

Lineart Map Tutorial for Beginners

Hello and welcome to my **Lineart Map Tutorial for Beginners**, where I aim to lead you through the creation of a black & white fantasy lineart map with a few tips and tricks! :)

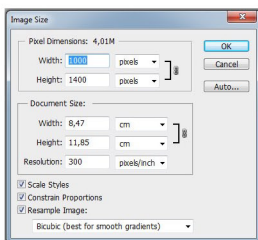
First things first: what do you need?

- 1) You will need an image manipulation program like the commercial Photoshop or the open-sourced GIMP. This tutorial will be for Photoshop; specifically, I'm working with Photoshop CS5. GIMP by and large does have the same functionalities, though they may be labelled differently in some cases.
- 2) I recommend a graphics tablet; you will be able to do what I do here with a mouse and a very steady hand, but you should at least think about getting yourself something like a basic WACOM Bamboo tablet (I started out on a tiny Bamboo Pen & Touch for less than 70 EUR).

Before we begin, a tip that'll end up being invaluable to you once you start map projects (or rather: any artistic project) in these two programs: **LABEL YOUR LAYERS!** This'll allow you to keep track of what you are doing and will make adjustments later on far easier for you. My aps nowadays often exceed 100 layers. Try thinking about how much time I'd have to waste looking for something if I hadn't accurately labeled each layer..

Part 1: And on the first Day, I Created the Land and the Oceans...

Alright, let's jump right in. Open the image manipulation program of your choice and create a new file. Here's what I used:



Regarding the resolution, while many people say technically 72dpi ought to be enough for digital pieces I've made the experience that a higher DPI setting doesn't hurt. Especially the linework can get rather pixelated if you go with 72dpi and try to have smooth features. So for this piece I chose 300dpi.

Now you'll have a blank, white page. Go ahead and:

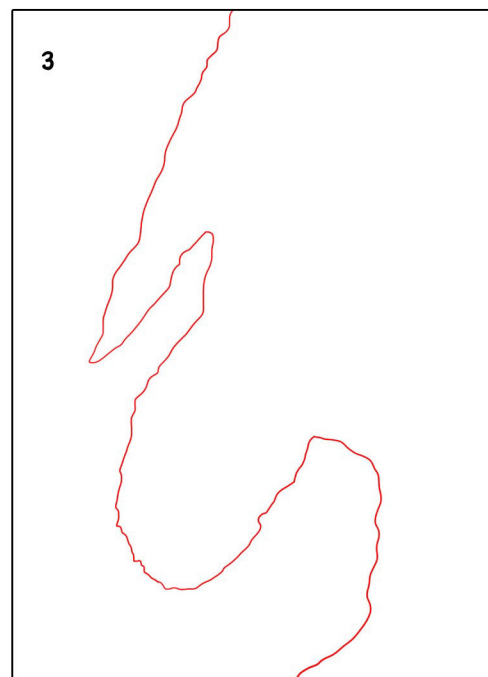
- 1) add a new, transparent layer. Name this layer **Basic Outline**.
- 2) check your brush presets. In Photoshop pick the **hard round pressure size brush** at 2px. It should be the fourth brush preset Photoshop comes equipped with. The nice thing is that you will be able to draw almost the whole map with this single brush at its factory setting.



3) change the color to red and draw a rough outline of the map you'd like to create. Here you really want to do the basic forms as a sort of scaffold to build upon in the following steps. Here's what I've come up with. As you can see it's really simple.

4) Switch the color back to black and open a new layer. Call this layer **COASTLINE**.

The tricky part about coastlines is that they should neither be too jagged nor too rounded. That means they shouldn't look as if they're completely made from fresh, sharp-edged rocks, and neither should they look like the smooth surface of a Roman statue (unless, of course, that's exactly what you want ;)). You may not get this right the first time. Don't worry, neither did I.



5.) Using the **Basic Outline** as a scaffold we now draw the actual coastline for our map with the **hard round pressure size brush** at 2px. This gives us some variety in the thickness of the coastline that'll give the whole thing a nicely natural look.

Make sure to include river mouths, capes, flowing parts for beaches etc. You can also add islands now if you didn't outline them earlier. Give the viewer/player/etc. something to look at, something to spike their imagination.

Here's what I've made from the outline:

6.) Technically, that's all the basics you need. You can now hide the **Basic Outline** layer. We could now move on to land features like hills and forests already, but that'd leave the map rather unrefined.

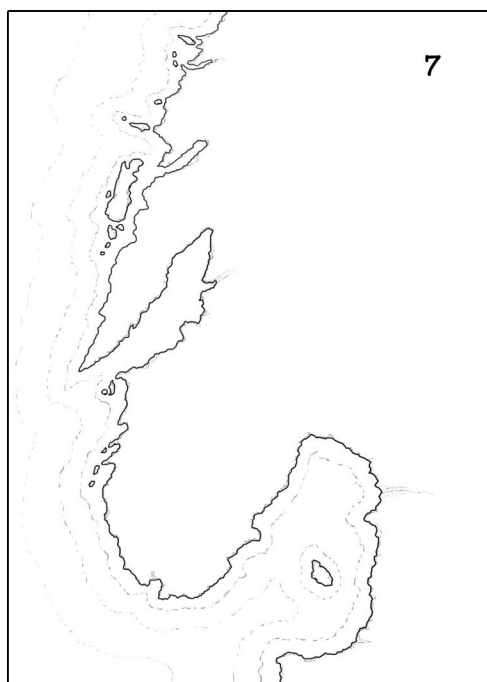
To remedy that, add a new layer and call it **COASTLINE, DETAILS**.

Here's where things get trickier as there's no concrete advice I can give you other than to find a good balance. What I mean by this is that the linework of this layer only works its magic if there's enough of it - and not too much of it. You'll understand what I mean in a second.

No coast is a straight line that just delineates land from water. You've got beaches, bays, river shores, sand banks, and much more that play into the look of a coastline. That's what we'll try to represent in this step.

Use low pressure on the brush to add features and texture to the coastline. A good guideline might be to add features to about 1/3rd to 1/2 of the coastline.

