

## Tips for Storm Damaged Data Storage Devices

Many assume that once a hard drive, Flash Card or Tape has gone swimming or has suffered electrical damage from a storm, the chances of breathing life back into it are lost, but there are some basic decisions that can greatly improve the chances of recovering data.

One should never try to power up a computer after it's been in water, even if it appears to be dry, because even a small amount of moisture in the system can short out electronics and cause greater damage. Even if the machine has been dried, the real threat to a hard drive comes from contaminants in the water drying and leaving a residue on the platters -- the flat, spinning disk that stores the data -- and the heads, the components that send and retrieve data from the platters.

The tolerances between the parts of a hard drive are so tiny that even a smoke particle is like a boulder on the surface of the platter. Any bit of residue that dries and is left behind becomes an impediment that can cause the heads to fly unpredictably and even crash into the surface of the platter.

Removing the hard drive from the computer and placing it, while still damp in a plastic bag with a wet sponge can help keep residue from forming. Some of Southwest Stars' customers have even put distilled water in the bag.

Backup tapes and floppy disks that have been waterlogged can also be cleaned and recovered in some cases.

### Important Tips for Hard Drives:

1. Do not turn on a computer or power up a hard drive that has been submerged, even if it appears to be dry.
2. Put the drive in a sealed plastic bag as soon as possible, with a wet sponge that has been saturated with distilled water, keeping it in its damp condition.
3. Don't try to open the hard drives yourself, even if you think you're pretty handy.
4. Never assume that data is unrecoverable, no matter what it has been through. Send the media to a professional data recovery facility as soon as possible. The first 48 hours after water damage are the most crucial to a recovery.
5. Do not shake the media or, in the case of hard disk drives, remove the cover of the assembly.
6. Do not use storage media that may have been exposed to heat, moisture or soot. The media may be irreversibly damaged if not treated and recovered in an air-and static-controlled clean room by data recovery professionals.
7. Never attempt to dry water-damaged media by opening it or exposing it to heat, such as a hair dryer, or trying to freeze-dry it. Waiting for the drive to dry out and then attempting to operate it on your own is the worst thing you can do.
8. If water damage to electrical equipment is suspected, do not plug in or attempt to start.
9. When lightning strikes, a high voltage surge can be produced in the power lines and telephone lines, and this surge can sometimes travel for many miles. If the surge is brief, it will not cause obvious charring, yet electronic parts can easily be damaged by microscopic "charring" down inside the individual parts.
10. Always back up critical files regularly to a tape, disc or other medium that is not stored near the computer.



This Mac was Severely water damaged. Southwest Stars recovered 100% of the lost data in 24 hours.

## Tips for Flash Cards:

Storms can also damage flash cards, if they are exposed to excess water or electrical damage. If you use a separate card reader to connect your card to your PC, you probably don't want to reformat the card while it is in the reader. Doing so will reformat your card for the operating system you use on your PC (Mac, Windows, Linux, etc.) Most electronic devices do not use these operating systems. That means if you reformat your card in your reader, you may not be able to use it in your device.

For example, by default, Windows XP will format any CompactFlash card of 64MB or more with FAT32 format. Digital cameras and other devices use the FAT16 or FAT 12 format and can not operate with a FAT32 formatted card. Always reformat your card while it is in your device, whenever possible.

### Is my card damaged?

If you've done something you probably shouldn't have to your CompactFlash™, SmartMedia™, MMC™, or SD™ card, or other flash device how can you tell if it's ok?

Fortunately, it's usually very easy to tell if your card is damaged. Common signs of a problem include:

- ▶ Your device or reader won't work with the damaged card but will work with other cards.
- ▶ You can't turn off your device.
- ▶ You have less space available on your card than usual (for example 20MB on a 32MB card), but you can't see any files on the card.
- ▶ You receive an error message or an error indication from your device.
- ▶ Your Card is asking you to format, even though you know there is data on the card.
- ▶ You can see thumbnails of pictures, but the larger images appear to be missing.

### How do I fix it?

In some cases, you can repair a corrupted card by reformatting it in the device where you use the card. However, you should only reformat your card as a last resort! Reformatting your card will delete any files on the card.

If you have files on your card that you don't want to delete, you may want to try a Flashcard recovery service.

If you do decide to reformat your card, follow the directions that came with your electronic device. Every device is different, so you will need to consult your user's manual.

If you need more assistance with these issues, or require data recovery for your media, please feel free to contact Southwest Stars Technical Support at 1-800-924-0305.



**FlashBack™ can recover files from all types of flash media that have been lost due to system or battery failure, format or deletion and corruption caused by hardware or software malfunction.**