7+ Ways To Preserve Life-Saving Information

On any given day, you are bound to hear about areas of the United States that are flooding, burning up with massive forest fires, or baking from heat that hasn't been seen in those regions for decades.

To add insult to injury, even areas that have never experienced hurricanes and tornadoes are under watch for these severe weather patterns. Regardless of why climate change is happening, the fact is that it threatens our very way of life and, perhaps soon, our very ability to remain alive and well. As a prepper, you are one of the lucky few people with the foresight to see that the reasons for these kinds of catastrophe don't matter anywhere near as much as how much information and supplies you have on-hand to get through the crisis.

Anyone that has been in a hurricane or other massive weather event can tell you that power and communications can be down for weeks, months, or even years on end. Under these circumstances, you may also lose access to all of your stored computer files related to information on everything from hunting and preparing food to figuring out how to travel during a nuclear emergency.

How To Build a Small Bunker in Your Backyard with $400

Personally, I maintain that a good quality unlocked WiFi phone, a solar powered recharging kit, and data stored on a micro memory chip kept in an EMP proof bag wrapped in a fire retardant, waterproof bag will be far more effective than carrying paper versions of information around. Nevertheless, more than few people feel that storing paper versions of

survival related information is very important. Here are some things you can do to protect paper based information from damage caused by exposure to water.

Modern Paper Options

Today, there are many grades of paper on the market made from different substances. Most of the paper you use at home, school, or at work is still made from wood pulp. If you have an interest in preserving documents for longer periods of time, then you might purchase archive quality, or acid free paper. While removing lignin from paper made from wood pulp will help chemically stabilize the paper, it will not make it waterproof. By the same token, paper made from cotton will also need special treatment if you expect it to resist water.

Petroleum based paper will resist water. As long as they are printed on or written on with waterproof ink or other materials, then you can consider the pages of the book water resistant. While you can find maps and some other vital information printed on petroleum based paper, you may not find the books you are most interested in owning.

Fortunately, there are at least two or three brands of paper and notebooks made from waterproof paper that you can use for note taking and information storage. This paper is also available for use in computer printers. It can take some research, however, to figure out which ink brands or types will bind best to this kind of paper. Just because both the ink and the paper are waterproof, that does not mean the ink will bind properly to the paper.

Things You Must Know About Modern Inks

If you thought the range of paper available for book printing was confusing, then you haven’t seen all the possible options

for ink.

As a general guide, however, most inkjet inks are water based. As such, they will probably run and be useless for waterproof printing. While there are some brands of inkjet ink on the market that claim to be waterproof, you should test them out on waterproof paper before printing out your valuable information. Usually, laser printer toner is not soluble in water, so it is considered waterproof. If you have pages printed on a laser printer, be sure to test them out first.

For all intents and purposes, if you are serious about having a waterproof book, you will need to use a plastic based paper. It is also very important to think of water in this case as a solvent, and from there, consider the impact of other potential liquid solvents on your printed materials.

As a case in point, most people believe that permanent marker cannot be removed from plastic, and so think it would be a perfect solution for waterproof writing. I have personally found that permanent makers (regardless of brand) are easily removed from plastic using dry erase markers or 90% rubbing alcohol. Therefore, even if your pages and ink are waterproof, that does not mean they are immune to other kinds of spills or liquid exposure. From this perspective, you should always test out prospective inks and papers within the context of any liquids that are likely to spill on them.

Do not forget to work in a well ventilated area as there is no telling precisely what is in the ink and how it will react to the paper and solvent you are working with.

DIY Paper and Ink Options

Chances are, you have heard about parchment documents that have been around for centuries or more. While these scrolls may seem very primitive, the pigments and materials used for the scrolls may be of interest to you. Here are some paper and

ink options that can be used now, as well as during times when paper is no longer available. Remember, the books you are trying to preserve right now are just a starting point to help you get through a major social collapse as quickly, easily, and safely as possible. As you work through these situations, however, you are bound to find that some things work while others don't. During the process of making these adaptions, it is likely that you will want to document that information for use later on. This, in turn, means that knowing more about DIY waterproof paper and ink options will be very important.

First, there are three DIY paper options that you might want to consider. Each is complex to prepare in its own way, and it is best to practice using these materials and test them out before you actually have to put these skills to use in a time of need.

