ARMA Board of Directors
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Evanston, IL

Codes Steering Group Report

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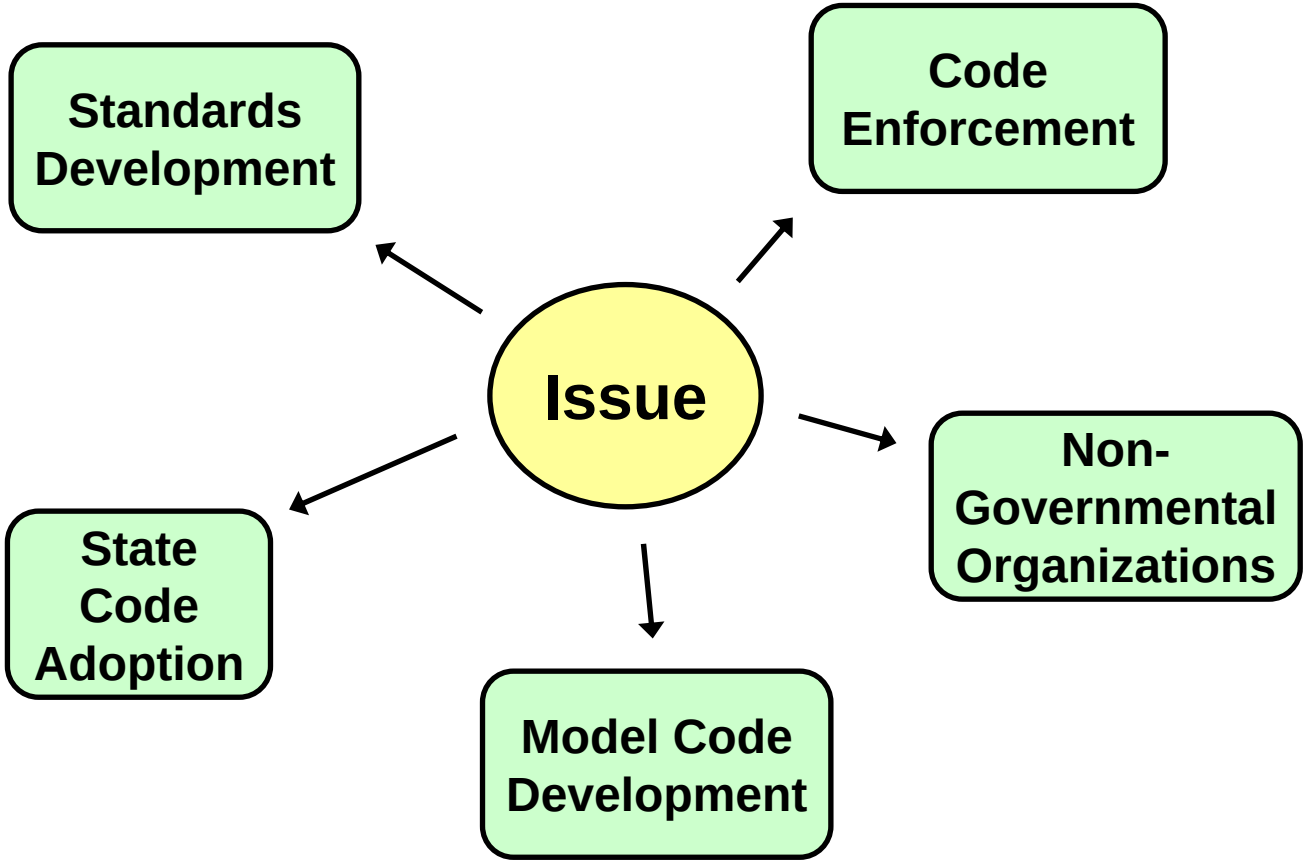
Responsible Issue-based Advocacy



Model Code Development: Process Change

Streamlining the I-code Development Process

Retains 3-year code publication schedule.

