



SimpleSDMLayers.jl: A Basis for Species Distribution Modelling in Julia

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Interacting with environmental data for species distribution modelling (SDM) → Made easy!

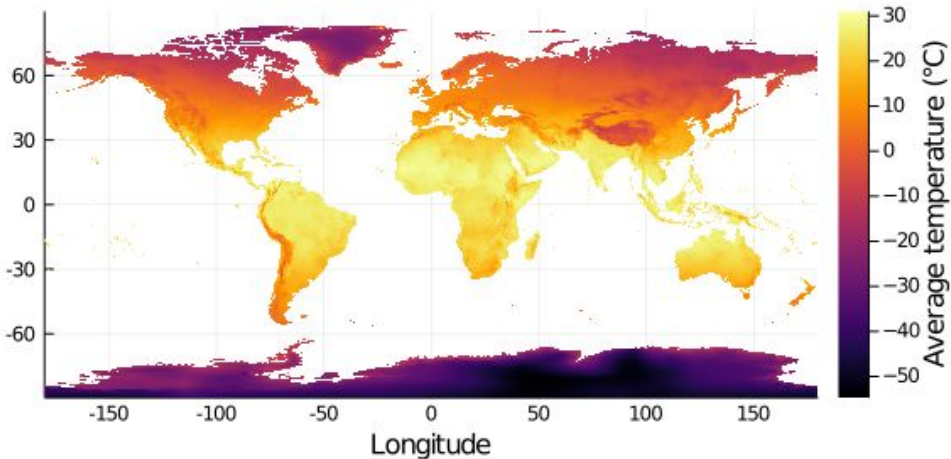
Simple access to **climate and land cover data**

```
using SimpleSDMLayers  
temperature = worldclim(1)
```

Easy **visualization**

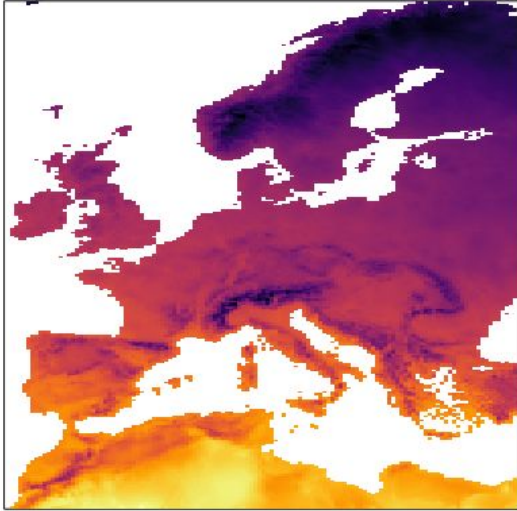
```
plot(temperature)
```

Multiple **data sources** supported



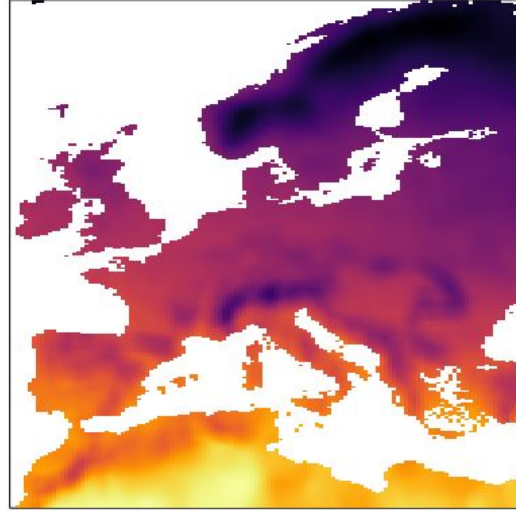
Support for common spatial manipulations

Coordinates clipping



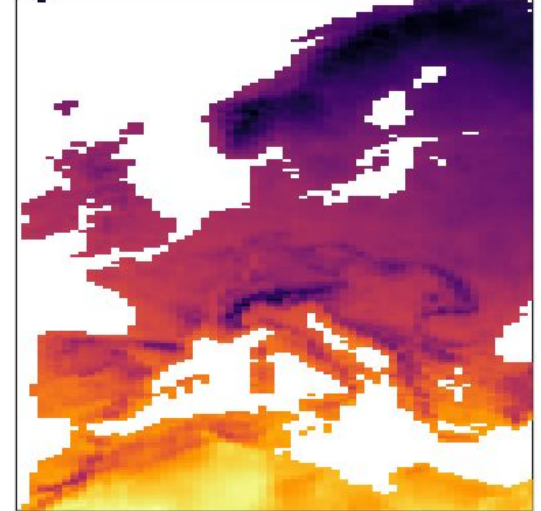
```
temperature[left=-11.0, right=31.1,  
            bottom=29.0, top=71.1]
```