- Papyrus scrolls made by the Egyptians aren't around for centuries just because they were stored safely and in a very dry climate. This particular writing material is also waterproof. In order to make papyrus, however, you will need access to the plant bearing the same name. Today, it is considered an invasive plant in Florida, California, Hawaii and Louisiana. It is very easy to grow from seed in warmer climates. If you do decide to grow papyrus, make sure that you know how to control it's spread. The process of making papyrus paper[1] is actually more simple than using wood pulp[2].
- Vellum – originally, vellum was made from calf skin. This version is waterproof, while modern versions made of plant based fiber may not be. If you have calf skin available, you can make your own vellum[3]. The basic process involves scraping away the skin and fur from the hide. Next, you will need to take the skin and stretch it over a frame. While the skin is on the frame, you will need to scrape it with a curved knife and water. This process will pull the skin tighter and build up

thickness. It may take several rounds of wetting and drying the skin before it reaches the proper thickness and tension. At this point, the vellum will be waterproof, but it will also be unable to accept ink. You will need to rub it with pumice and then chalk to make it usable for writing.

- You can also use other animal hides for preserving written information. As long as the hide is waterproof and accepts some kind of pigment, then you will be able to use it to store information. Since there are several methods for making animal hides water proof and smooth, you will need to do some experimenting to see what works best.

When it comes to making waterproof ink, your best option will more than likely be India ink. As with papyrus and vellum, India ink has been in use for centuries. In order to make this ink, all you need is soot from an oil lamp or soot from burning charcoal and some water. Grind the soot into a fine powder and then add just enough water to make a smooth paste.

Later on, when you use go to use the ink, you can thin it out by adding more water. At this point, you can also add pine pitch, glue, or some other binder to improve the durability of the ink and ensure it will remain water proof.

Don’t Overlook Those Old Dot Matrix Printers!

If you are a fan of vintage technologies, then you might just miss the days of those old dot matrix printers. While the side tracks on the paper may have been inclined to jump and jam, there was nothing like those old ribbons that gradually faded; yet you could always manage to get one more printing out of them (unlike modern ink jet cartridges that seem to never have enough ink in them!). The other nice thing about those old cloth ribbons is you may just be able to use them with

waterproof inks.

In this case, once you find a good recipe or resource for water proof ink, you can try soaking the ribbon in it. Just make sure that the ink will not completely dry out before you are able to use it for printing purposes. You can experiment with different kinds of cloth to see what will work best before using it with a printer ribbon. Do not forget to clean the ribbon thoroughly of the old ink that may or may not be waterproof.

If you have an older style typewriter that uses a cloth based ribbon, you can also try saturating that with ink.

Today, you may be surprised at the number of old typewriters and dot matrix printers that can be found in flea markets and other locations. Do some research on different models and the methods used in them to deliver ink to the paper. You are sure to find something that can be used for your needs. As a word of caution, however, stay away from printers and typewriters that used plastic ribbons. While they may have made a nice, crisp looking print in their time, the cartridges also cannot be reused. Unless you are able to develop a waterproof ink that will adhere properly to the plastic and then the paper, it is not worth the time and effort to try these machines.

DIY InkJet Options

Unless you can afford to spend hundreds of dollars a year on printer cartridges, chances are you either purchase refurbished cartridges or refill existing ones with generic brand ink for inkjet printers. Unfortunately, these generic inks are not likely to be anymore waterproof than the ink they are replacing. That all being said, there are ink resources available that are waterproof and relatively inexpensive. This includes waterproof inks used by artists as well as others that are concerned with the long term viability of their written materials.

Once you obtain an ink that will not be damaged by water, and has a good fit with waterproof paper, then you can consider how you are going to use it. In this case, you can try taking an old inkjet cartridge and refilling it with waterproof ink. To achieve this goal you will have to start out with a cartridge that is empty and fits in your printer. From there:

- Look for the fill holes in the cartridge. This will be considerably easier if you purchase refurbished cartridges. Unlike manufacturer versions, the refurbished ones will often have open holes that are simply covered with a sticker. All you need to do is locate those holes and make use of them.
- Next, even though the cartridge is “empty” there may still be some ink residue from the previous filling. You can try filling the cartridge with water until it comes out completely clean from the print head. Do not forget to cover up the chip and chip connector with plastic and then tape over it so that water will not get onto it.
- The cleaner the cartridge is before you start, the better. I do not recommend removing the sponge from the cartridge. Depending on how it is made, it may not be possible to re-insert it and have it connect properly with the print head. This will result in ink spills all

over the paper, or no ink flowing into the print head at all. As with conventional refills, NEVER let the cartridge dry out completely. This is an absolute death sentence for the cartridge sponge and any hopes you may have of successfully printing with the cartridge.
- Once the cartridge is ready, take a syringe and use it inject ink into the sponge. Start off with about half capacity and see how well the cartridge works. Remember, inkjet ink is formulated so that it flows easily through the print head. Thicker or heavier inks may clog up the head and make it useless. Do your research on how inks of interest are used, and also how their viscosity and pigment sizes compare to materials used in the cartridges that fit your printer. Try to achieve the closest match possible for best results.