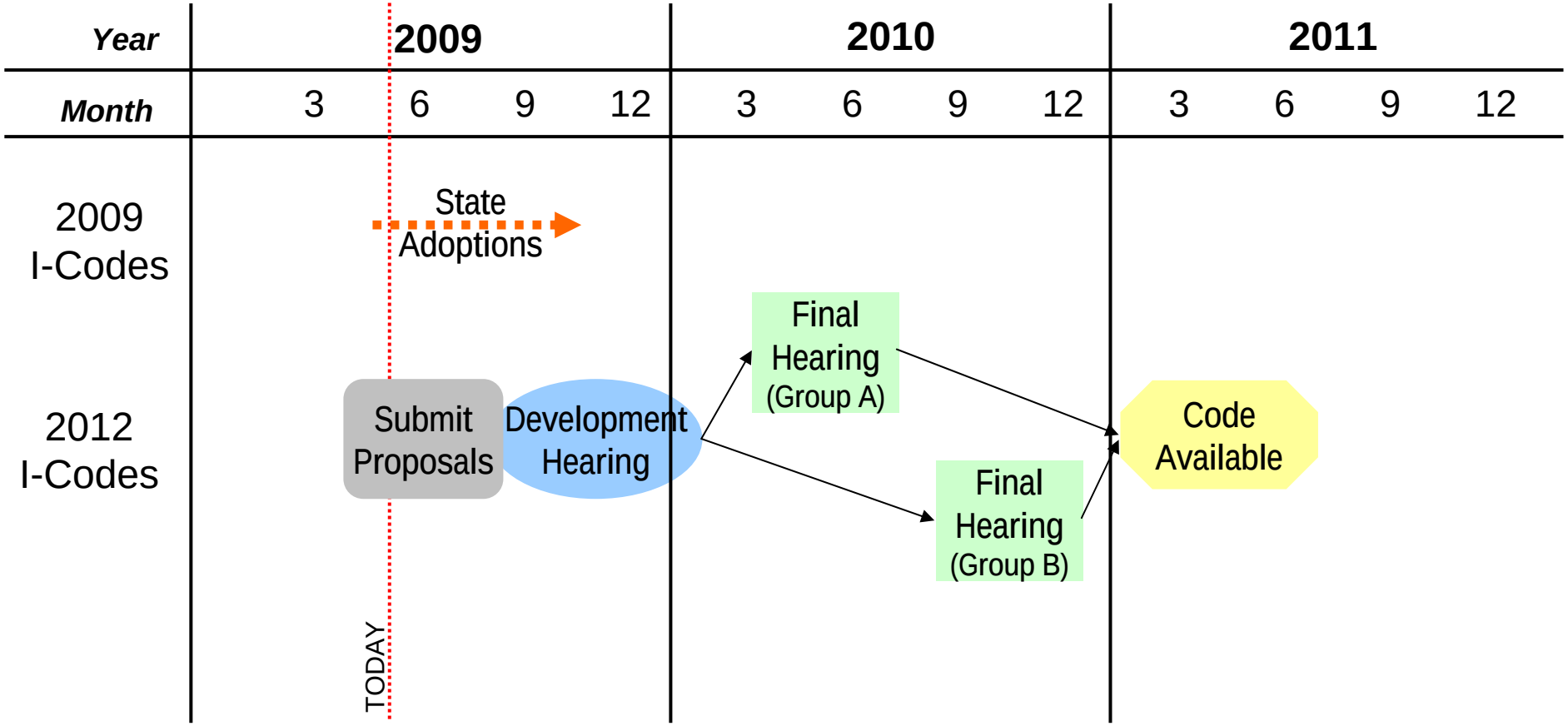
Eliminates Supplemental code development cycle.

Creates two separate code development tracks in successive years.

