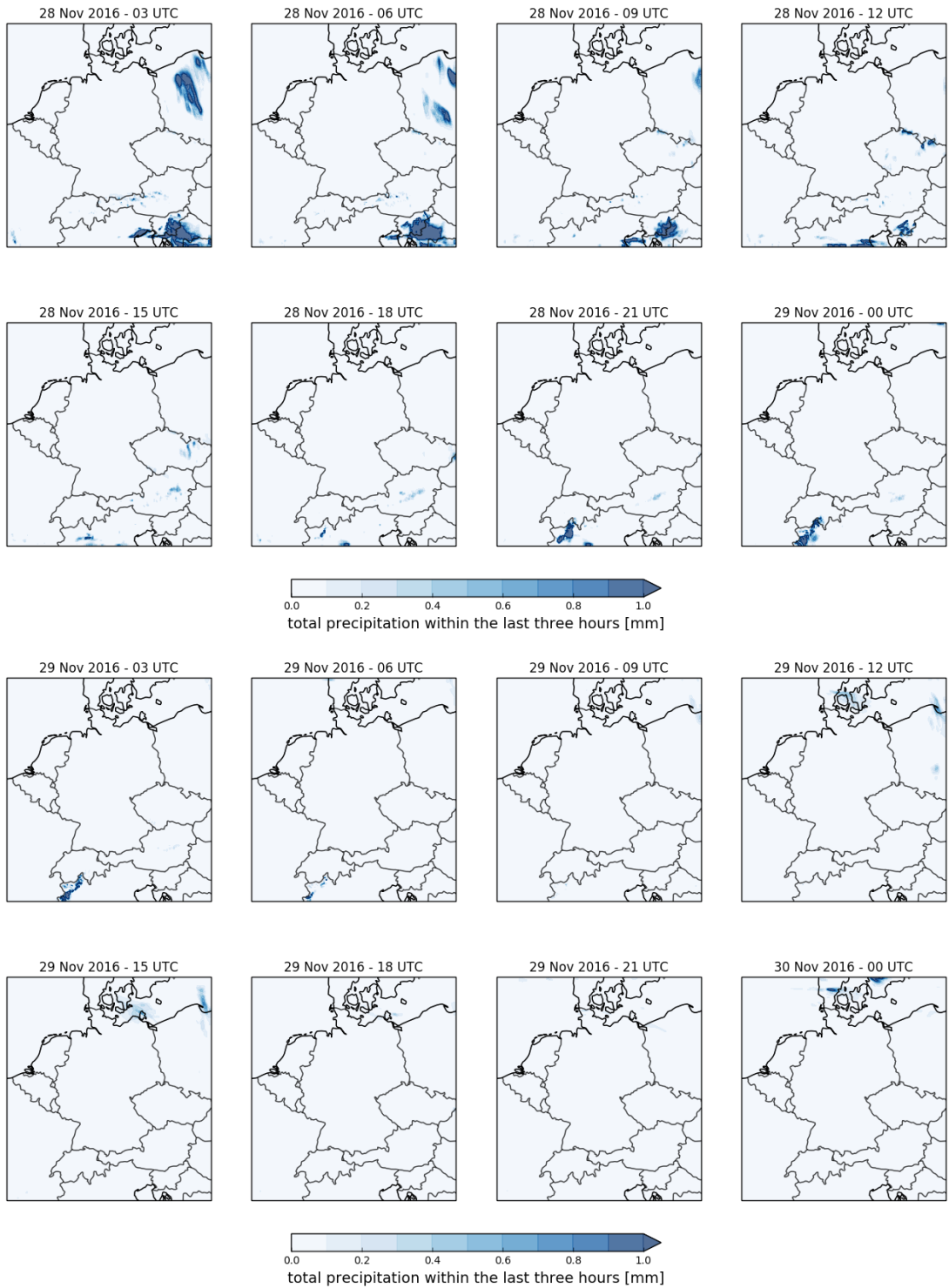
```
In [8]: plot_panel(cosmo_data_package, var='clct', start=24, end=48)
```

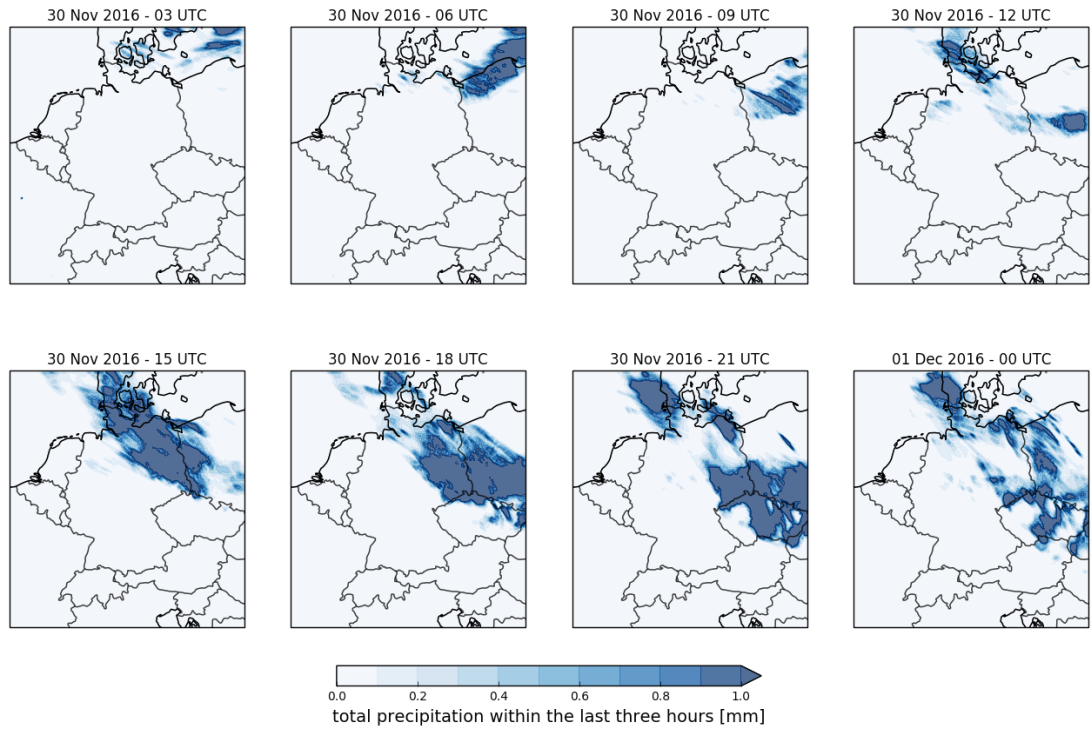


```
In [9]: plot_panel(cosmo_data_package, var='v 10m', start=24, end=48)
```



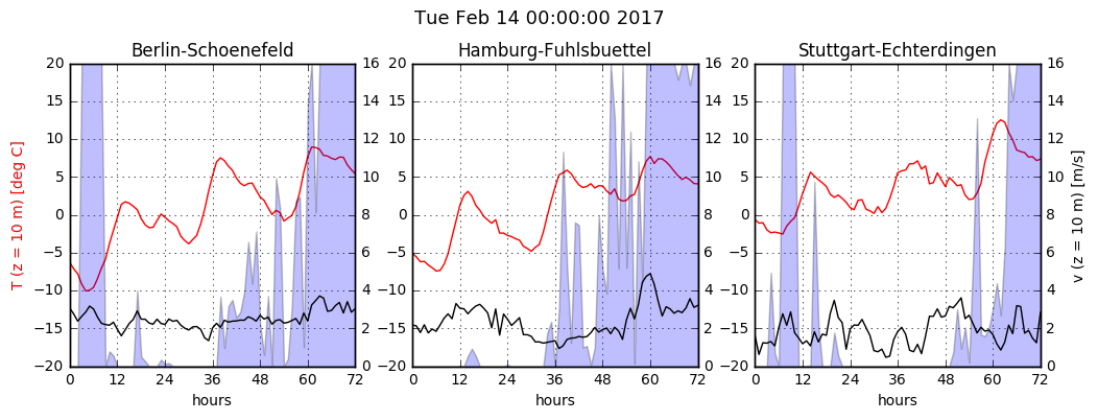
