

## Selected Information Sources on Coastal Construction

**NEW: Flood Resistant Design CodeMaster** (2011). An 8-page laminated guide to flood resistant design. It is one in a series of guides that explain building codes. It focuses flood provisions in the 2009 and 2012 IBC and IRC, including the flood requirements of ASCE 7-05 and 7-10, and ASCE 24-05. The document has a terminology section to explain key flood terms, outlines a 12-step process for achieving flood-resistant building design, describes the calculation of flood loads, and has a worked example. [http://secure.skghoshassociates.com/onlineorder/show\\_book.php?isbn=9781936039074](http://secure.skghoshassociates.com/onlineorder/show_book.php?isbn=9781936039074)

**NEW: FEMA Coastal Construction Manual FEMA-P55** (2011, fourth edition) -- a 2-volume publication that provides a comprehensive, best-practices approach to planning, siting, designing, constructing, & maintaining homes in the coastal environment. Volume I includes information about hazard identification, regulatory requirements, economic implications of design decisions, & risk management. Volume II contains in-depth descriptions of design, construction, & maintenance practices, and load calculation procedures. Volume I can be used by anyone involved in coastal construction. The primary audience for Volume II is the design professional. Previous CCM editions were published in 1981, 1986 and 2000.

<http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=1671>

**FEMA Building Science Web Page:** <http://www.fema.gov/rebuild/buildingscience/>

**FEMA Building Science Helpline:** (866) 927-2104 or email [FEMA-Buildingsciencehelp@dhs.gov](mailto:FEMA-Buildingsciencehelp@dhs.gov)

**FEMA P-499** (2010) **Home Builder's Guide to Coastal Construction** Fact Sheet Series (Note: this is an update to the 2005 edition. The new edition has reorganized and revised fact sheets, and added new fact sheets): <http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=2138>

**FEMA P-550** (2009): **Recommended Residential Construction for Coastal Areas: Building on Strong and Safe Foundations** (Note: this is an update to the 2006 edition).

<http://www.fema.gov/library/viewRecord.do?id=1853>

**Highlights of ASCE 24-05, Flood Resistant Design and Construction:**

<http://www.fema.gov/library/viewRecord.do?id=3515>

**FEMA P-758** (2010): **Substantial Damage/Substantial Improvement Desk Reference** (for those working with existing buildings in the 100-year floodplain):

<http://www.fema.gov/library/viewRecord.do?id=4160>

**FEMA P-804** (2010): **Wind Retrofit Guide for Residential Buildings**

<http://www.fema.gov/library/viewRecord.do?id=4569>

**FEMA P-798** (2010): **Natural Hazards and Sustainability for Residential Buildings**

<http://www.fema.gov/library/viewRecord.do?id=4347>

**FEMA 9-0372** (2007): **Reducing Flood Losses through the International Code Series, 2006 I-Codes with 2007 Supplement** (includes a crosswalk between NFIP regulations and I-Code flood provisions): <http://www.fema.gov/library/viewRecord.do?id=2094>

**FEMA post-disaster Reports and Recovery Advisories (fact sheets):**

**FEMA P-757 (2009) Hurricane Ike Mitigation Assessment Team (MAT) Report**

<http://www.fema.gov/library/viewRecord.do?id=3577>

**Hurricane Ike Recovery Advisory Fact Sheets (2009):**

<http://www.fema.gov/library/viewRecord.do?id=3539>

**FEMA 549 (2006) Hurricane Katrina Mitigation Assessment Team (MAT) Report:**

<http://www.fema.gov/library/viewRecord.do?id=1857>

**FEMA 548 (2006) Hurricane Katrina Mitigation Assessment Team (MAT) Summary Report:** <http://www.fema.gov/library/viewRecord.do?id=1455>

**Hurricane Katrina Recovery Advisory Fact Sheets (2006):**

[http://www.fema.gov/rebuild/mat/mat\\_katrina.shtm](http://www.fema.gov/rebuild/mat/mat_katrina.shtm)