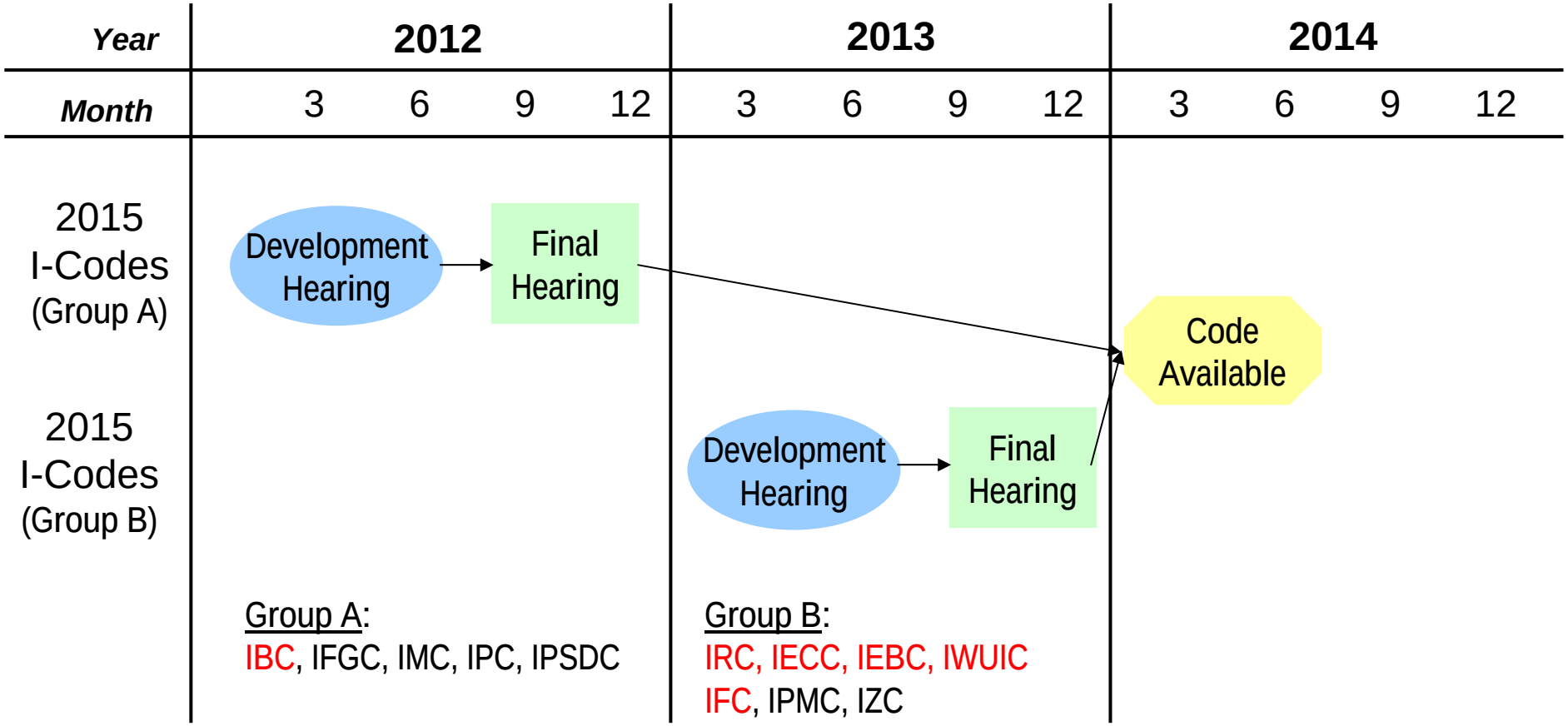
Reduces length of code development and final action hearings.

Procedural changes may make attendance of industry members at Code Development Hearings beneficial.

Model Code Development: Transitional



Model Code Development: Future Process



Wind Performance: ASCE Proposal

Model Code Development (I-codes)

American Society of Civil Engineers (ASCE) will propose changes to wind design requirements of IBC and IRC.

A design format change → calculated design loads do not change.