Book Coverings

Even though your primary concern may be protecting the actual pages of the book, the covering and binding is also very important. Today, just about all book covers are made of cardboard. No matter whether the cardboard is covered over in fabric, has a shiny surface, or a dull one, chances are it will be damaged by water. Fortunately, making book coverings waterproof is a good bit easier than managing the pages.

To begin, if you are assembling your own book, you can also choose the covering material. Here are just a few options:

- Animal hides can be used if nothing else is available.
- Wood that has been coated with stain and shellac will also make for a good waterproof covering. Just remember that the binding will also have to enable you to open the book easily.
- You can also use cardboard so long as it is sealed off with something that will prevent water from touching it.
- Flexible plastic is one of the best options. Aside from

being waterproof, it will be fairly easy to make a binding that will protect the pages and also remain easy enough to open and close. I personally recommend using simple plastic binders with metal rings in them. Not only are the covers waterproof, you will also find it very easy to add pages to the book whenever you want, as well as arrange them in any order that suits you. The other nice thing about binders is you can use them in conjunction with plastic sheet protectors. In order to make them waterproof, just use a plastic bag sealer that utilizes heat to melt the pieces of plastic together. Once the pages are in place, you will not be able to move them from the sheet protector unless you open it up and then reseal it when you are done.

- When it comes to waterproof book coverings, do not limit yourself to a cover that simply opens and closes like a regular book. You can, and should consider making or buying a waterproof pouch that the book can be stored in. While gallon sized zipper freezer bags will do in a pinch, you will need something more permanent for long term use. If you have books in your collection that aren’t easy to waterproof, then this may be your only option to keep them as safe as possible. Just remember to be careful about when you open the book in any location where spills or exposure to liquid are possible.

Sealants and Preservatives

Overall, there is little if any such things as a sealant or preservative that will effectively waterproof paper that is already bound into books. Here are just a few problems you will encounter no matter which method you choose:

- You will have to treat each page individually and let it cool or dry before moving on to the next set of pages.
- It is difficult, if not impossible to seal paper all the

way down into the book binding. Therefore, if the book is stored in a damp location or gets wet, the bound area will still be ruined. Depending on the quality and nature of the paper, water that gets into the binding might wick right under the sealant and damage the paper.
- Sealants and fixatives don’t stay stable over time anymore than paper and ink do. As a result, they can interact with paper in ways that makes it more prone to cracking, yellowing, or even cause the ink to flake off.
- There is always a risk that the sealant or preservative will come into contact with something that will cause it to dissolve or become liquid again. Once that happens, the pages of the book will fuse and become impossible to separate.

While I don’t personally recommend using sealants or fixative agents on book paper, there are some things you can try. First, many people claim that wax can be used to make books waterproof. Simply rub a wax candle on the page, and then run a hair dryer over the wax to soften it. So the thinking goes, once the wax hardens again, it will form a waterproof barrier. Even though this may be true, never forget that wax is essentially a form of oil. As such, it can leach into the paper and damage it over time. In addition, it does not take much heat to soften wax and cause it to fuse to nearby wax. While dipping wax will result in poor fusion of wax layers, the thin ones used on book pages may still fuse easily enough to prevent the pages from being opened. It does not matter whether you store the book in a hot car or it winds up too close to a hot fire. Once the wax begins to melt, your book will be ruined.

Other people also claim that using shellac or other glue based sealants can be useful for waterproofing paper. While these substances may be more resistant to heat than wax, they may still present other problems. As with wax, there is no telling what kind of damage they will do long term as they interact

with the paper. You may also find that glues and sealers break down or start to become brittle over time. If the paper itself or the ink are also being changed by the sealant, they may simply crumble right along with the sealant or flake off in patches as you try to turn the pages of the book.

While your current focus may be on waterproofing survival books, you may also be wondering about making them fireproof. Since alum can be used to fireproof clothing and paper, it may be of interest to you. There are also some sites that claim it can be used for fireproofing. The biggest problem with using alum is you will more than likely have to dip the pages of your book into the solution and then let them dry out. If you have ever used watercolors, or even watercolor markers heavily applied on thin paper, then you know how easily paper can warp when exposed to water. In this case, if you are determined to use alum, try using it as a fine mist or spray and see if it provides any water and fire resistance. You can also try applying several coats to see how it works out.

Methods for Compacting Information

It is often said that only 10% of what you read in a book is actually of value. The rest may be examples that provide enrichment, or other materials that aren’t necessary for actually using the things you need to focus on most. From that perspective, you can, and should look for ways to compact vital information as much as possible.