```
In [10]: for start in (0+3, 24+3, 48+3):  
         plot_panel(cosmo_data_package, var='tot_prec', start=start, end=start +  
         24)
```





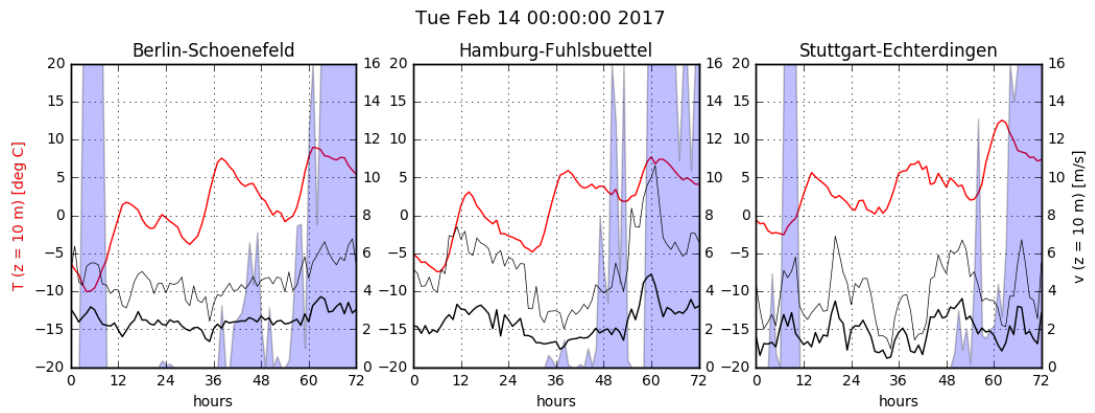
14th - 16th February 2017

```
In [19]: diurnal_cycle(feb2017, democities);
```