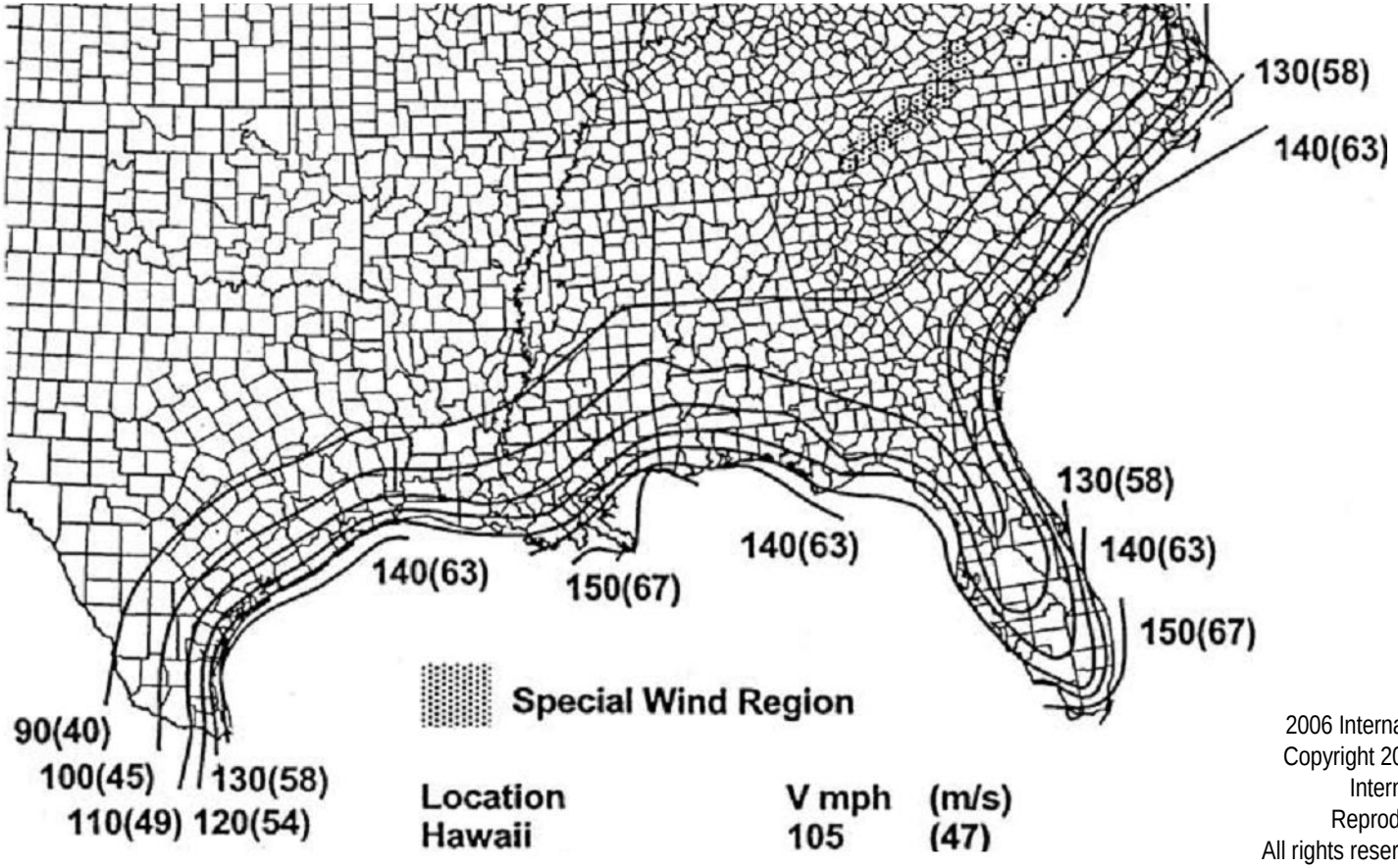
Load factor previously used in calculations and wind importance factor will both be incorporated into wind speed maps.

IBC will include three wind speeds maps (300-year, 700-year, 1700 year mean recurrence interval).

IRC will include one map (700-year mean recurrence interval).