See what I meant? We've basically just drawn some broken, wiggly lines, but since our mind subconsciously knows how a coastline ought to look it's taken these little lines for the features we know substituted them for it.



7.) To further define the coast we'll now add a few lines hinting at different sea levels and the continental shelf. Again, take your standard brush, and follow the the coastline with short lines and dots, this time on the sea side. Repeat the process a bit further out. For the shelf, double the distance and apply even less pressure and take greater breaks between the brush strokes. Now, your map should look something like this (left image):

Part 2: There Shall Be Mountains!

Mountains are an integral part of any map, and in the process of drawing one they should be the first features you place after you've finished your territorial outline. The reason for that is simple: mountains divide the land in neat spaces; they set the parameters for where your rivers flow and with that, where pretty much the rest of your vegetation and civilization flourishes.

My own process usually goes something like this:

place mountains → hills → place rivers → place forests...

However, that's purely a personal preference. What you do and how you proceed with it really is up to you and how your workflow works best for you.

For each map you draw you'll have to settle down on what type of mountain style you intend to use and what mountains – if any – the map actually needs. By that I mean that various climates and locations work better with some styles than others. If you draw a desert environment smooth, comparably low mountains with rounded tops due to the erosion from wind and sandstorms may be the best choice. Conversely, for a map in the cold north, tall and jagged peaks can be the better alternative.

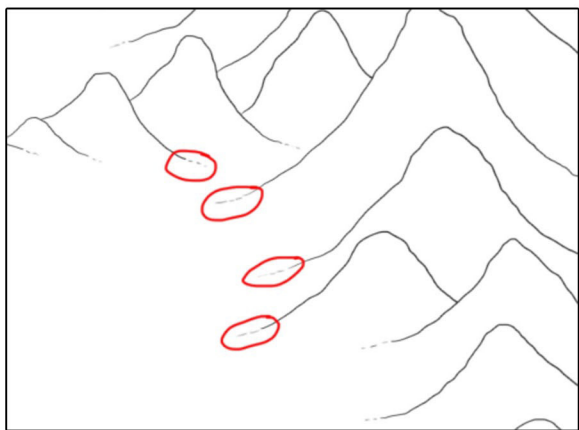
For our example I've chosen to make it into a regional map of some Viking-style setting. The coastline offers itself well to the jagged fjords of a pseudo-Scandinavia, so that's the direction I will take this in. Right on then: by Odin's beard, let's draw some mountains!

1.) The outline. Create a new layer called **Mountain Lineart**.

Once you've decided where your mountains shall be, pick our usual brush, **change the thickness to 3px**, and draw your first mountain. Try to think of an upside down V or W, and apply more pressure the further away from the edges of the mountain you get. This way you get linework that suggests the forms start to blend into the background. It should look something like this (image right):



Those are the basic shapes. To make them even better I've picked up a neat little trick that'll help give them the impression of rising from the ground rather than being dumped into position: the small, nibbly lines (image below):



They don't look like much, but it's often the small things that make the difference. From here on I'll mark each of those small "multipliers" with red circles the first time I use them.

2.) The rest.

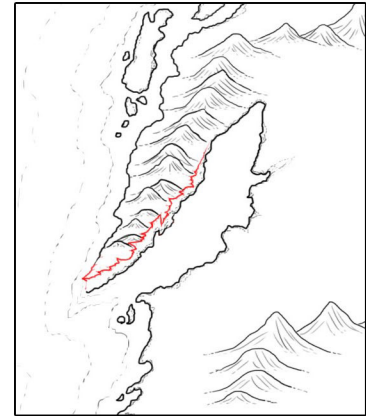
Yeah, it's that unceremonial. There are various ways we can do this, but for the sake of simplicity we'll chose a style that combines both, the shading aspect and the general outline.

Draw rounded lines that follow the general shape of the mountain, going from edge to edge. Use shorter lines on the side of the mountains exposed to sunlight, and use longer lines on that side in the shade. It's not the most elaborate approach, but it allows you to do create useful mountains without having to take care of ridgelines and linking up mountains into chains etc. That's for when you've gotten more comfortable with drawing maps. :) Anyway, your example at this point should look something like this:

2a. Cliffs to Jump From!

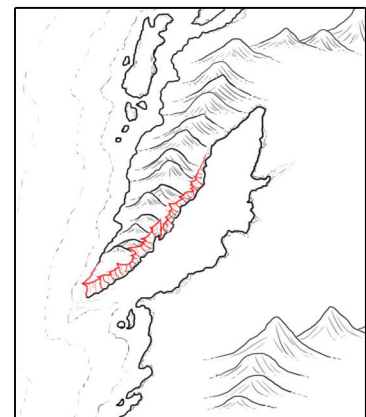
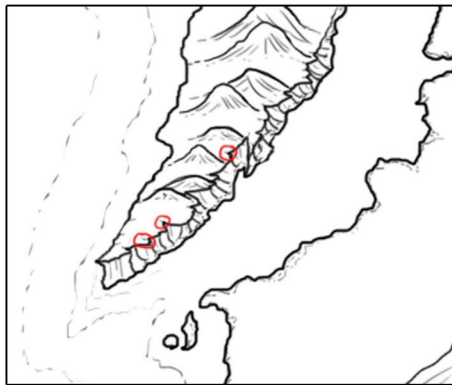
Let's do a quick detour here. Any self-respecting nordic map with fjords needs cliffs, so we'll add these right away. Add a new layer and call it **Cliffs**.

Pick your 3px brush and start drawing jagged lines inside the "land" part of the map along the part of the coast where you want your cliffs to be.



Once you've done this, add a new layer called **Cliffs, Lines** and link the "points" of the line you just drew with the "points" of the coast-line below, like this.

As with the mountains, remember the small parts that add life to your features. Add small, soft lines at each inner "edge" of your cliffs to suggest ravines where rainwater washes down into the sea:

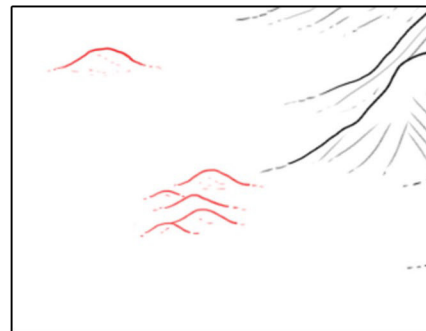


Part 3: Hills & Rivers, oh my!

