



Biome & Vegetation PCG

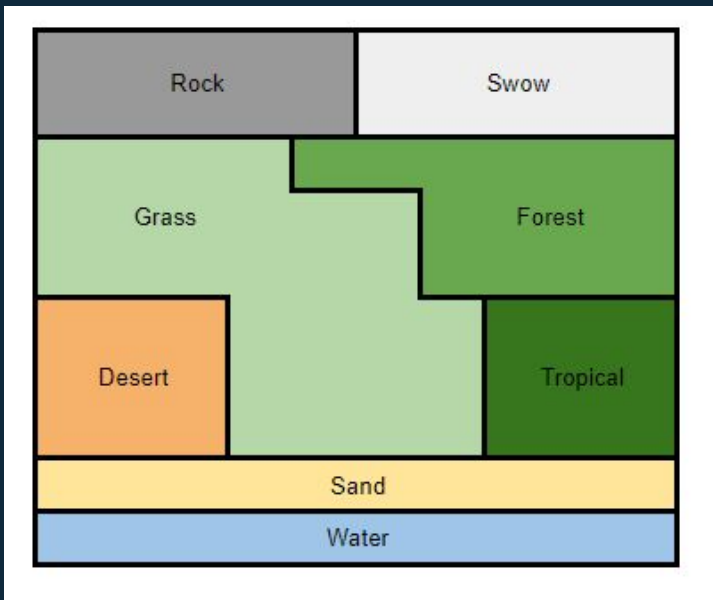


Nicolas Calvet

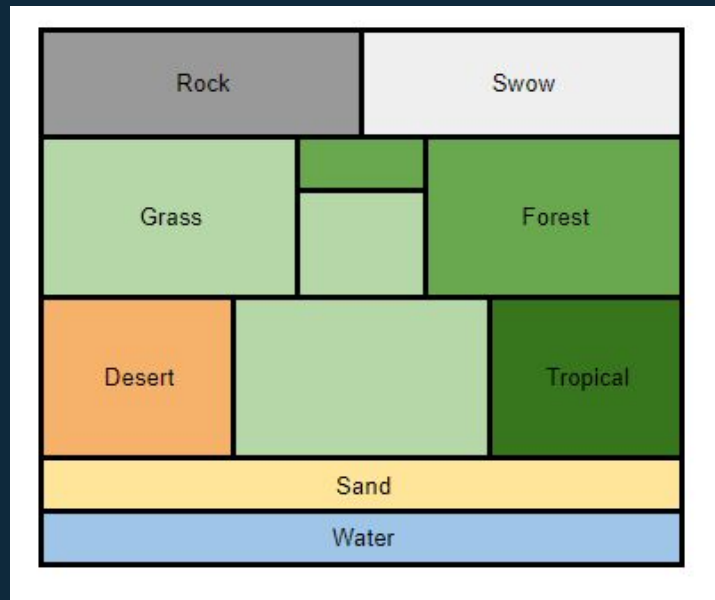
A. Définir les biomes

Selon 2 axes : hauteur et humidité

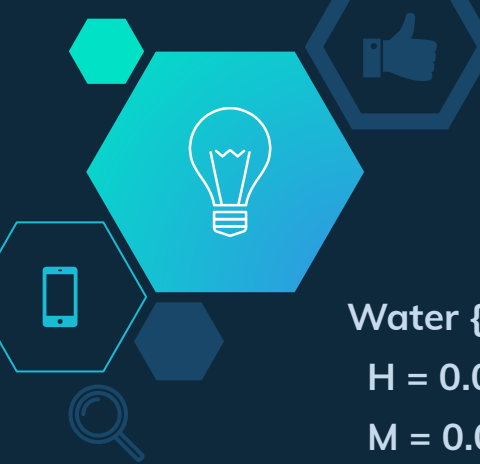
8 biomes



11 régions




A. Définir les biomes



```
Water {  
  H = 0.0;  
  M = 0.0;  
}  
  →  
Beach {  
  H = 0.1;  
  M = 0.0;  
}  
  →  
Desert {  
  H = 0.2;  
  M = 0.0;  
}  
  →  
Grass {  
  H = 0.2;  
  M = 0.3;  
}  
  →  
Tropical {  
  H = 0.2;  
  M = 0.7;  
}
```