**FEMA 488 (2005) Hurricane Charley Mitigation Assessment Team (MAT) Report:**

<http://www.fema.gov/library/viewRecord.do?id=1444>

**Hurricane Charley Recovery Advisory Fact Sheets (2005):**

<http://www.fema.gov/library/viewRecord.do?id=2632>

**FEMA 489 (2005) Hurricane Ivan Mitigation Assessment Team (MAT) Report:**

<http://www.fema.gov/library/viewRecord.do?id=1569>

**Hurricane Ivan Recovery Advisory Fact Sheets (2005):**

<http://www.fema.gov/library/viewRecord.do?id=2634>

**FEMA 490 (2005) Summary Report on Building Performance, 2004 Hurricane Season:**

<http://www.fema.gov/library/viewRecord.do?id=1445>

Other FEMA post-disaster reports are available through FEMA publications: 1-800-480-2520 and at

[http://www.fema.gov/rebuild/mat/mat\\_reprts.shtm](http://www.fema.gov/rebuild/mat/mat_reprts.shtm)

**FEMA P646 (2008) Guidelines for Design of Structures for Vertical Evacuation from Tsunamis:**

<http://www.fema.gov/library/viewRecord.do?id=3463>

**FEMA Reports on Critical Facility Design (Risk Management Series)**

<http://www.fema.gov/plan/prevent/rms/index.shtm>

**FEMA 424 (2004) Design Guide for Improving School Safety in Earthquakes, Floods and High Winds:** <http://www.fema.gov/library/viewRecord.do?id=1986>

**FEMA 543 (2007) Design Guide for Improving Critical Facility Safety from Flooding and High Winds: Providing Protection to People and Buildings:**

<http://www.fema.gov/library/viewRecord.do?id=2441>

FEMA 577 (2009) **Design Guide for Improving Hospital Safety in Earthquakes, Floods, and High Winds: Providing Protection to People and Buildings:**  
<http://www.fema.gov/library/viewRecord.do?id=2739>

**NFIP Technical Bulletins:** <http://www.fema.gov/plan/prevent/floodplain/techbul.shtm> (note that four TBs were updated in 2008: **TB-1, Openings in Foundation Walls; TB-2, Flood-Damage Resistant Materials; TB-5, Free of Obstruction Requirements; TB-9, Breakaway Walls**) and one was updated in 2010 (**TB-4, Elevator Installation**).

**NFIP Evaluation Studies:** <http://www.fema.gov/business/nfip/nfipeval.shtm>

**Evaluation of NFIP Building Standards** (freeboard study)  
<http://www.fema.gov/library/viewRecord.do?id=2592>

FEMA **Safe Room** web site: <http://www.fema.gov/plan/prevent/saferoom/>

FEMA 361, second edition (2008) **Design and Construction Guidance for Community Safe Rooms** <http://www.fema.gov/library/viewRecord.do?id=1657>

FEMA 320, third edition (2010) **Taking Shelter From the Storm: Building a Safe Room For Your Home or Small Business:** <http://www.fema.gov/library/viewRecord.do?id=1536>

See also: ICC-500 (2008) **Standard for the Design and Construction of Storm Shelters:**  
[http://www.iccsafe.org/Store/Pages/Product.aspx?id=8850P08\\_PD-X-SS-P-2008-000001](http://www.iccsafe.org/Store/Pages/Product.aspx?id=8850P08_PD-X-SS-P-2008-000001)

**American Institute of Architects, Center for Building Science and Performance:**  
[http://aiawebdev2.aia.org/cbsp2\\_template.cfm?pagename=cbsp\\_default](http://aiawebdev2.aia.org/cbsp2_template.cfm?pagename=cbsp_default)

#### **Applied Technology Council Publications:**

**ATC Wind speed Site:** an online tool to determine wind speeds using maps from ASCE-7 (Users can retrieve wind speeds from ASCE 7-10, ASCE 7-05 and ASCE 7-93. Wind speeds are also provided for serviceability purposes for 10, 25, 50 and 100-year return periods):  
<http://www.atcouncil.org/windspeed/>

**ATC Design Guide 2 Basic Wind Engineering for Low-Rise Buildings** (2010), based on ASCE 7-05 and 2009 IBC: <http://atcouncil.org/vmchk/Wind-Design-Criteria-and-Procedures/Basic-Wind-Engineering-for-Low-Rise-Buildings/flypage.tpl.html>

**IBC Wind Commentary and Rapid Solutions Methodology**, written by the Structural Engineers Assoc. of Washington (2004): <http://atcouncil.org/Wind-Design-Criteria-and-Procedures/SEAW-s-Handbook-of-a-Rapid-Solutions-Methodology-for-Wind-Design/flypage.tpl.html>

**ATC-45 Field Manual: Safety Evaluation of Buildings after Wind Storms and Floods** (2004): <http://atcouncil.org/Postdisaster-Safety-Evaluation-of-Buildings/Field-Manual-Safety->