With our mountains in place it's time to start adding the "small mountains", meaning, in plain English, hills. There are a few places where adding hills makes sense: at the feet of mountains (few mountains just stand there on their own, just popping out of flat terrain), at locations where you need a river to change its course, or simply when you need elevations but don't think the location warrants actual mountains.

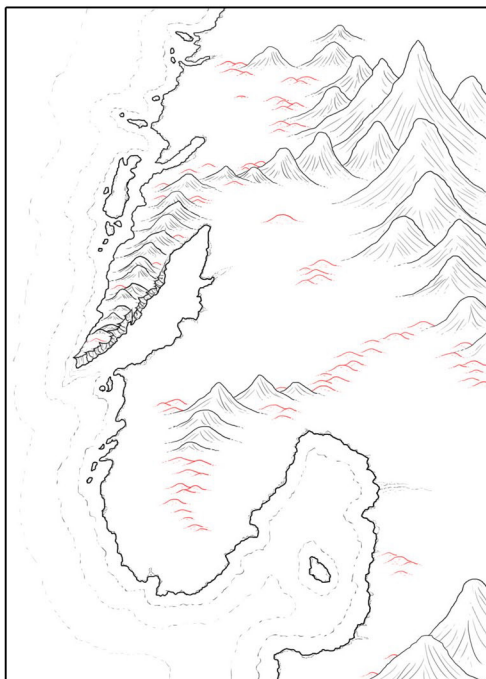
Ultimately it's up to you where you put them.

1.) Choose the **hard round pressure size brush** at 2px, create a layer called **Hills** and start drawing your hills. Use flatter, half-round shapes starting and ending in our nibbly lines, then add the same style of nibbly line to the center of the hill, leading towards its base in a diagonal line. Here's what I mean (right image):



If you want to give your hills - especially the larger ones - an extra dimension, add a few brush strokes in a half-circle along their base. This'll create the illusion of threedimensionality.

Placing your hills on your map you may get something like this here (image below):



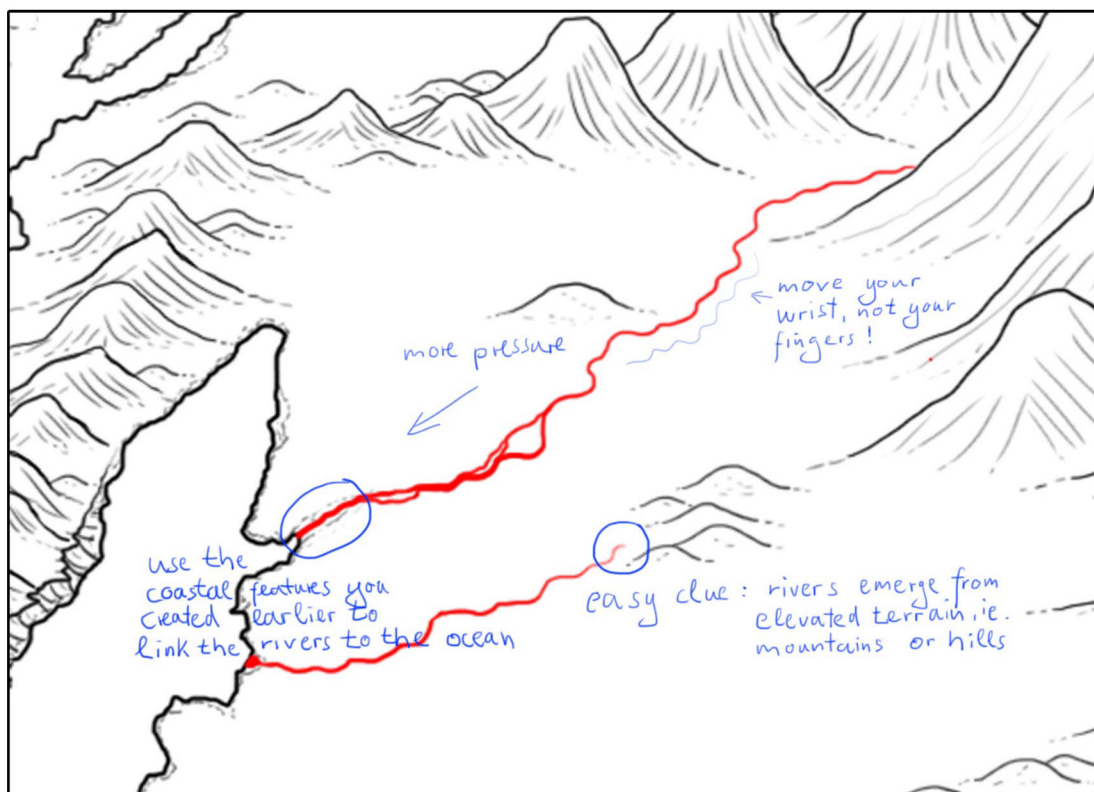
2.) Rivers. Or creeks. Or streams. Whatever floats your boat. Or doesn't.^^ Since we're doing a comparable small-scale map it'll be necessary to add the type of rivers we usually do not add: the really small ones, the streams that you'd be having trouble not getting stuck with a rowing boat.

But basics first: create a **new layer** and call it **Rivers**. Change your **brush size to 5px**, and do not apply too much pressure. This'll only work its magic if you apply the most pressure shortly before the rivers flows into the sea.

By slowly building the pressure you get a river that naturally grows in size!

Rivers or, in general, rounded forms, are best drawn from the wrist, and not from your fingers. This gives you greater stability and reach.