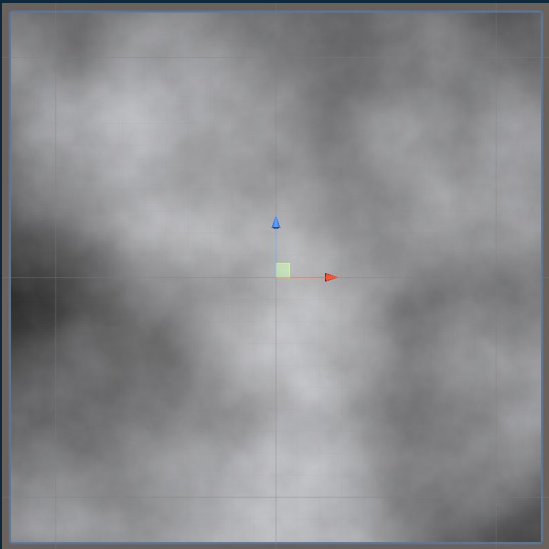
```
Snow {  
  H = 0.8;  
  M = 0.5;  
} //useless  
←  
Rock {  
  H = 0.8;  
  M = 0.0;  
} //useless  
←  
Forest {  
  H = 0.6;  
  M = 0.4;  
} //useless  
←  
Forest {  
  H = 0.5;  
  M = 0.6;  
} //useless  
←  
Grass {  
  H = 0.5;  
  M = 0.4;  
} //useless  
←  
Grass {  
  H = 0.5;  
  M = 0.0;  
}
```



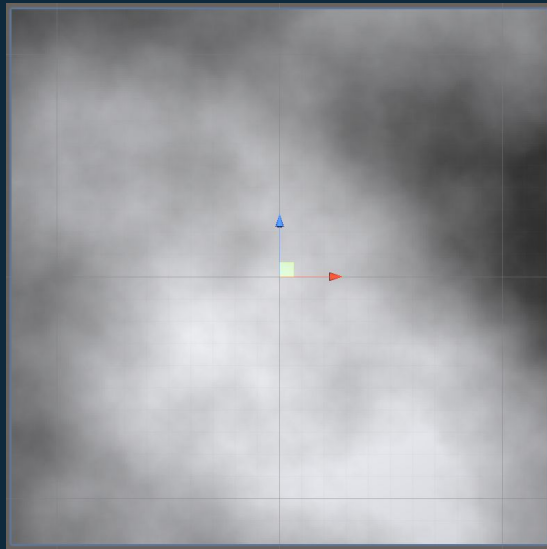
B. Générer le terrain

Avec le bruit de Perlin.

