

Building Rehabilitation: Mould in Residential, School and Hospital Buildings Following the Recent Australian Floods

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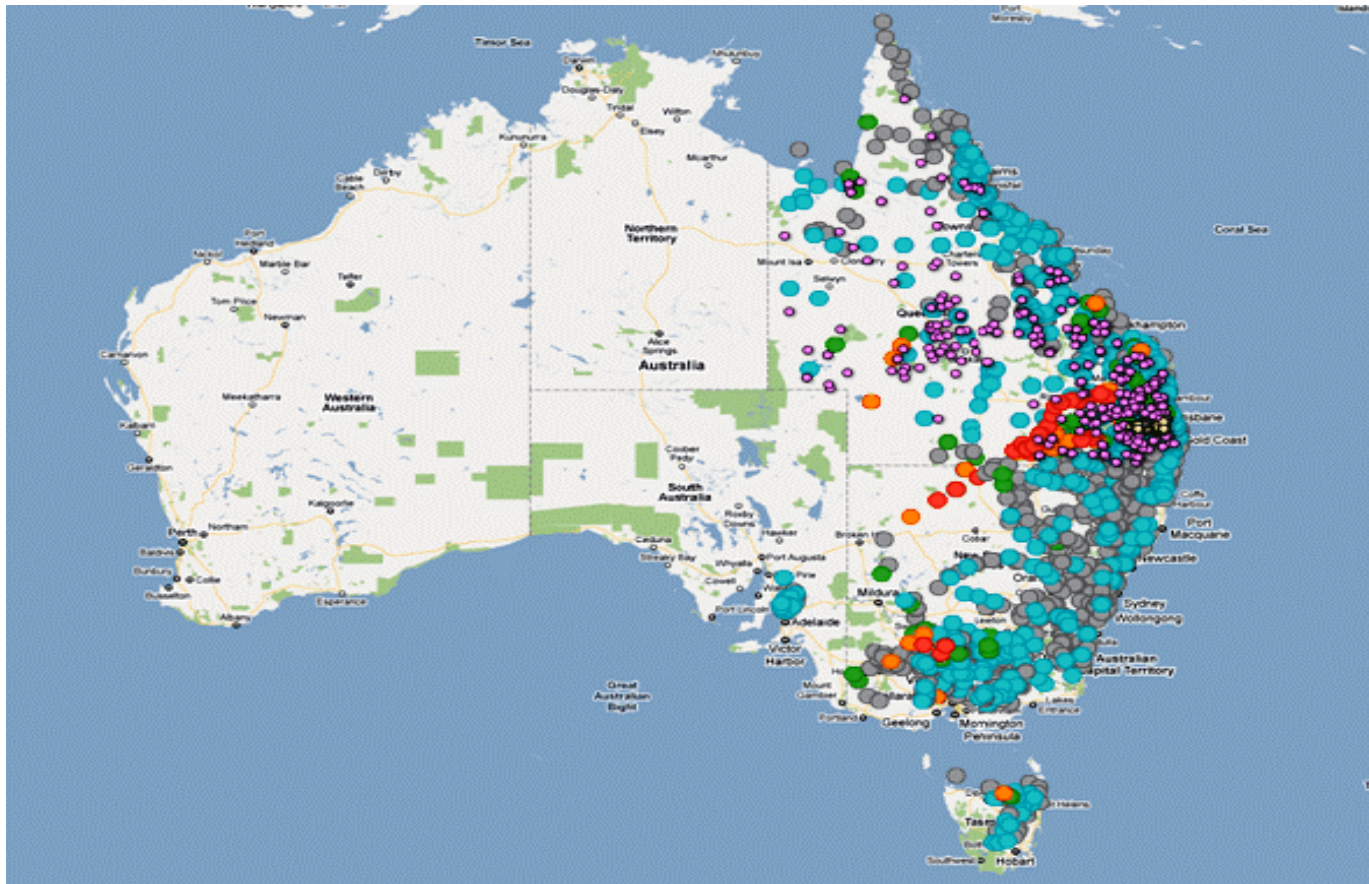


The Agenda



Introduction

- Increase in severe weather and flooding



<http://northcoastvoices.blogspot.com.au/2011/01/googles-visual-aid-to-australian.html>

Introduction (cont) – Current practices



- Rapid remediation leads to only visual inspection and decontamination (cleaning) being completed
- Visual inspection alone insufficient
- No universal approach creates problems in current and future management.



Where to from here?

- No biological or remediation standard currently exists
- Industry consensus 'guidelines' exist, but don't provide specific targets for contamination
- advocate the collection of appropriate data, to determine the hazard and risk

Data Collection



Data collection included:

- Pre and post-flood observations from key staff
- Post-flood inspections (including physical measurement)

Why: Allows the generation of an appropriate risk assessment



Risk Assessment



Needs to take into account:

Current and previous conditions.

End use of the facility (Schools, Hospitals, Aged Care, Public)

Occupant Sensitivities (e.g. Children, Immuno-compromised people)

Damage observed as result of flood.

Current and Residual Risk to facility as result of remediation programs recommended.

Increased Risk?



Case Study - Remediation



Facility end use: Recreational area within an aged care facility.

Situation: Flooded between 500 – 1000mm

Hazard: Elevated microbial concentration, and potential structural decay (timber, corrosion, materials)


Data: Immuno-compromised people use the facility, basic structure sound, remediation an option

Case Study – Remediation (cont)

- Multi-stage combination approach more effective
- Cleaning and preparation
- Isopropyl Alcohol: Killing vegetative fungi & asexual spores (due to weaker cell wall barrier)
- Anti-Microbial Barrier: Creates an inhibition effect, in addition to controlling environmental conditions required for growth
- Followed by validation sampling



Case Study - Remediation (cont)



Location	Bacterial Concentration (CFU / cm²)	Fungal Concentration (CFU / cm²)
Recreational area pre remediation	400 to >1,200,000	200 to 24,400
Recreational area post remediation	<1	<1
Hospital pre remediation	5000 to >1,200,000	50 to 152,000

Table 1: Average surface microbial concentration (Colony Forming Units per square centimetre – CFU / cm²) within the respective facility – Aged Care Recreational Area.

Conclusion

- A data supported approach to building remediation is vital.
- Requires microbial parameter collection, in addition to IAQ measurement.
- The building 'check' determines most suitable remediation (where possible).
- Needs to include: management of contractors and a formal risk assessment and management process.



For additional information please do not
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