But take a look at the image below:

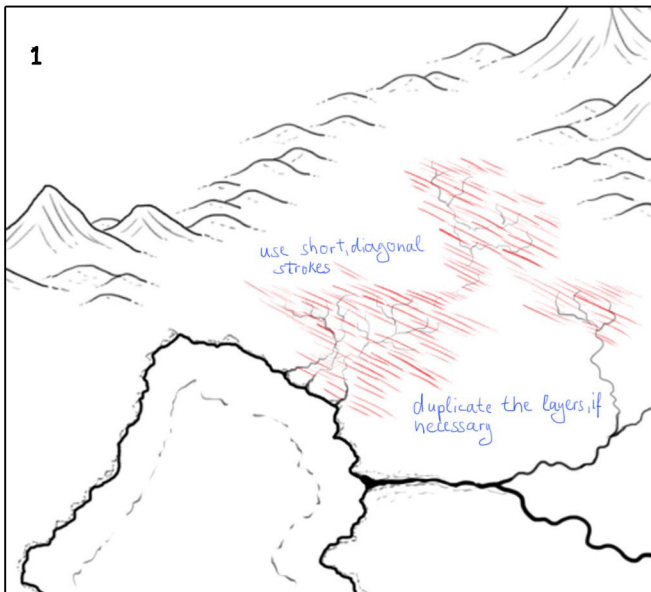
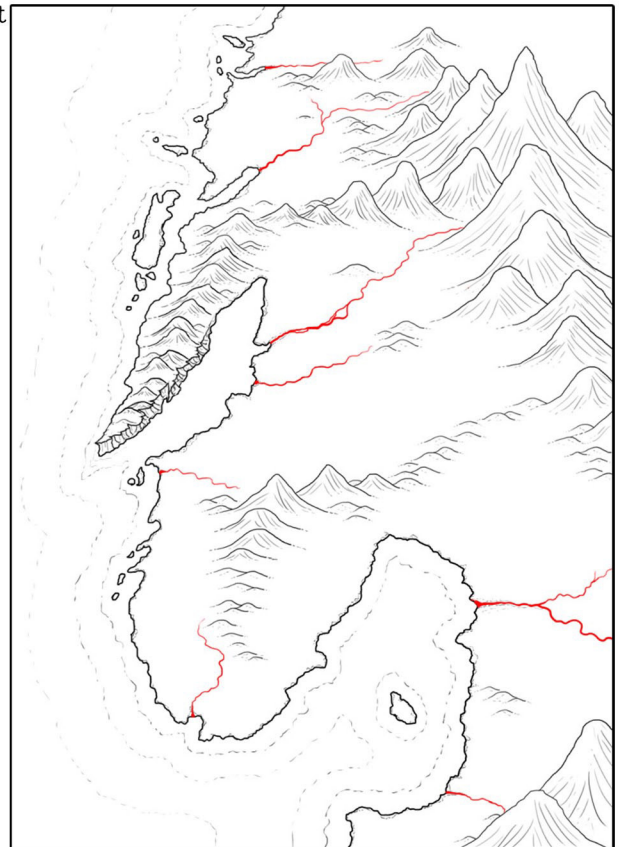


As for the whole map, going by these easy guidelines gives us this (right image):

3) Swamps. Swamps are like the mosquito-infested gift that keeps on giving: a space looks too empty? Swamp. Need to make some way impossible to traverse: Swamp. Make your mother in law vanish? SWAAAAAMP!

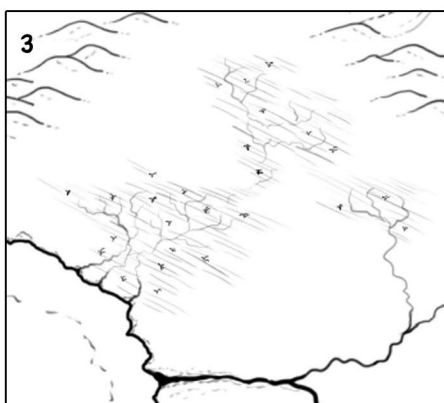
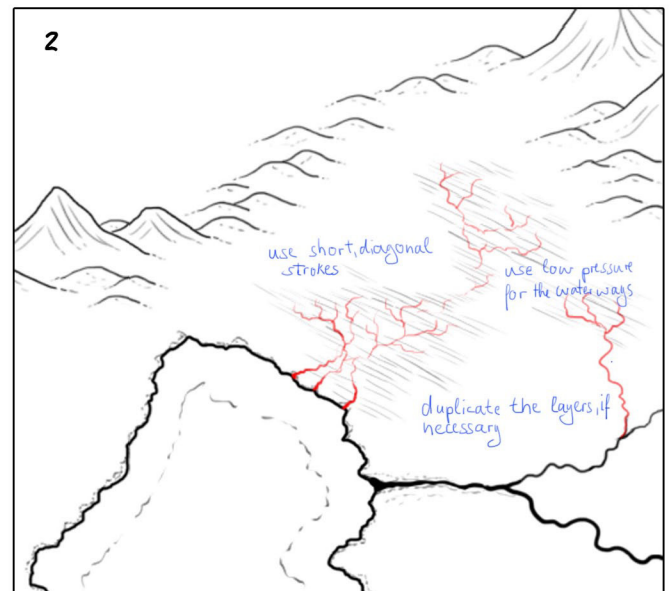
Okay, it's a pseudo-Scandinavian map, so there's going to be some swampy area in which all the water from the ice melting during the spring and summer months clogs up some swath of land.

Create a **new layer** and name it - you guessed it - **Swamp**. Stick to our trusty **2px brush** and draw short, diagonal lines in the general area you want the swamp to be. Vary the pressure (image below).



Now you've got the basic brush strokes in place you need some watery ways to signal that this is actually a swamp. So, new layer: **Swamp Waterways**. **Drag this layer below the Swamp layer!** Now do the same thing you did with the rivers, but on a smaller scale (image below).

For a finishing touch go and add some grass tufts on a new layer called Swamp, Grass. All you need to do for that is draw two to three short brush strokes to get a bushel of grass.



Part 4: Forests! Also a Good Place for your Mother-in-Law!

