



Preservation Tips

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Special points of interest:

- Read Gray's hurricane forecast at <http://typhoon.atmos.colostate.edu/Forecasts/>
- The National Weather Service's predictions for this season can be found at <http://www.cpc.noaa.gov/products/outlooks/hurricane.shtml>
- For the best source of information, visit <http://www.nhc.noaa.gov/>
- Interested in hurricane history? Visit <http://www.nhc.noaa.gov/HAV2/english/history.shtml>

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**Preserving the Past
for the Future**

2008 Storm Season

A 2007 Intergovernmental Panel on Climate Change believes that intense tropical cyclone activity will increase over the 21st century. The result will be increasing disruptions to business by power outages, floods, and high winds; disruptions in the food and water supplies; loss of property; withdrawals of risk coverage in vulnerable areas; and population migrations. To check out the report yourself, visit <http://www.ipcc.ch/ipccreports/assessments-reports.htm>.

In the meantime, are you prepared for the 2008 hurricane season?

Don't let the past few years of relative inactivity lull you into a false sense of security. All it takes is one hurricane to change your institution for years – perhaps decades.

William Gray's team has re-



leased their June update for the 2008 season. Their conclusion: they continue to see an above-average Atlantic basin tropical cyclone season with an above-average probability of United States major hurricane landfall. They predict 15 named storms (the average is 9.6) and 4 intense hurricanes (the average is 2.3) over 80 named storm days (the average is 49).

With the entire US coastline having a 69% probability for at least one major hurricane landfall, who is at greatest risk? Gray's team predicts that both the East and Gulf coasts have about equal risk – 45% for the East Coast, including Peninsula Florida, and 44% for the Gulf Coast from the Florida Panhandle westward.

Selecting Flashlights for Disaster Kits

When was the last time you looked at flashlights in a catalog? If it was recently you were probably bewildered by the huge array. It's tough to figure out what is best for your disaster kit.

Inexpensive or top of the line? Disposable batteries or rechargeable? What kind of bulb? How bright should it be?

We'll try to take some of the mystery out of the process.

Batteries. The typical choices for disposable are alkaline or lithium; rechargeable include NiCd/NiMH or Lithium ion. The chart below provides some quick info.

Bulbs. There are three kinds of incandescent bulbs: krypton,

xenon, and halogen. In addition, there are LED bulbs. These are a computer chip-like device that emits light when power is applied. The chart below provides some quick info.

Light Measurement Output. The amount of light being output is measured by either candlepower or lumens. These are not

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New Products are Good for Collections



TempStock-Free particleboard with virtually no formaldehyde emissions.

Formaldehyde is one of the more hazardous chemicals when it comes to collection care. It is known to corrode a

variety of metals, including lead, bronze, brass, zinc, copper, and silver. It also has deleterious effects on certain pigments and papers. For years conservators have warned against using wood products that off-gas formaldehyde, such as those using an urea formaldehyde glue.

Temple Inland (<http://www.templeinland.com/BuildingProducts/Particleboard/temstockFREE.asp>) has recently introduced TempStock-Free, a premium particleboard with formaldehyde emission levels so low as to be indiscernible from levels found throughout nature. In addition, TempStock-Free meets the Environmentally Preferable Product (EPP) specification CPA 2-06 requiring 100% recycled/recovered fiber content.

Timber Products (http://www.greentproducts.com/gt/home/Green_T_Products/) has introduced a new hardwood plywood. The company claims

that it has formulated a special resin that does not release harmful emissions, including formaldehyde. In fact, when it comes to formaldehyde emissions, GreenT meets or exceeds all federal and state requirements, including Phase I and Phase II of the recent California Air Resources Board (CARB) standards that were approved in April 2007.

We haven't tested either product, so you should plan on doing so before using them, but they look promising for museums and libraries that require very low emissions coupled with green-product certification.



WaterBOB Emergency Water Supply

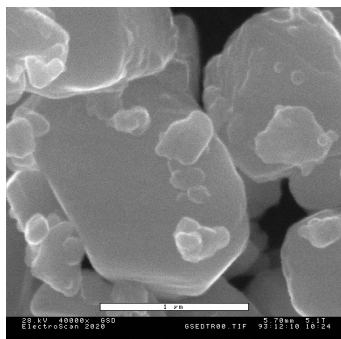
Although not really useful for institutional use, this is a great product for staff.

It is a plastic liner for standard bathtubs that can be used to hold around 100 gallons of water. With a built-in fill

mechanism and built-in hand pump to dispense the water, it provides a good means of keeping water clean and safe during an emergency (the manufacturer claims for 4 weeks).