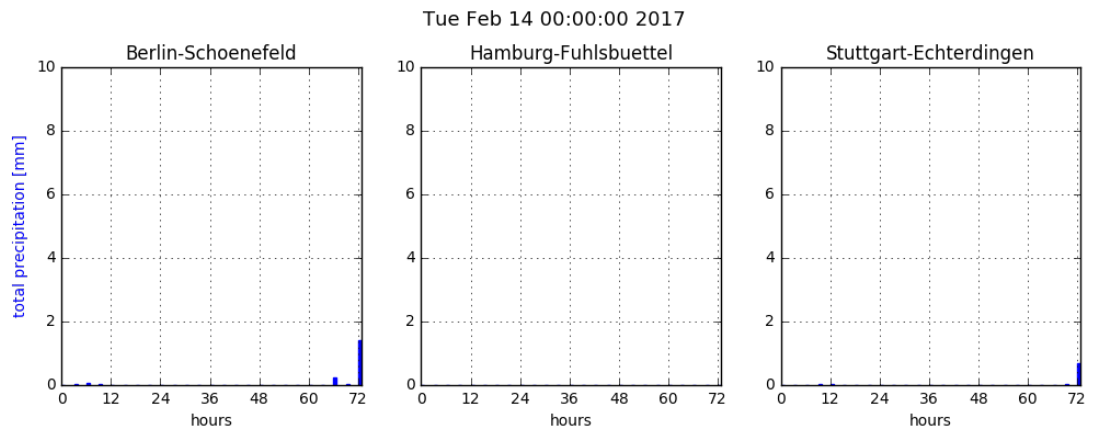
Legend: 2m temperature (red), 10m instantaneous wind (black), and total cloud cover (blue shading)

```
In [20]: diurnal_cycle(feb2017, democities, plot_vmax=True, low_and_medium_clc=True);
```

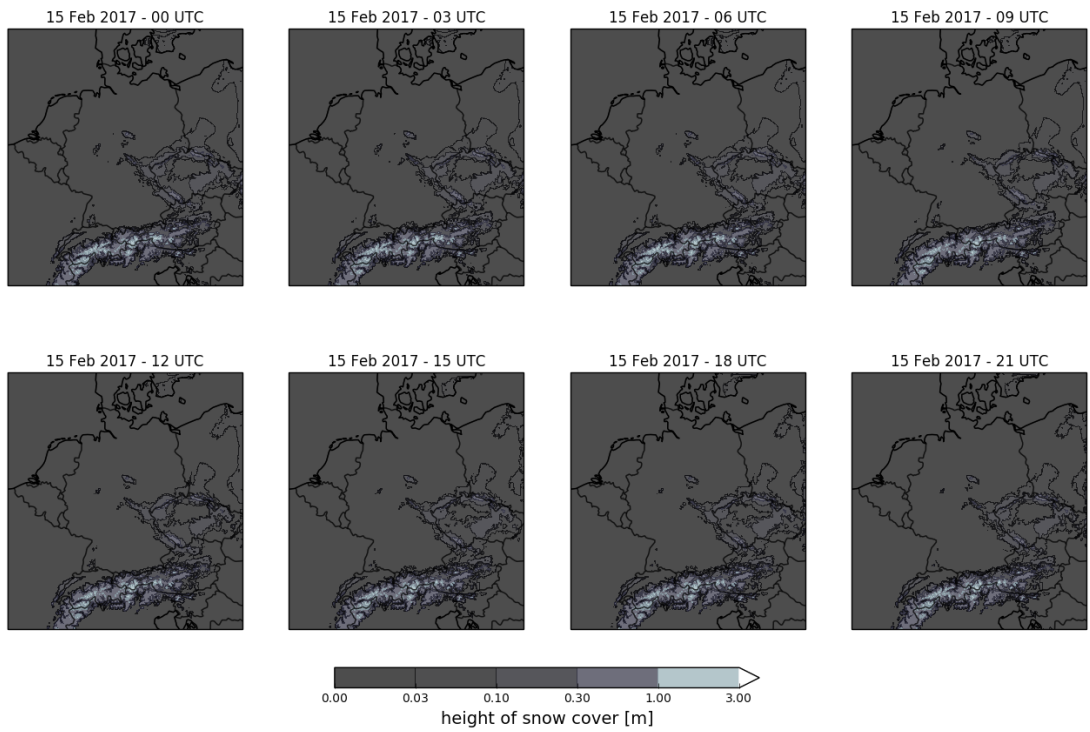