Sliding window operations



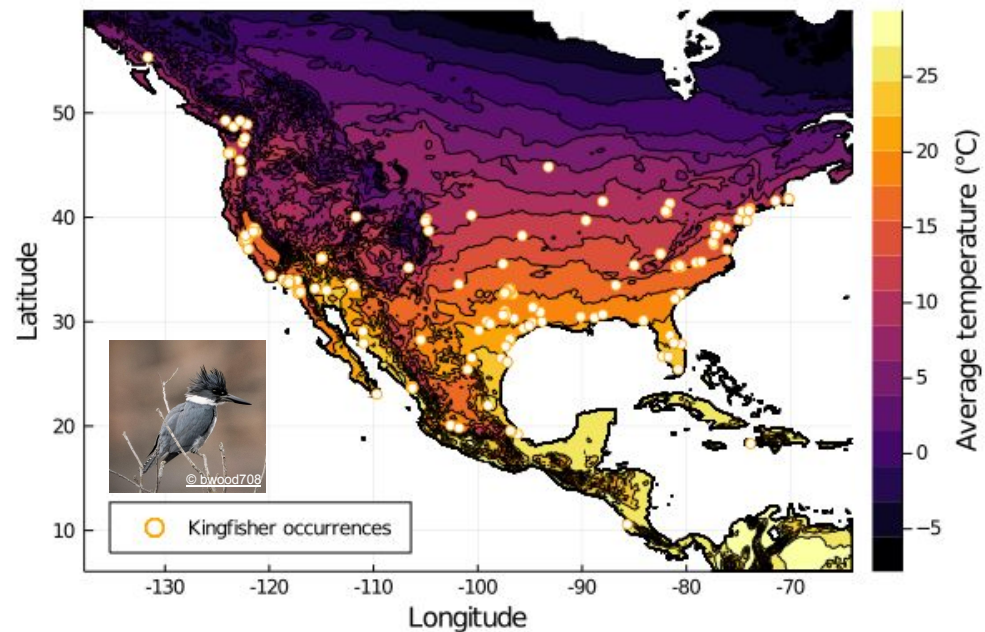
```
slidingwindow(temperature, mean, 100.0)
```

Resolution coarsening



```
coarsen(temperature, mean, (4, 4))
```

Integration with [GBIF.jl](https://gbif.org/)



Latest Belted Kingfisher occurrences from GBIF

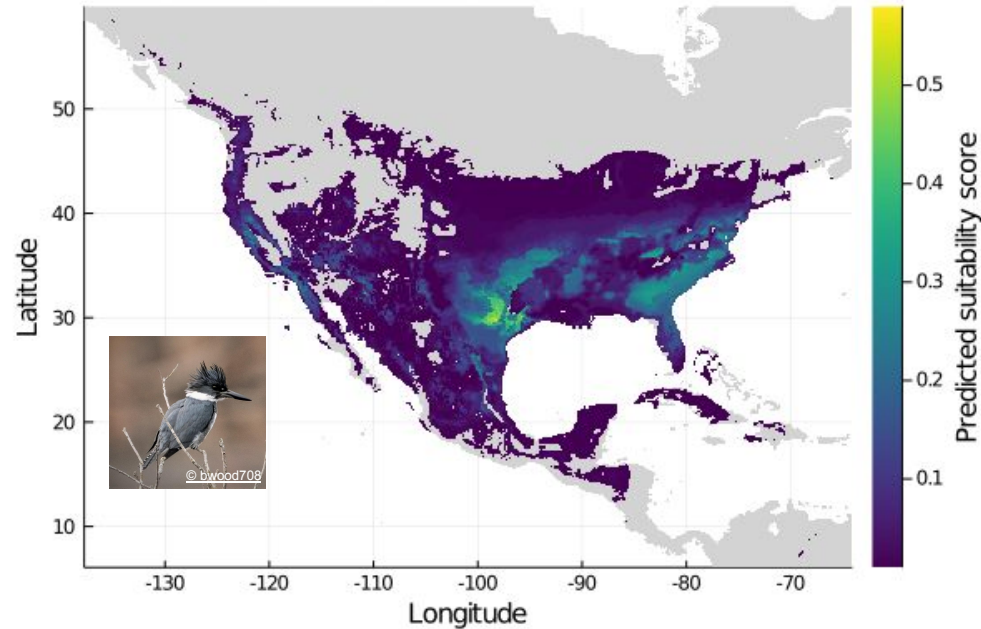
Get species occurrences from  **GBIF**

```
using GBIF
kingfisher = GBIF.taxon("Megaceryle alcyon", strict = true)
kf_occurrences = occurrences(kingfisher)
for i in 1:9
    occurrences!(kf_occurrences)
end
```

Easily map occurrences with environmental data

```
temperature_clip = clip(temperature, kf_occurrences)
plot(temperature_clip)
scatter!(longitudes(kf_occurrences), latitudes(kf_occurrences))
```

All set to build your own SDMs!



Basic SDM example for the Belted Kingfisher

Interested?

Find more examples in the Documentation



Check the code in the GitHub repository



Run it yourself in a Nextjournal notebook

[Nextjournal](#)

Check out other packages for ecology from EcoJulia and PoisotLab