The cost is very reasonable – about \$25. For more information, visit the website, <https://www.waterbob.com/Welcome.do>. There is a video that shows you how it works and you can order on-line.

The WaterBOB fits into a bathtub to provide about 100 gallons of clean water during storm emergencies.



ESEM scan of toner particles, 40,000x.

Some Laser Printers are Polluters

Tests have found that some laser printers produce significant amounts of particulate pollution. Tests using 62 different printers found that 40% emitted microscopic amounts of toner – creating an atmosphere more polluted than outside air. In fact, one printer's emissions were the equivalent of standing next to a smoker.

Hewlett-Packard Co. manufactured 90% of the printers in the "high emitter" cate-

gory. The study also found that 18 of the 24 "non-emitters" were manufactured by HP – so performance is highly variable by model. The authors conclude: "many factors, such as printer model, printer age, cartridge model, and cartridge age may affect the particle emission process."

Although it is debated whether this is a legitimate health concern for workers (HP stated that they do not believe there is a link between printer emis-

sions and "any public health risk"), it is far more clear that the toner is detrimental to collections. This is another reason to ensure that printers are not only physically segregated from collection storage areas, but that the two spaces are not served by the same HVAC system.

The study is available on-line at <http://pubs.acs.org/cgi-bin/sample.cgi/esthag/2007/41/i17/pdf/es063049z.pdf>.

Generic Carpet Cleaning Recommendations

Although every carpet manufacturer recommends specific maintenance procedures – and these should be carefully followed – some institutions simply don't know what firm manufactured their carpet.

So here are some generic recommendations:

- Vacuum traffic areas daily
- Remove visible spots daily

- High traffic areas should be vacuumed quarterly with a pile-lifter vacuum. High traffic areas can be interim cleaned with a low-moisture system once or twice a year.

- Deep or restorative cleaning with an extraction process once a year (low traffic) or twice a year (high traffic).

- Pulls, tears, split seams should be repaired immediately when noticed.

If your institution isn't able to maintain this schedule, perhaps you should select a less maintenance intensive floor covering?

A future issue of *Preservation Tips* will include information on new low VOC hard flooring choices that might be perfect for collection storage.



Using pile lifter vacuums can be time consuming — especially for pushed to the limit maintenance staffs.

Flashlights, from page 1

the same, unfortunately. Candlepower is measured using a foot-candle meter and calculates the brightness of the light at the center of the beam – but not the overall brightness of the light. Lumens are measured with a lumisphere and calculate the total amount of light released from the bulb or LED. Either way, you are measuring the raw output of light – neither measures the ability of the reflector to focus this raw output.

Safety Ratings. If you may

use the flashlight where there are flammable or explosive gases or vapors or dust particles, then you should be aware of the UL safety standards. This is an issue often overlooked in flashlight selection, but it shouldn't be. Remember, you're selecting flashlights for emergency or disaster situations. The chart below helps explain these different classes and divisions.

A good flashlight for a conservation or exhibit lab might be

one suitable for Class I, Division I hazards because of the chemicals, adhesives, and paints.

Materials and Designs. Aircraft aluminum is virtually indestructible. But ABS thermoplastics and similar polymers are well suited for use in hazardous environments since they are non-conductive and non-sparking. They also won't corrode in high humidity or coastal environments.

UL safety standards for flashlights are often overlooked— with potentially disastrous consequences.

Battery Characteristics

	Battery life	Cold Temps	Brightness
Alkaline	7 yrs	Drains	Declines quickly
Lithium	10 yrs	Good tolerance	Slowly declines
NiCd/NiMH	Recharge 1,000 times	Good tolerance	Self discharges, periodically recharge
Lithium ion	Recharge 300 times	Good tolerance	Low self-discharge rate



Bulb Characteristics

	Krypton	Xenon	Halogen	LED Bulbs
Less bright		Extremely bright, white light	Extremely bright, white light	Less bright
Performs well close up		Performs best at long distances	Performs best at long distances	Performs well in both situations
Blackens quickly with age		Blackens less quickly with age	Blacks less quickly with age	Up to 100,000 hours – never needs to be

Hazardous Area Flashlight Guidelines

Class	Substance	Classifications
I	Flammable Gases, Vapors, Liquids	Division 1 Hazard
		Likely Division 2 Hazard
II	Combustible Dusts	Division 1 Hazard
		Likely Division 2 Hazard
III	Ignitable Fibers & Flyings	Division 1 Hazard
		Likely Division 2 Hazard
		Not Likely