[Evaluation-of-Buildings-after-Wind-Storms-and-Floods/flypage.tpl.html](http://www.fema.gov/evaluation-of-buildings-after-wind-storms-and-floods/flypage.tpl.html)

**ATC-20-1 Field Manual: Post-earthquake Safety Evaluation of Buildings: Second Edition** (2005): <http://atcouncil.org/vmchk/Postearthquake-Damage-and-Safety-Evaluation-of-Buildings/Field-Manual-Postearthquake-Safety-Evaluation-of-Buildings-Second-Edition/flypage.tpl.html>

**Association of State Floodplain Managers (ASFPM)**, good overall flood site: <http://www.floods.org/home/default.asp>

**Texas Floodplain Management Association (TFMA)**, see Freeboard Survey: <http://www.tfma.org/>

**Coastal Contractor Magazine**, published by the Journal of Light Construction folks (Note: production was suspended, but past issues are available on the web): <http://www.coastalcontractor.net/>

**Design for Flooding: Architecture, Landscape and Urban Design for Resilience to Climate Change**, 2010, by Donald Watson and Michele Adams. John Wiley & Sons - publisher. Available at <http://www.amazon.com/Design-Flooding-Architecture-Landscape-Resilience/dp/0470475641>

**Federal Alliance for Safe Homes**: <http://www.flash.org/>

**Florida Building Code Hurricane Research Advisory Committee** web site: [http://www.dca.state.fl.us/fbc/Hurricane\\_Research\\_Advisory\\_Committee/Hurricane\\_RAC.htm](http://www.dca.state.fl.us/fbc/Hurricane_Research_Advisory_Committee/Hurricane_RAC.htm)

see also:

2002 Florida report on **wind resistive features of residential buildings**: <http://www.floridadisaster.org/Mitigation/RCMP/documents/LossRelativitiesSingleFamilyResidential.pdf>

2005 Report on **rainwater penetration into Florida buildings during 2004 hurricanes**: <http://www.buildingscience.com/documents/reports/rr-0503-rainwater-management-orlando/view?topic=doctypes/reports>

2010 Report on **Reduction of Wind-Driven Rain Intrusion through the Building Envelope**: <http://www.stormrisk.org/admin/downloads/Final%20Report%20-%20Investigating%20the%20Issue%20of%20Rain%20Penetration%20Through%20the%20Building%20Envelope%209-10.pdf>

**HUD (2002), Durability by Design: A Guide for Residential Builders and Designers** <http://www.huduser.org/publications/destech/durdesign.html>

**Hurricane Resistant Construction Guidebook (2006)**: <http://www.hurricaneconstruction.net/?q=node/59>

**Institute for Building and Home Safety**, insurance industry site: <http://www.ibhs.org/>

See : IBHS publications at <http://www.ibhs.org/research/reports?execution=e3s1>

information on the IBHS **Fortified program** at <http://www.ibhs.org/fortified?execution=e4s1>

information on the IBHS **Research Center and Laboratory** at <http://www.ibhs.org/research?execution=e5s1>

**International Code Council: ICC-600 (2008) Standard for Residential Construction in High-Wind Regions:** [http://www.iccsafe.org/Store/Pages/Product.aspx?id=8847P08\\_PD-X-IC-P-2008-000001](http://www.iccsafe.org/Store/Pages/Product.aspx?id=8847P08_PD-X-IC-P-2008-000001)

**National Institute of Building Sciences (NIBS) Whole Building Design Guide,**  
<http://www.wbdg.org/>

see the **Flood Resistance** and **Wind Safety** pages of the **building envelope** section (Note these documents were written for federal office buildings but are applicable to other public and commercial buildings) [http://www.wbdg.org/resources/env\\_flood.php?r=envelope](http://www.wbdg.org/resources/env_flood.php?r=envelope) and [http://www.wbdg.org/resources/env\\_wind.php?r=envelope](http://www.wbdg.org/resources/env_wind.php?r=envelope)

**US Army Corps of Engineers, National Flood Proofing Committee:**  
<http://www.nwo.usace.army.mil/nfpc/index.htm>

see publication on **Building Successes and Failures:**  
[http://www.nwo.usace.army.mil/nfpc/NFPC\\_Publications.htm](http://www.nwo.usace.army.mil/nfpc/NFPC_Publications.htm)