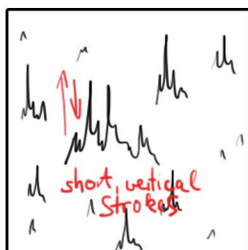
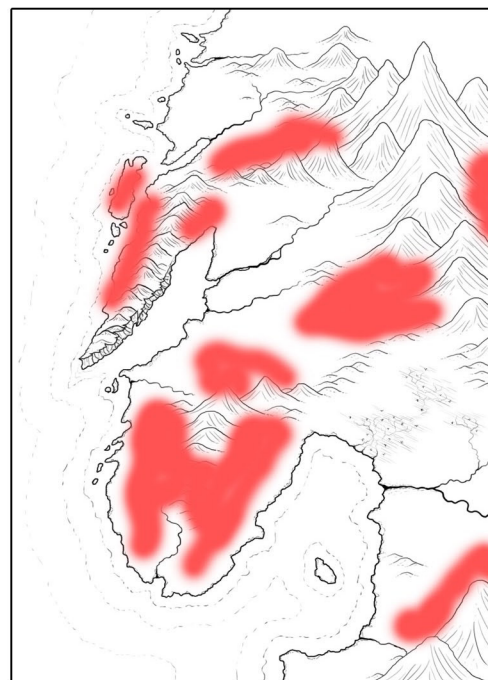
And we're back at map-making, this time with forests. Since this is the high north we'll be looking at coniferous forests only for this one. Deep, dark forests. The perfect places for encounters, dungeons, and places to hide the bodies...

So here's what you need to do, or rather, know first: where do you want to place your forests? This is true with every geographic feature, of course, and I've come to rely on a simple system that allows me to broadly settle where what needs to be.

That is, I add a new layer and simply block it in with a large, fuzzy brush in a bright color:

With that in place we move on to the actual creation of the forests. Using the color blocked spots as a guide we add a **new layer** named **Forest Outline**, pick our trusty 2px hard round pressure size brush and start drawing an outline.

For the bottom and the sides we'll use a very slightly wavering line, just enough to give the eye a hint of the irregularity of a forest's edge. From time to time we'll intersperse the edge with a set of closely packed, jagged vertical strokes.



Coniferous trees tend to end in somewhat edgy cones, unlike the broad crowns of deciduous trees. It's important to note that with the style we're employing realism really isn't needed. What's important is the general form and what the human eye associates with it. Take a look at this small section here and you'll see that, close up, it's really nothing like any sort of actual trees. Use short vertical strokes, and add small 'open triangles' in between them (otherwise the final product will look somewhat sterile).

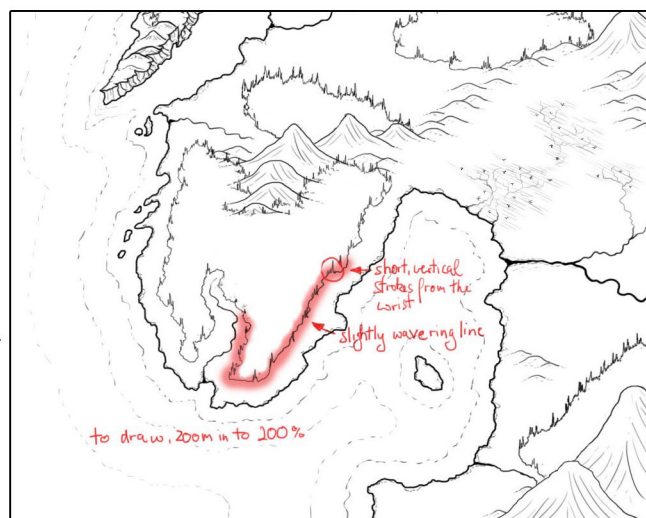
Don't freak out when what you draw has nothing in common with actual trees or forests. Trying to rectify that is a fundamental error made by many novice cartographers. Perspective is everything. Trying to draw completely realistic trees at the ground level of the map, so to speak, means a massive ton of additional work for literally no gain: zoomed out to the correct size of the map almost nothing of your painstaking work will actually matter. Reserve that level and love of detail for maps that concentrate on local points of interest, like a single forest.

If you take only one thing away from these tutorials, let it be this one: **keep in mind when you do your own maps that distance and perspective are king.**

Something that looks like utter crap from the close-up drawing perspective in your work process can and will end up looking really good in the finished product in its intended place at the right perspective.

So, if you work on a map: **zoom out once in a while!** Get a feeling for the whole of the map and don't lose yourselves in the details.

Applying the simple technique shown above, if you hide the layer we used to block in the general location of the forests you'll get an outline like this:

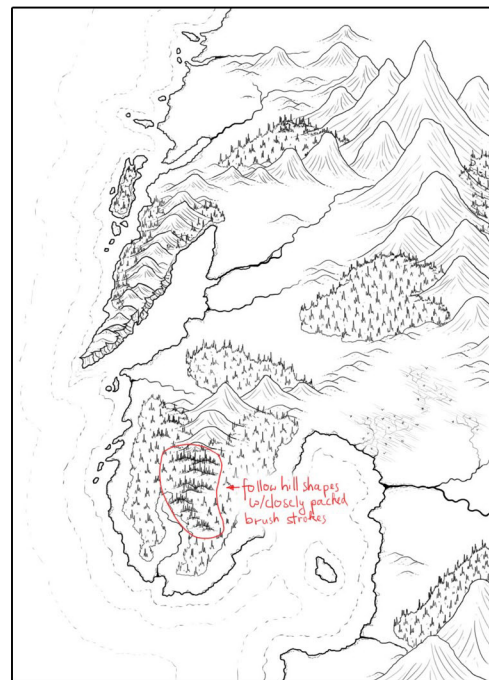


Again, we add a **new layer**, this one called **Forest Features**, and add the jagged brush strokes to fill the spaces we've outlined.

On to the last hurdle of the 'let's draw forests'-part: hills. We can do this on the same layer, by the way. A usual approach to hills in forested areas is to simply draw the forests around them. That way you get distinct forests and easily recognizable hills (image right).