Legend: As above but with the maximum of low and medium cloud cover (blue shading) and 1h gusts (thin black lines)

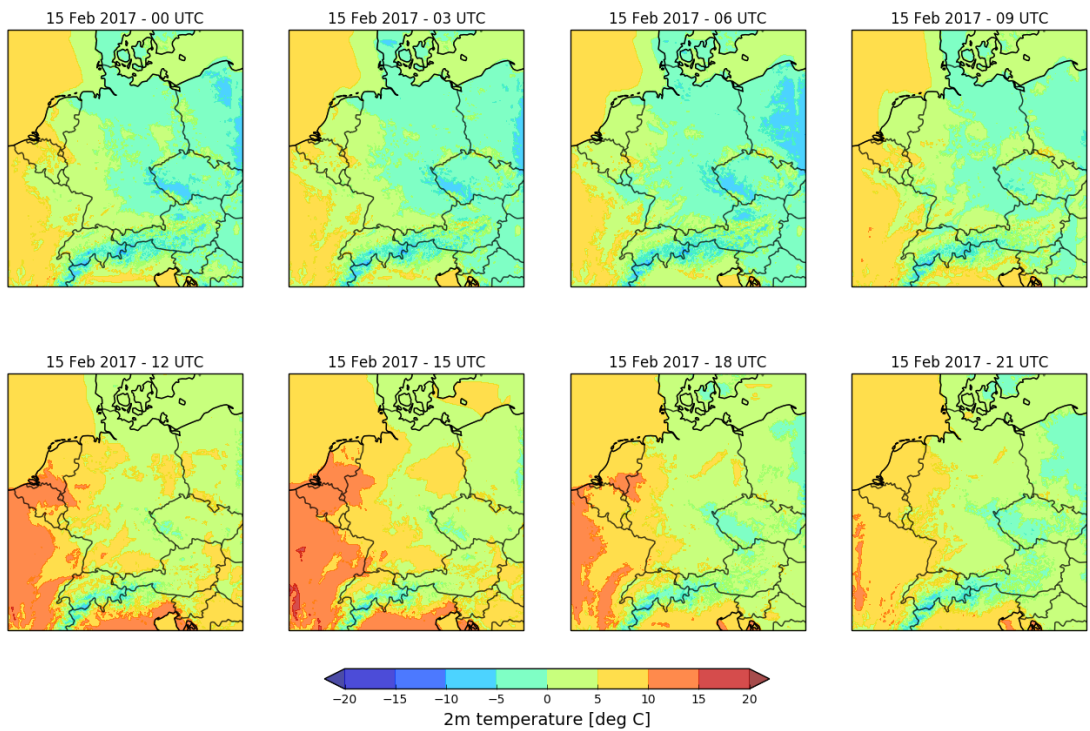
```
In [21]: diurnal_cycle(feb2017, democities, only_precip=True);
```



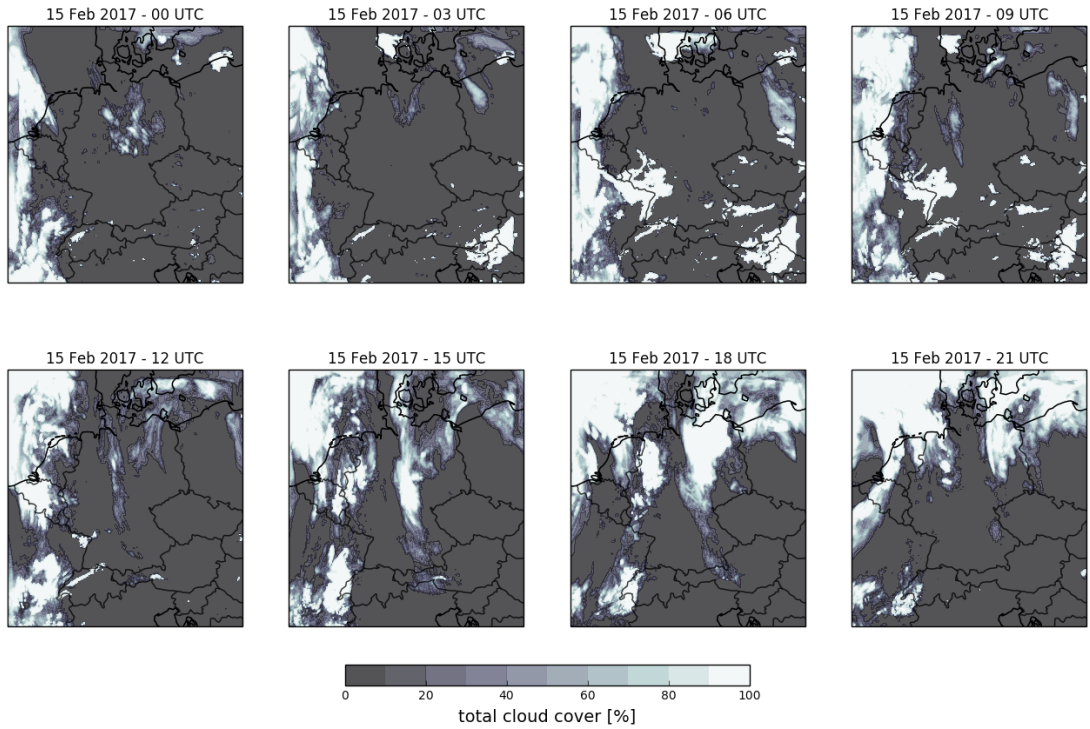

```