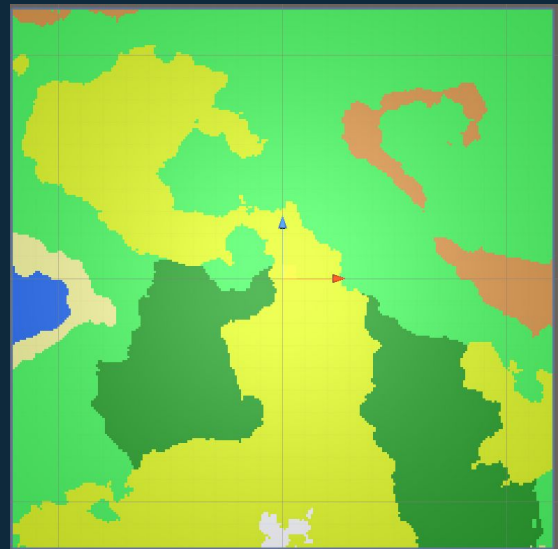
Height Map



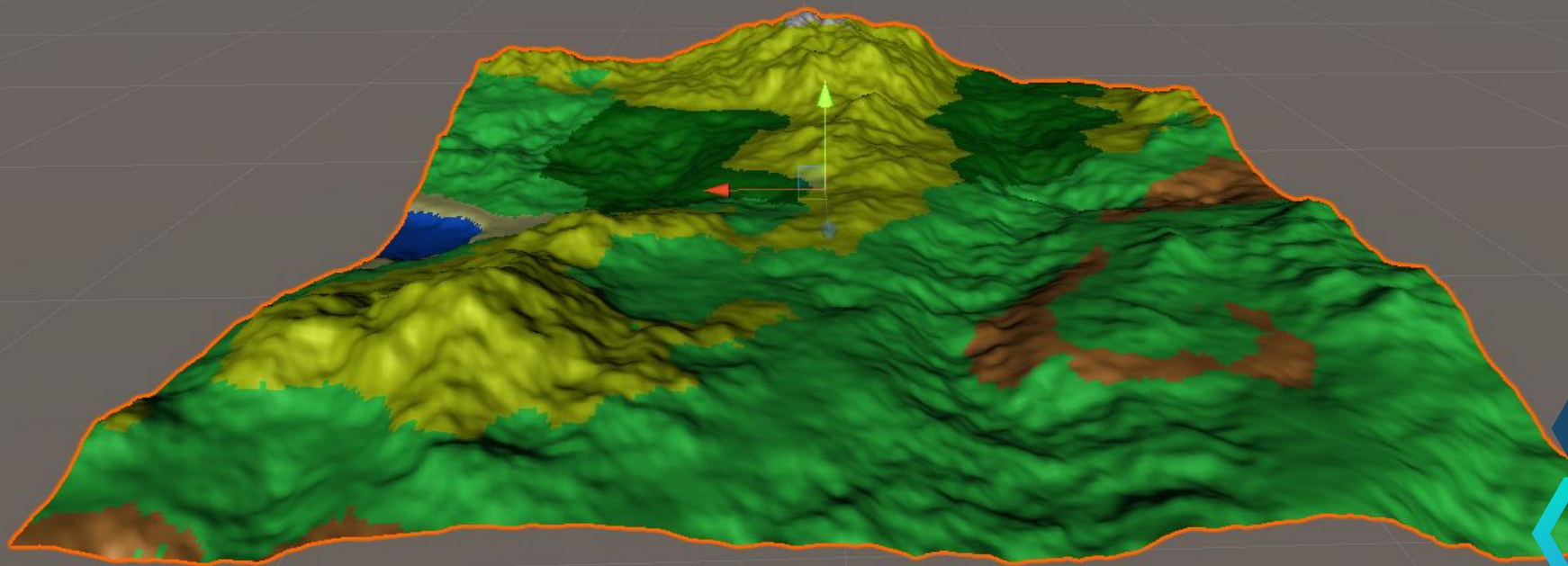
Moisture Map



Color Texture



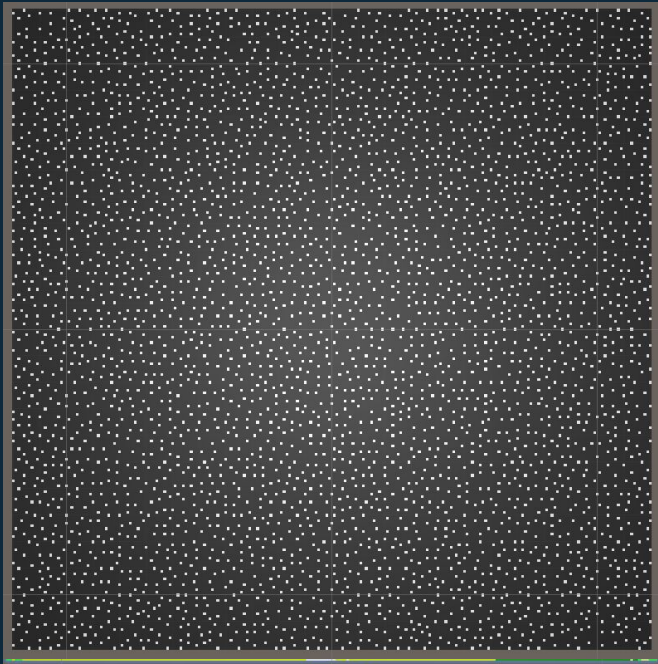
Résultat avec une `Unity.AnimationCurve` pour aplatir ou étirer le terrain