Here are some basic things to try:

- Organize similar data into tables. Let’s say you have dozens of recipes for making bread. There is a good chance that all of them have a common set of ingredients that vary in ratio. Instead of taking up a page for each recipe, try organizing all the ingredients into a table. For example, if you are organizing yeast breads that include recipes for Amish, French, Italian, and other

breads; they all require the use of flour, water, some kind of fat/oil, salt, sugar, and yeast. All you need to do to fit those recipes on one page is line up the ingredients in one column of your table, and then list the bread name along the top row. From there, simply fill in the appropriate box with the amount of each ingredient required for each bread. You can also write a general set of preparation and cooking instructions that apply to all of the breads, and then any special notes that apply to each dough. I have personally used this method to distill recipes and can easily fit as many as 10 variants on a single 3 x 5 index card, and have plenty of room on the back for directions. You can just as easily do the same thing with notes on everything from how to dress game to making garments. Once you find a common axis or thread to the information, you will find it very easy to organize it into tables.

- There is a famous saying that states a picture is worth a thousand words. Diagrams and flow charts can also take up far less space while providing more information than purely written words. For example, if you want to store information on how to change disc brake pads, taking pictures and then writing on them to outline the steps will be of more benefit than words alone. Depending on the quality of written text, it may take 5 or 10 pages to describe the entire process. On the other hand, text with a few pictures may only take up 3 or 4 pages.
- Write texts in your own words. This is one of the most important things you can do because it helps you to work on comprehending the information and summarize it. Later on, when you need to actually use the materials, you will also find it much easier to work with them. This is also a good time to ask questions and do experiments so that you can clarify any areas of confusion.

Song and Story: The Old Way of Protecting and Preserving Information

When it comes right down to it, there is no such thing as having a book or data storage method that will be 100% foolproof. At the same time, the data that you are storing away may not be correct, or it may not be the best method available for any given situation that you find yourself in. This is just one of many reasons why relying on paper and electronic information storage methods should not be your only option. Instead, you may want to consider finding ways to make sure you remember as much as possible and are able to recall it with ease. Unlike a book or electronic storage method, this will also enable you to use your mind to connect different pieces of information and use them in much more dynamic ways. Here are some things you can do to improve your ability to remember important survival oriented information:

- Use memory building games and techniques for improving your capacity to remember information. This includes using specific scents while you are studying and reading. For example, Rosemary and some other herbs improve both memory retention and retrieval. Even if you cannot remember something immediately, having a similar scent around can help you recall the information[4].
- Take notes and rewrite them often. While you may want to use your books as a primary source, repeating the information is one of the best ways to remember it. As with any other memorizing technique, the more you engage your senses in the task, the easier it will be to recall the information at a later date.
- Read the information out loud. As with taking notes, repeating the information will also help you remember it. When you use the spoken word, you are engaging your hearing, which is yet another neural path or tracing

that can help you retrieve the information later on. If you tend to favor auditory learning over visual learning, this will also help you acquire the information faster and more easily.

- Make it a point to review and study the information while in different emotional states. Researches are increasingly finding out that odor and emotional states play enormous roles in how well you are able to retrieve information from your memory. Since it is likely that you will need to remember information during stressful situations, it should come as no surprise if you freeze up and suddenly can't remember. If your emotional state is not compatible with the one used to store the memory, then you may not be able to recall. At the very least, review survival information from your books when you are feeling stressed, tired, or in an emotional state similar to what you might be in during an actual crisis. Even if you read just a few pages, it may come in handy later on.
- Turn important steps for completing various tasks into songs or stories. This will also help children remember what they need to do in various situations.
- Learn various skills and information in topical clusters. For example, if you are interested in water purification, practice making charcoal, bone char, and sock filters along with other methods of interest to you. The more pieces of information you can pack into relevant clusters, the easier it will be to remember.
- Practice everything you are reading about at least once. There is nothing like actually following steps and completing them to build an increased number of neural connections that lead to improved memory. In addition, the more you practice, the less chance you will have of making mistakes in an actual crisis situation.

If you currently have library of printed survival books and material, then you may be wondering how to make them

waterproof. As you can see, this is not an easy task. Methods like sealing the pages with wax, shellac, and other chemicals can create a situation where the pages of the book will get stuck together or saturated to the point where the paper falls apart. You must also consider the nature of the ink and the kinds of liquids it can be dissolved by. Rather than put all your information in one storage form, it may be best to diversify, and also take steps to remember as much as possible so that you don’t always have to rely on the books.

Resources

[1] http://www.kikijourney.com/making-the-papirus/

[2] https://www.wikihow.com/Make-Papyrus

[3] https://www.archives.gov/preservation/formats/paper-vellum.html

[4] https://www.psychologytoday.com/us/blog/brain-babble/201501/smells-ring-bells-how-smell-triggers-memories-and-emotions