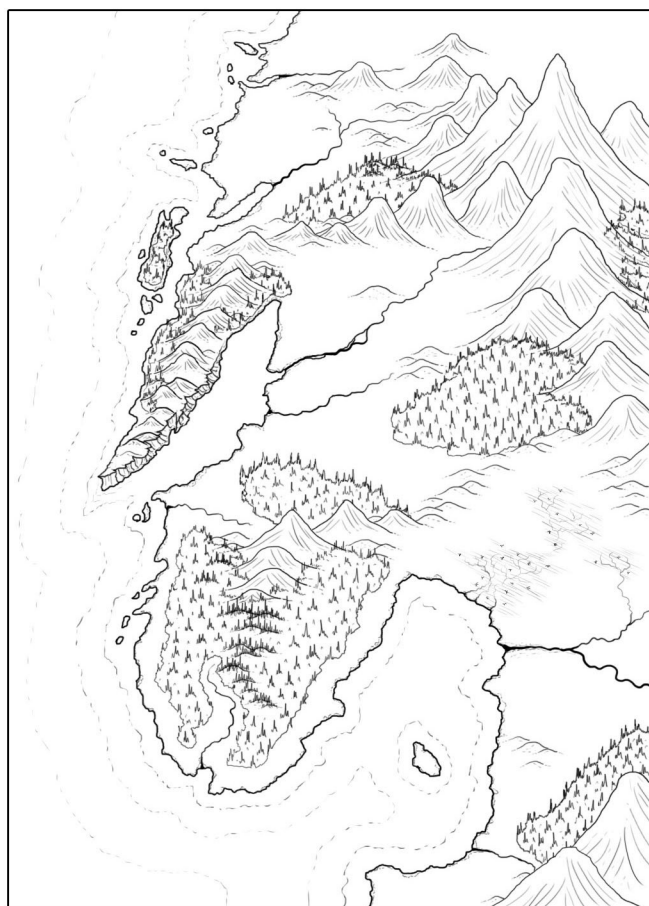
However, for our tutorial I've chosen a different approach (and, in truth, it's a first time for me as well); we'll use the forest outline to emphasize the shape of the hills. To that end we'll simply apply the same jagged brush strokes we used to draw the 'trees' of the forest and cluster them along the shape of the hills. For effect, add a few brush strokes along the sides of the forest as well, just so it becomes clear they are actually covered by the forest.

And that's it! You've drawn your first coniferous forests! Congratulations. Your map should now look something like this (image below):



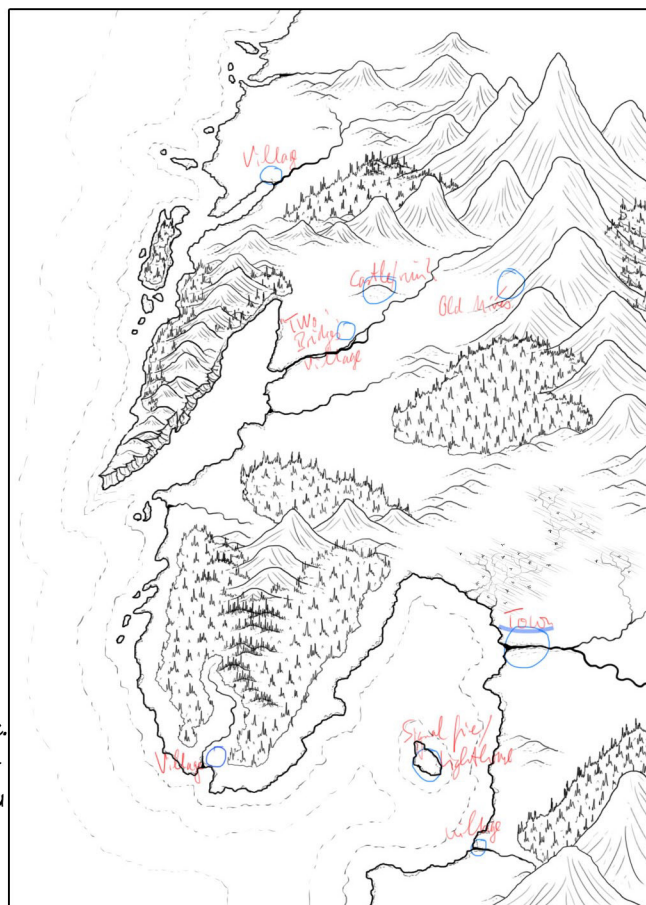
Part 5: Grass and Locations

Before we move on to the small details, **create a new layer** (no need to name it, you can delete it later anyway) and mark the spots where you want to place some of your locations like towns or villages. Like this:



You can, of course, place on the map whatever you want, as long as it's thematically fitting.

Now, here's the part where the tutorial will get extremely imprecise. I tend to draw all my locations by hand nowadays, or adapt existing brushes into locations that fit my wishes. If you don't think you can draw them yourselves, don't worry. There's no need for picturesque location symbols. You can just as well go with simple geographic shapes, or simple, flat 2D depictions of whatever you want. Keep in mind that, if you want them to be crisp & clear, you'll have to switch to a **simple hard round brush**, size 1px or 2px.



What I've done is to create a new layer for each location (!!!!!), then used the above mentioned brush to draw short, connected lines adding up to houses and buildings. I don't know how to describe this any better, but it's about the level of artistic ability we all had back in kindergarden.

Just think about what you want to show, and what the best/easiest way to achieve that is: a town? Draw a simple wall, add some stacked roofs behind it, add some chimneys and some rising smoke with a soft brush. A village? Draw a few box-shaped houses that seem to overlap each other. And then, need more villages?

Simply duplicate the layer (right-click on the layer in the layer menu), and horizontally mirror it if you want some variety (go to Edit-->Transform-->Flip Horizontally). A bridge? Four short vertical lines connected by two bow-shaped lines.