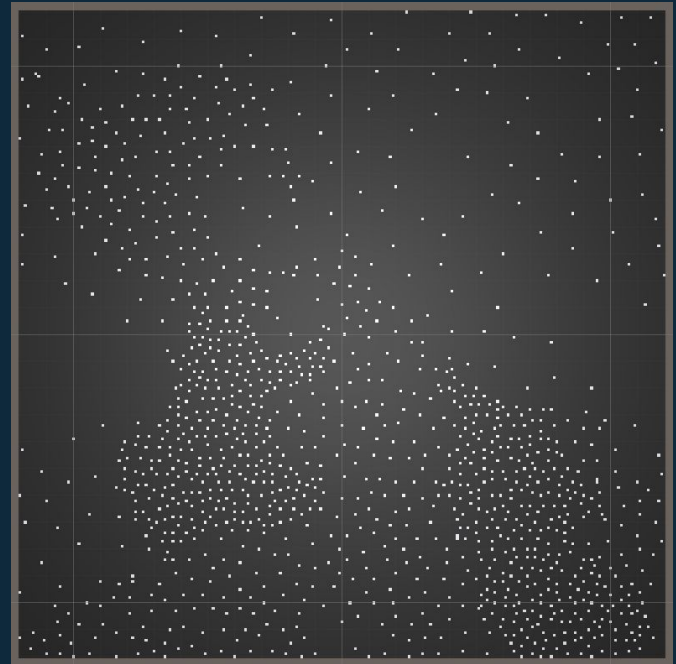
C. Echantillonner

Poisson Disk Sampling

Single biome



Every biome



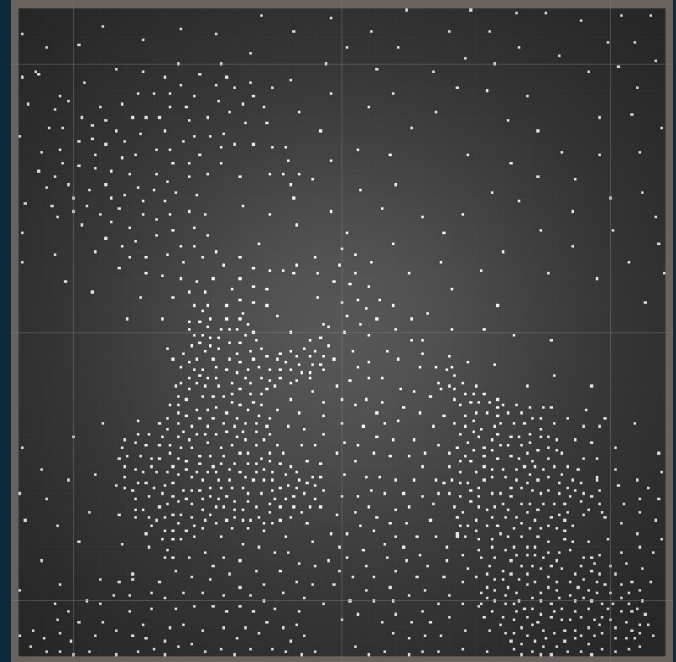
C. Echantillonner

Poisson Disk Sampling