In [22]: cosmo_data_package = load_cosmo_data(feb2017)
plot_panel(cosmo_data_package, var='h_snow', start=24, end=48)
```



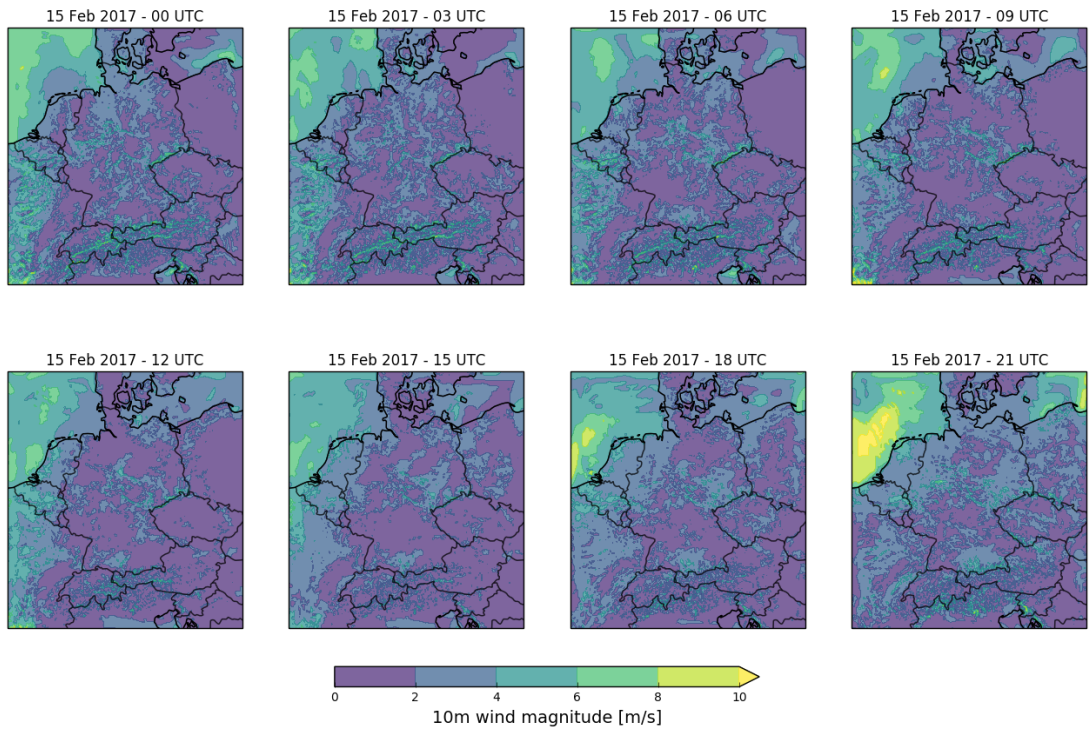
```
In [23]: plot_panel(cosmo_data_package, var='t2m', start=24, end=48)
```



```
In [24]: plot_panel(cosmo_data_package, var='clct', start=24, end=48)
```



```
In [25]: plot_panel(cosmo_data_package, var='v 10m', start=24, end=48)
```



```
In [26]: for start in (0+3, 24+3, 48+3):  
         plot_panel(cosmo_data_package, var='tot_prec', start=start, end=start +  
         24)
```