These things are ultimately rather easy, if you don't pay too much attention to perspective and detail, and in a beginners' map you certainly shouldn't have to! ;)

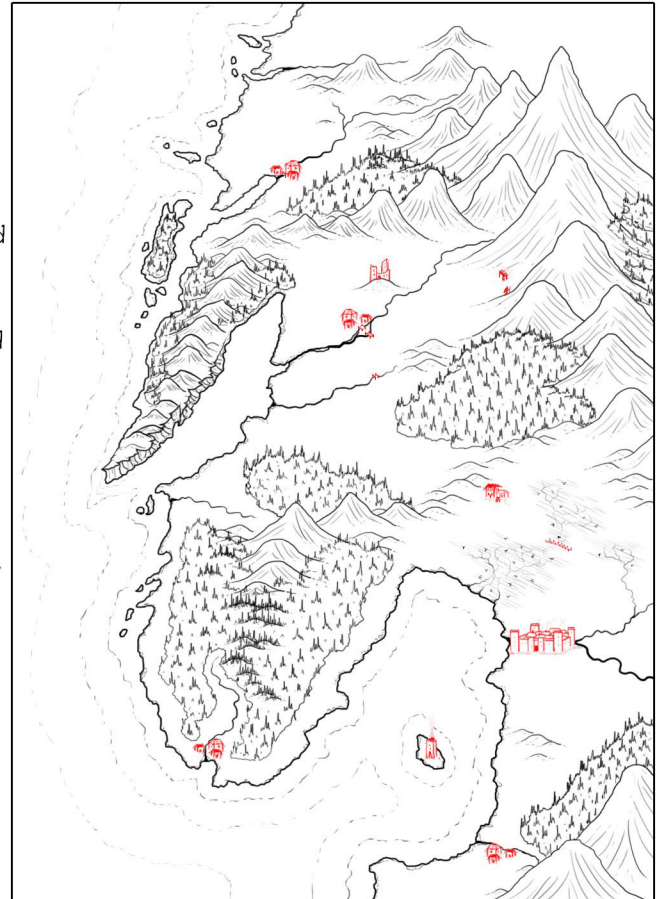
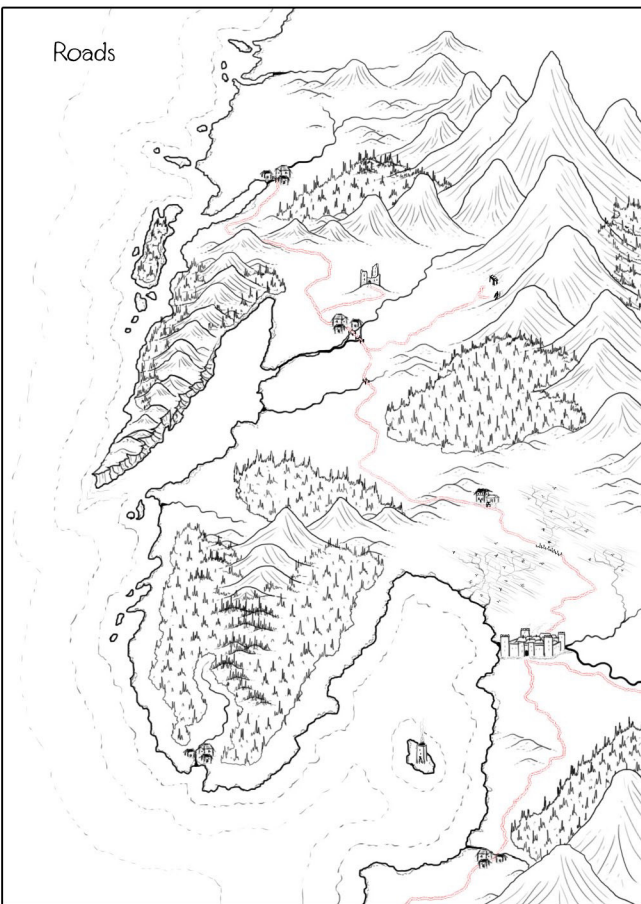
Now my map looks like this. There are villages, a walled town, a tavern, a pathway through the swamp, old mines, a ruined castle and a lighthouse (image right).

Now we're going to connect these locations, and to do so we'll build ourselves a nice little brush.

Building a "Road" brush

Sounds complicated, but is really, really easy. Here's what you need:

- a) Go to File-->New. Create a new file at 100x100px. Yes, that small.
- b) Add a new layer, hide the background layer by double-clicking on it and either deleting or making it invisible in the layer options.



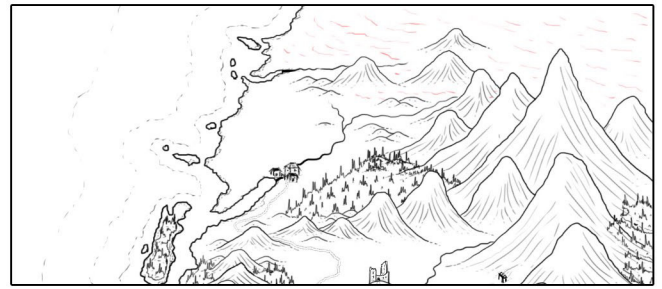
- c) Grab the Hard Round Brush and draw two dots of 5px size next to each other in the horizontal plane.
- d) Go to Image-->Trim-->Ok.
- e) Go to Edit-->Define Brush Preset-->Ok.
- f) Switch back to your tutorial map.

The new brush should be the last in your list of brush presets.

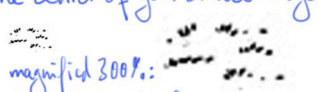
- f) Select the Brush Tool and pick the newly created brush in the brush presets.
- g) Toggle the brush panel (you do this via the symbols of three paint brushes right next to brush size slide).
- h) Go to shape dynamics, and under angle jitter select direction.

Draw your roads!