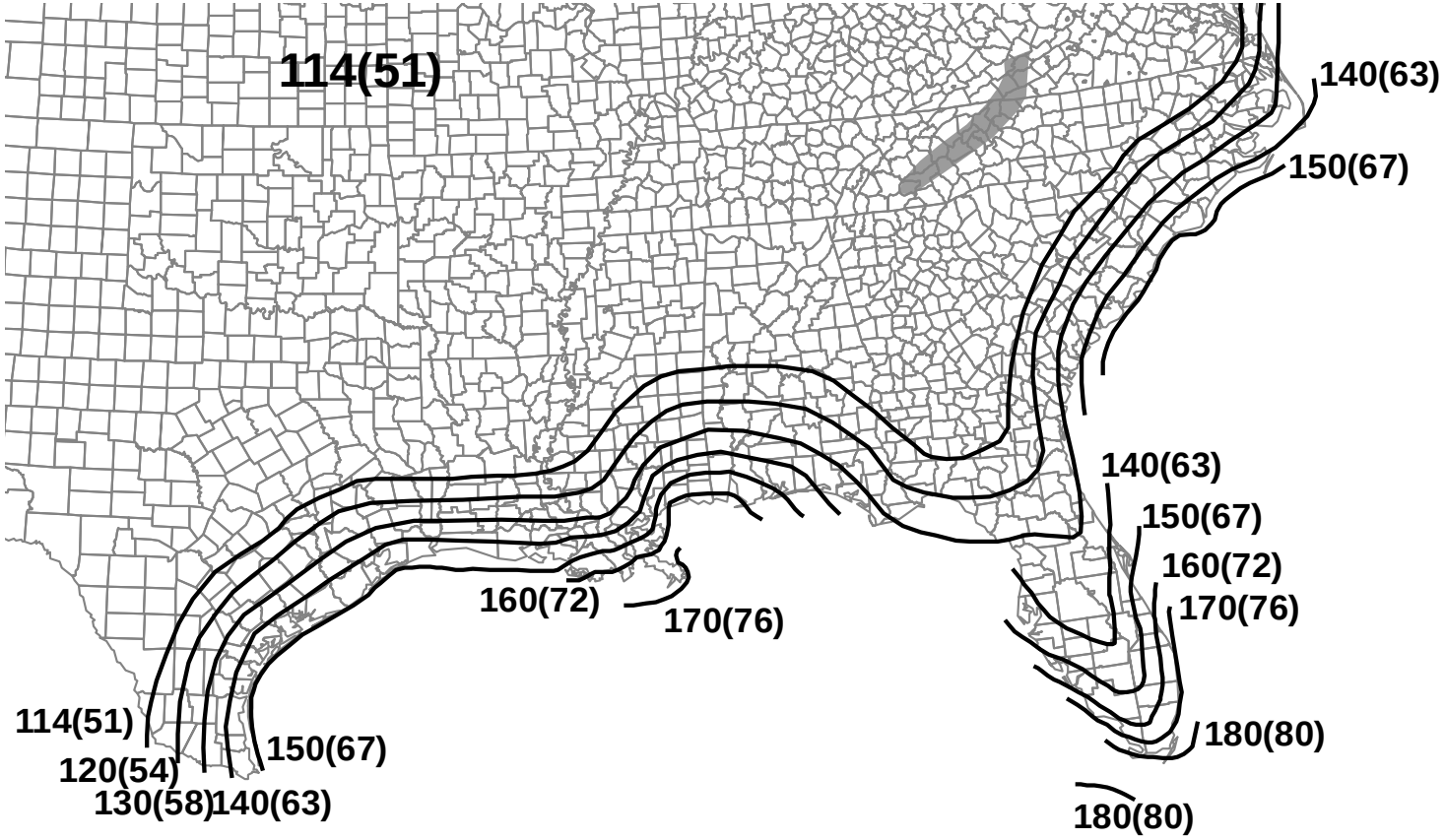
Wind Performance: ASCE Proposal

Current Wind Speed Map (2006 IBC)



Wind Performance: ASCE Proposal

Proposed Map for Category 2 Buildings (700-year MRI)



Wind Performance: ASCE Proposal

Implications

Wind speed references in IBC or IRC may need to be converted.

ASCE has formed a task force to coordinate conversions.

ARMA will monitor task force and may submit code change proposals to assure correct information for asphalt roofing.