Color texture



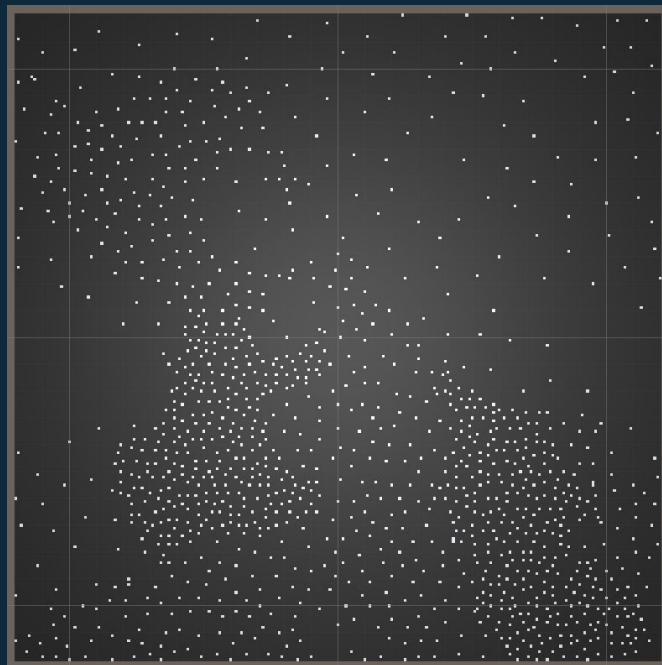
Every biome



C. Echantillonner

Poisson Disk Sampling

Every biome



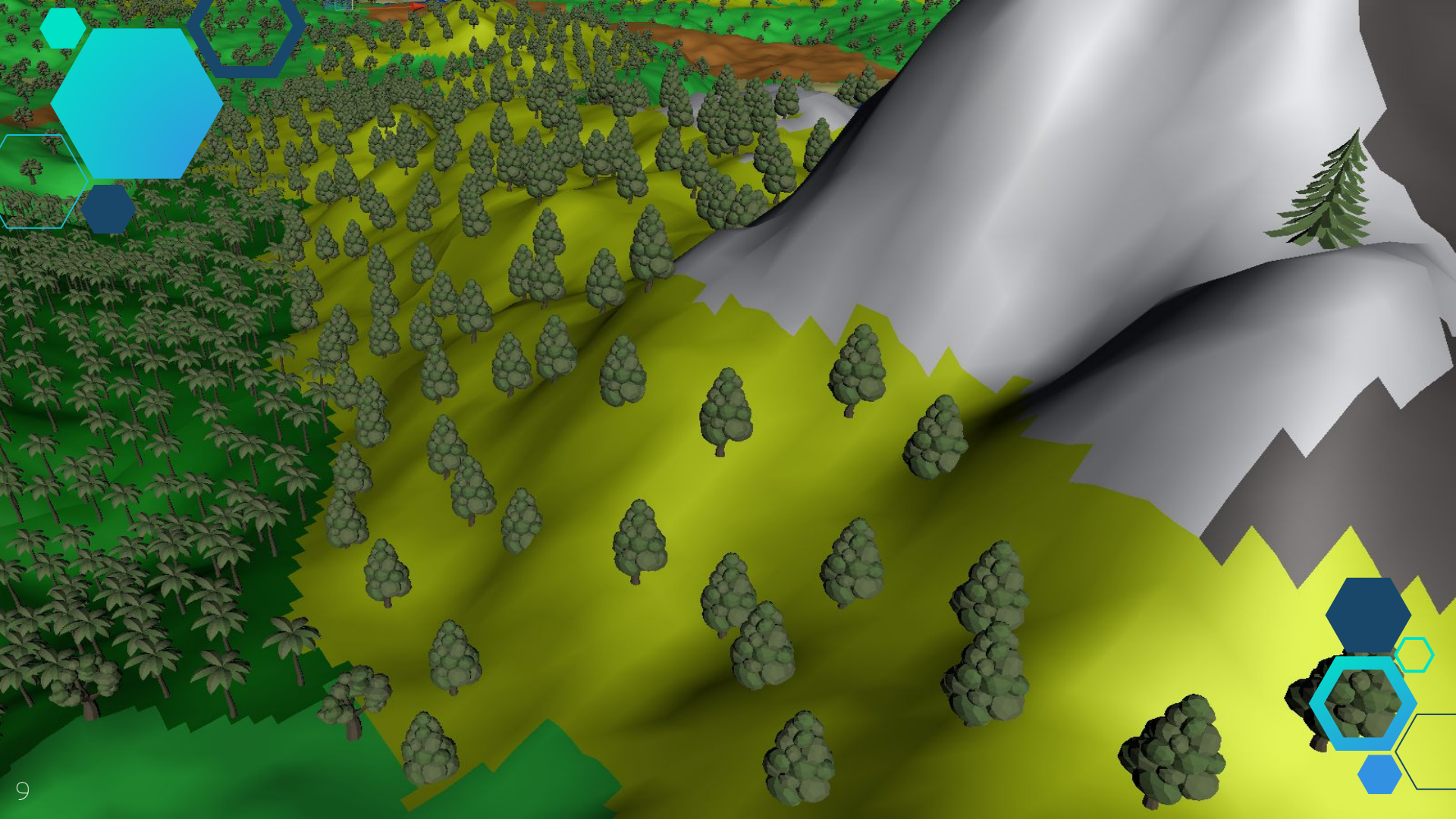
Pour chaque biome :