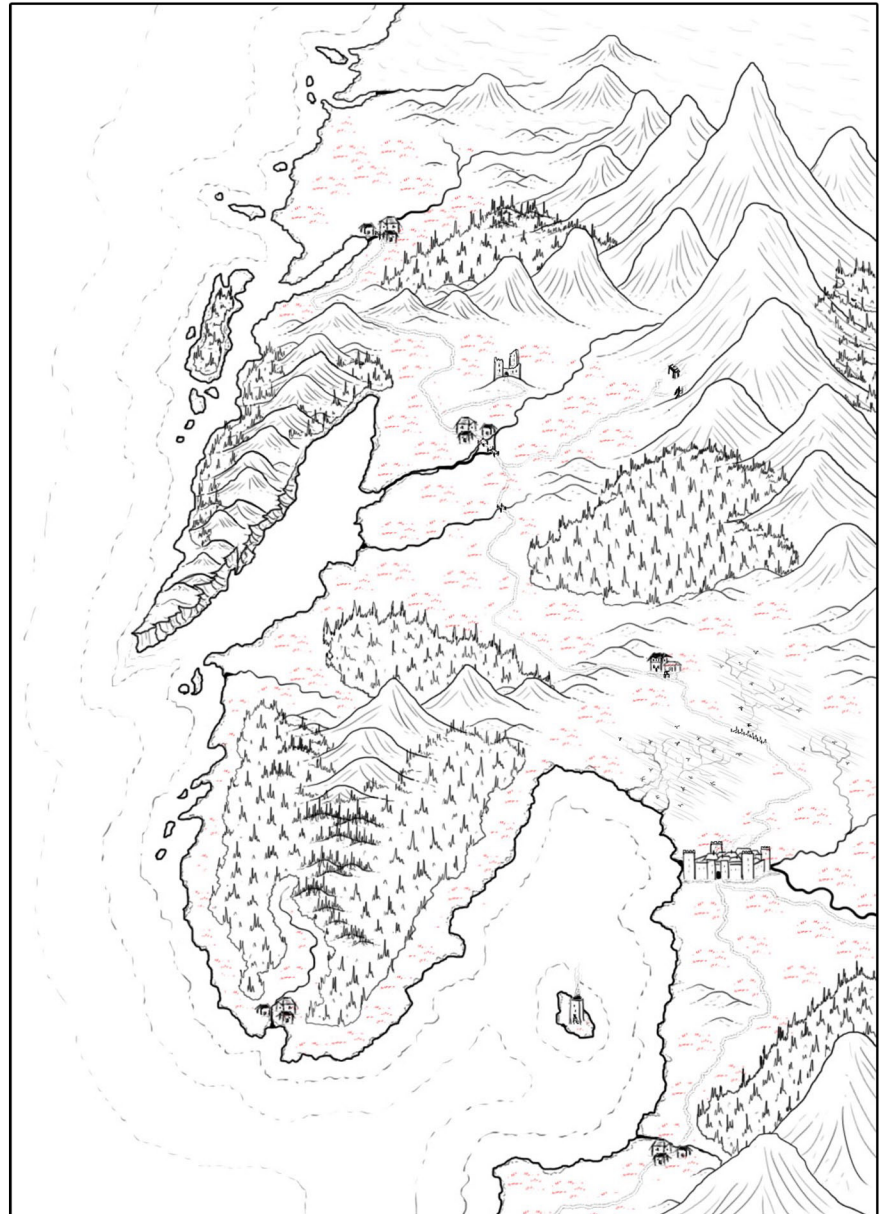
Now we'll add some simple snow to the high north. Create a new layer called Snow and pick our trusty hard round pressure size brush at 2px. Now simply draw some wave-like lines with low pressure and you get frosty plains covered by wind-blown snow!



Last, but not least, grass (image below)

- 1) Open a new file, dimensions:
100 x 100 px
300 dpi
white background
- 2) Add a new layer, call it GRASS.
- 3) Doubleclick the white background layer to unlock it.
- 4) Switch to the new layer + select our standard brush at 1 px.
- 5) Draw a few broken, jagged lines in the center of your small image.
→ 
magnified 300%:
- 6) Hide the white background layer.
- 7) Go to "Edit" → "Define Brush Preset"
VOILÀ !!!


Now simply apply this brush where you want your grass to be and delete the tufts that are too much! Easy as that!



Part 6: Labels, Map Borders and a Compass Rose

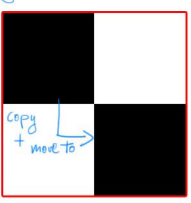
Okay, for the finishing touches on this map let's create a checkerboard pattern for the map border. This is an easy and effective way to create useful borders and can be done in about two minutes.

Open a new file, 250px, 300 dpi
→ fill it black



and then ... open another file!
500px, white background

Now simply drag the black square from the first file into the second, into one corner. Duplicate that layer and place it diagonally opposite the original.



Merge the layers, go to "Edit" → "Define Pattern" ✓

The next steps are even more simple than that. Go to your working map file, add a new layer on top of all the others.

Then go to "Edit → Fill → Pattern" and select your newly created pattern.

This will fill the screen with a checkerboard pattern which we now simply shape into the desired form. How? Easy.

Grab the rectangular marquee tool and select what you want to be the outer extent of your pattern.

Go to "Select → Inverse" and hit Delete on your keyboard.

Go to "Select → Inverse", then "Select → Contract" and choose the pixel size by which you want to decrease your selection. I went with 8px. Then hit delete again.

Go to "Select → Deselect".

Doubleclick on your layer in the layers tab, select "Stroke" and go with whatever stroke size you find appealing.

Congratulations. You now have a checkerboard border!

For a little extra effect you can select your base layer (the blank white one) with the "Magic Wand Tool", then add a new layer and go to "Edit → Stroke → Inside". Pick a 4px brush size. **Now, a compass rose!**

All that's left to do now is labelling your locations... and I don't know what I can tell you there?! Pick a font you like and go!

The End

Thank you for following this tutorial. I hope I could help you along on your first steps to create your own custom maps in Photoshop or GIMP. Even if your first attempts don't look like you hoped, keep your spirits up and try again. As most artistic endeavors, mapmaking is only one part creativity. The other parts are patience and training. Try out your ideas; try out new styles; try out new lands and worlds! And never forget to have fun on the way. :)

A compass rose

- Hard round brush, 125px
- select layer with CTRL + left click
- add new layer
- "Edit → Stroke → 4px"
- delete original layer
- add new layer, repeat process with 70px brush and a 2px stroke
- add a 10px dot in the center
- switch to the polygon tool (it's under the rectangle tool tab) and create a triangle
- repeat the steps done for the 70px circle for the triangle + make 3 copies
- place them around the outer circle so that their edges + the circle touch
- merge the 4 triangles
- select the outer circle with the magic wand tool, then select the triangle layer in your layer tabs and hit del. ✓