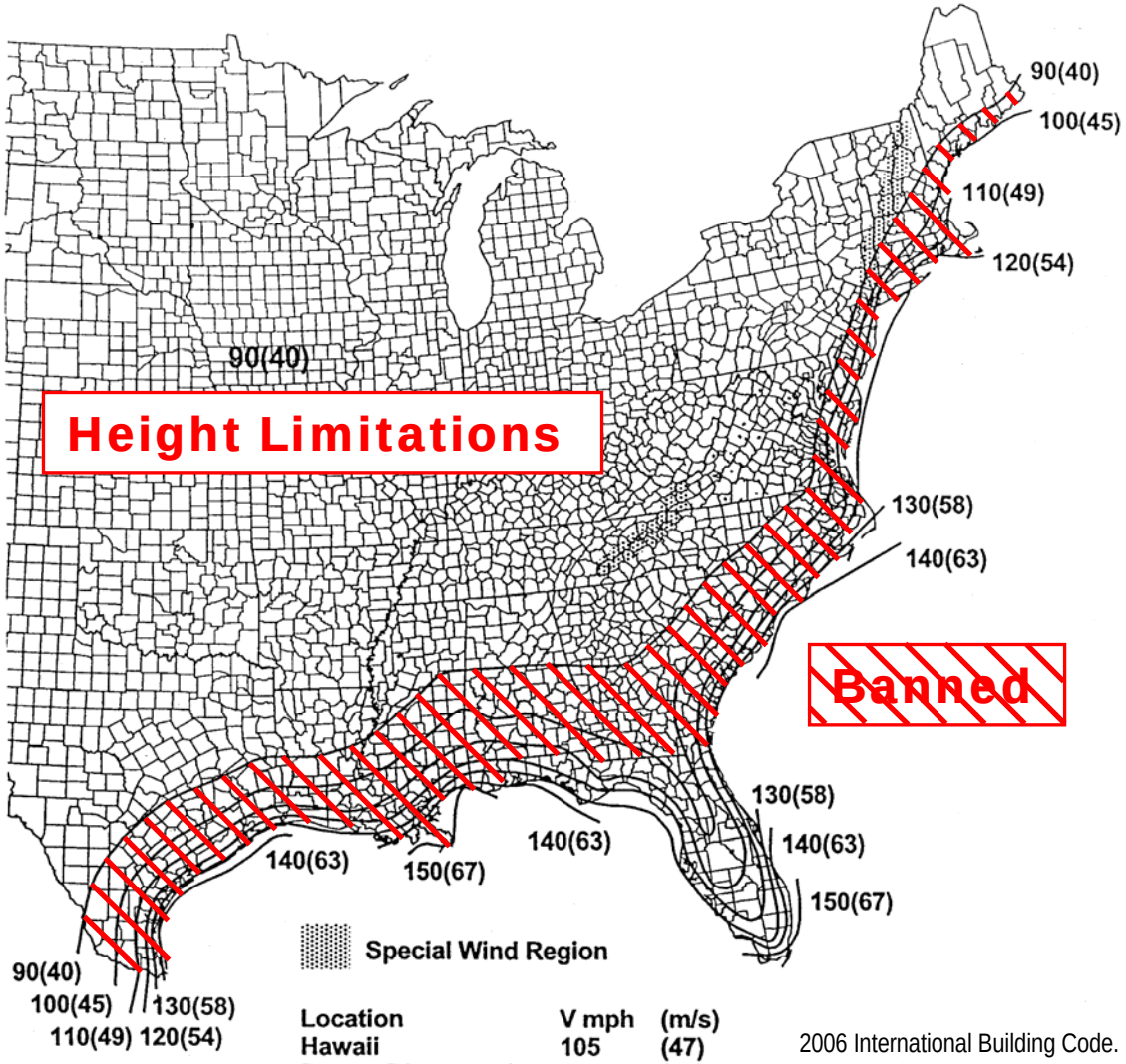
Standards Development

ASTM D7158 and D3161 may need revision due to ASCE proposal.

Wind Performance: Low-slope

Gravel and stone surfacing are prohibited in hurricane-prone regions in 2006 and 2009 IBC.