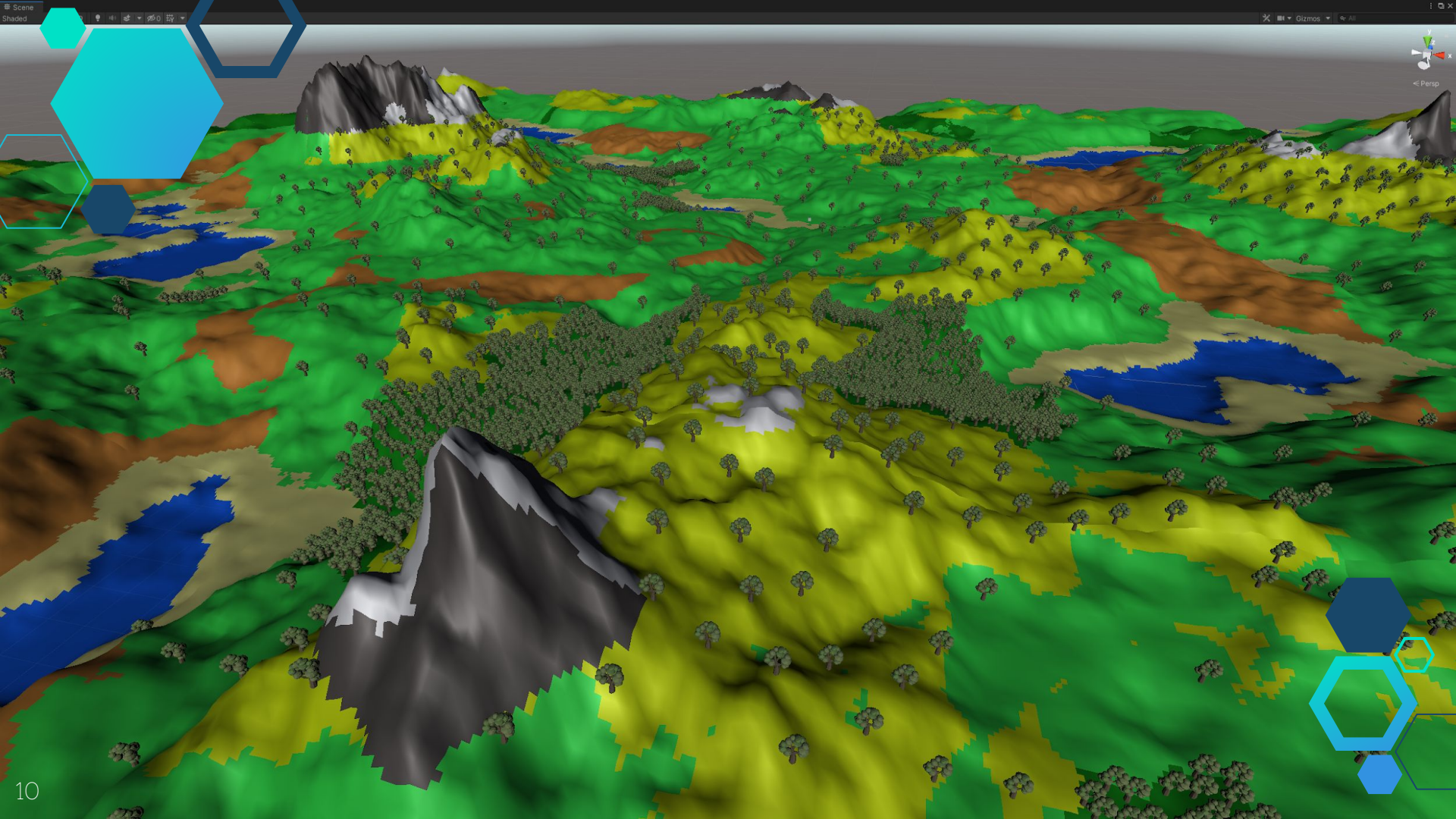
Générer un échantillonnage

Ne garder que les points placés
sur biome correspondant

Problèmes :