Use of gravel and stone is height restricted in other areas of the country.



Location	V mph	(m/s)
Hawaii	105	(47)
Puerto Rico	145	(65)
Guam	170	(76)
Virgin Islands	145	(65)
American Samoa	125	(56)

Wind Performance: Low-slope

Model Code Development (I-codes)

Code proposals based on research by ARES Consulting may be submitted jointly with FEMA, SPRI, NRCA, SPFA to remove current ban on gravel surfacing in hurricane-prone regions.

Review of existing data, including published research and field observations.

Modified Kind-Wardlaw design method (1976) to determine appropriate parapet height to prevent aggregate blow-off from built-up roofs.

Incorporates relevant variables – design wind speed, building height, aggregate size, building exposure category, and parapet height.

Wind Performance: Low-slope

TABLE 3 (continued)

Exposure Condition:		Exposure B							
Mapped V (mph, gust):		85	90	100	110	120	130	140	150
Power Law, 1/alpha:		0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161
Power Law, gradient ht		1270	1270	1270	1270	1270	1270	1270	1270
Aggr. Nom. Diam. (in)	Building Height (ft)								
1	15	0	0	0	1	5	8	11	14
1	20	0	0	0	3	6	10	13	17
1	30	0	0	2	6	9	13	17	20
1	40	0	0	4	7	11	15	19	23
1	50	0	1	5	9	13	17	21	25
1	60	0	2	6	10	14	19	23	27
1	80	2	4	8	12	17	21	25	30
1	100	3	5	10	14	19	23	27	32
1	125	4	7	11	16	21	25	30	34
1	150	6	8	13	17	22	27	32	36
1	175	7	9	14	19	24	28	33	38
1	200	8	10	15	20	25	30	35	40
1	300	10	13	18	24	29	34	40	45
1	400	13	15	21	26	32	37	43	49
1	500	14	17	23	29	34	40	46	52

Impact Performance

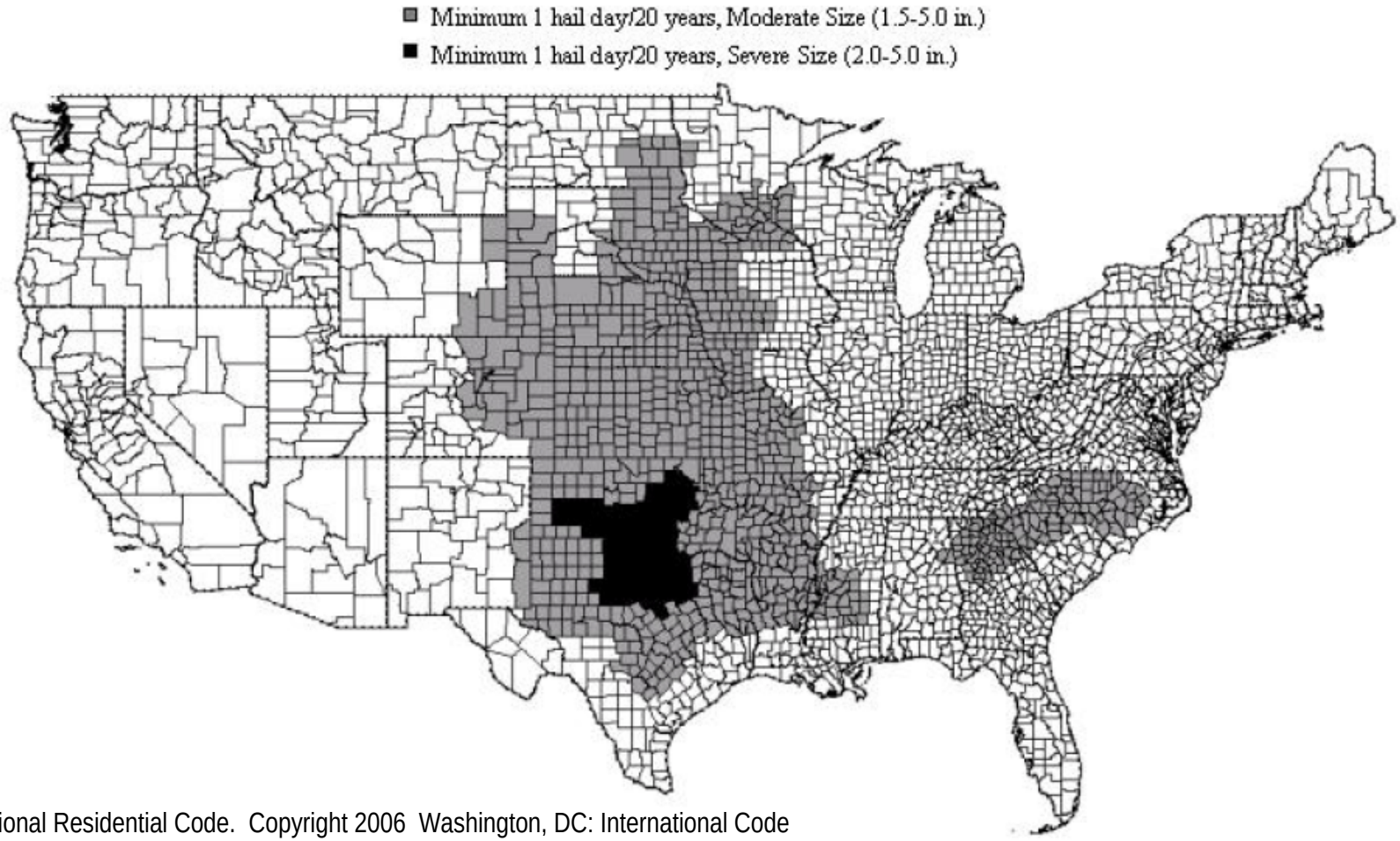
Model Code Development (I-codes)

ARMA will submit code proposals to remove hail map and associated limitations on recovery from IRC.

R907.3 Re-covering versus replacement. *New roof coverings shall not be installed without first removing existing roof coverings where any of the following conditions occur:*

4. For asphalt shingles, when the building is located in an area subject to moderate or severe hail exposure according to Figure R903.5.

Impact Performance



Wind and Fire Performance: Hip and Ridge

Standards Development

UL plans to standardize Outline of Investigation 2375 (Hip and Ridge shingles).

Independent ANSI standard.

Incorporation into ASTM E108 and ASTM D3161.

Upon completion, intent is requirement by code reference.

Secondary Water Barriers

State Code Development (Florida)

Attempting to correct a discrepancy in the language adopted via the 2009 Supplement to the FBC, Existing Building code.

b) An underlayment system ***approved for the particular roof covering*** *shall be applied with the following modification:*

(1) For roof slopes that require one layer of underlayment, a layer of approved asphalt impregnated ***ASTM D 226 Type I or Type II underlayment or approved synthetic underlayment*** *shall be installed.*

Ventilation

Model Code Development (I-codes)

Proposal being prepared to address placement and proportion of attic ventilation intake and outflow in IBC (Section 1203) and IRC (Section R806).

- Roof Assembly Ventilation Coalition proposal, in cooperation with ARMA.

Energy and Sustainability

Model Code Development (I-codes)

ICC intends to develop a "Green Building Code" targeted at commercial market that is consistent and coordinated with family of I-codes.

Provide a new regulatory framework built with leading recognized rating systems in mind.

Provide criteria to drive green building into everyday practice.

Residential issues to be addressed via ICC 700 – the ***National Green Building Standard***.

Stakeholders

National Association of Home Builders
Institute for Business and Home Safety
American Society of Civil Engineers
Vinyl Siding Institute
National Roofing Contractors Association
Polyisocyanurate Insulation Manufacturers Association
General Services Adminstration
Building Owners and Managers Association
American Institute of Architects
Florida Roofing, Sheet Metal, and Air Conditioning Contractors Association
Building Officials Association of Florida
Federal Emergency Management Agency
Single Ply Roofing Industry
Spray Polyurethane Foam Alliance
National Council of Structural Engineers Associations

QUESTIONS / COMMENTS?