- Liaisons inter-biomes
- Liaisons inter-chunks







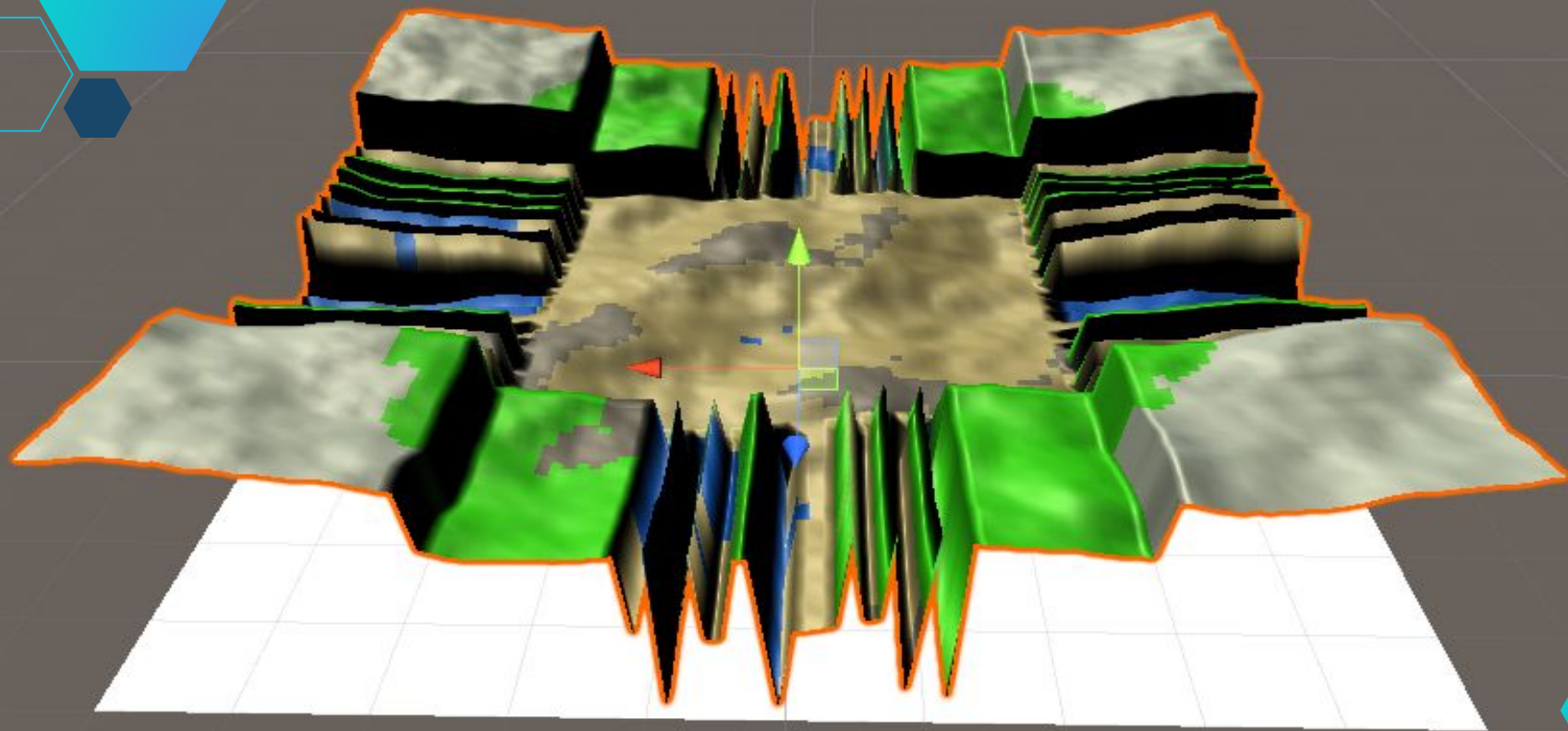
Merci !

Des questions ?

You can find me at:

◇ <https://github.com/NicolasCalvet/Biome-and-Vegetation-Procedural-Generation>







Credits

Special thanks to all the people who made and released these awesome resources for free:

- ◇ Presentation template by [SlidesCarnival](#)
- ◇ Photographs by [Unsplash](#)

