

Safeguarding California: Reducing Climate Risk

Public Meeting

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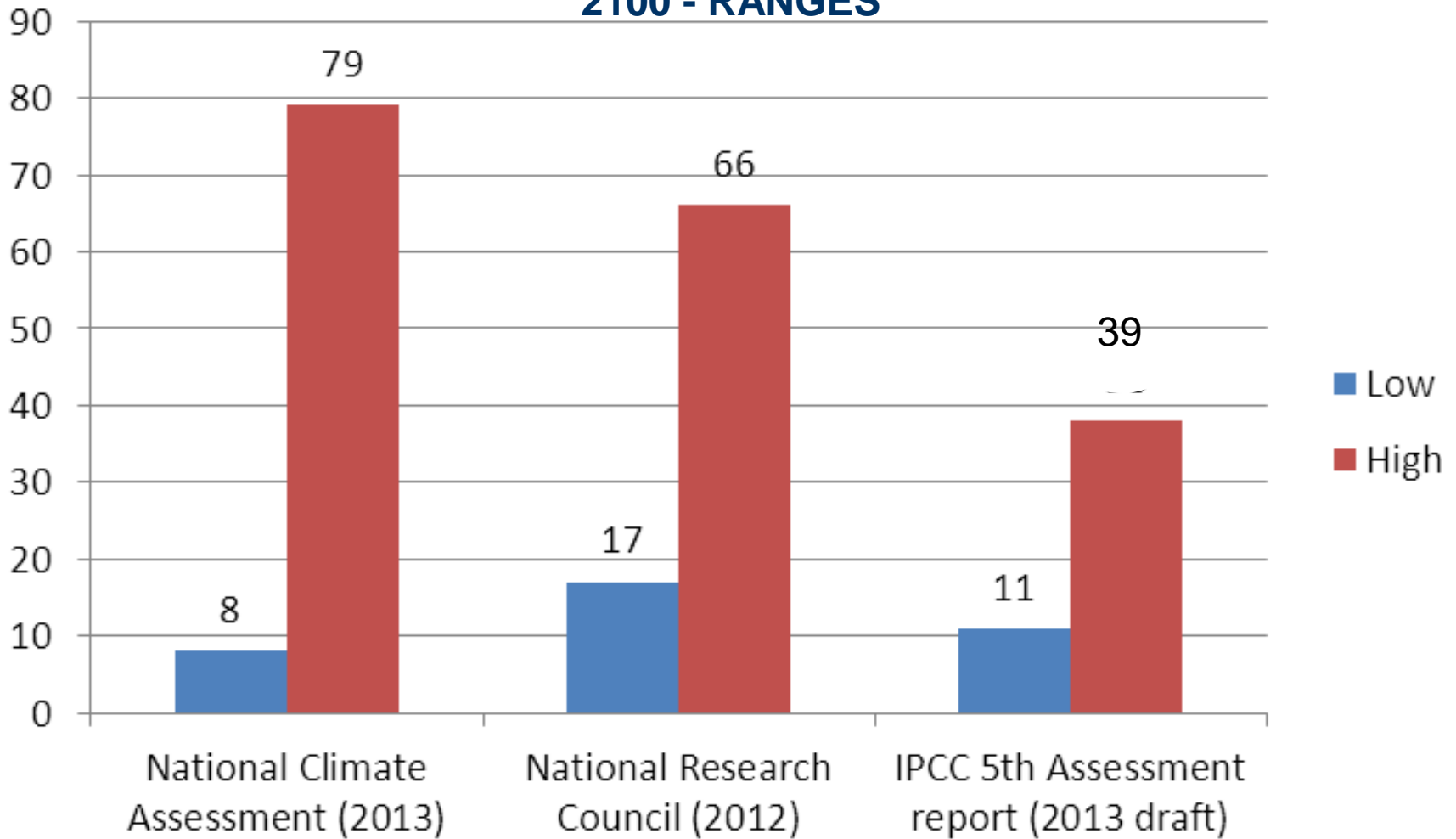
January 27, 2014



San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

A Range of Ranges

2100 - RANGES



“Actionable Science”

A Newly Recommended Definition:

Actionable science provides data, analyses, projections, tools, or approaches that can support decisions regarding assessment or management of the risks and impacts of climate change.

It is ideally co-produced by scientists and decision makers, and creates rigorous, understandable, accessible and usable projections to meet the needs of stakeholders.

Advisory Committee on Climate Change and
Natural Resource Science (ACCCNRS)

Raleigh, North Carolina

January 22-23, 2014



National Research Council (2012)

National Research Council Report, "Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future," 2012 ⁴

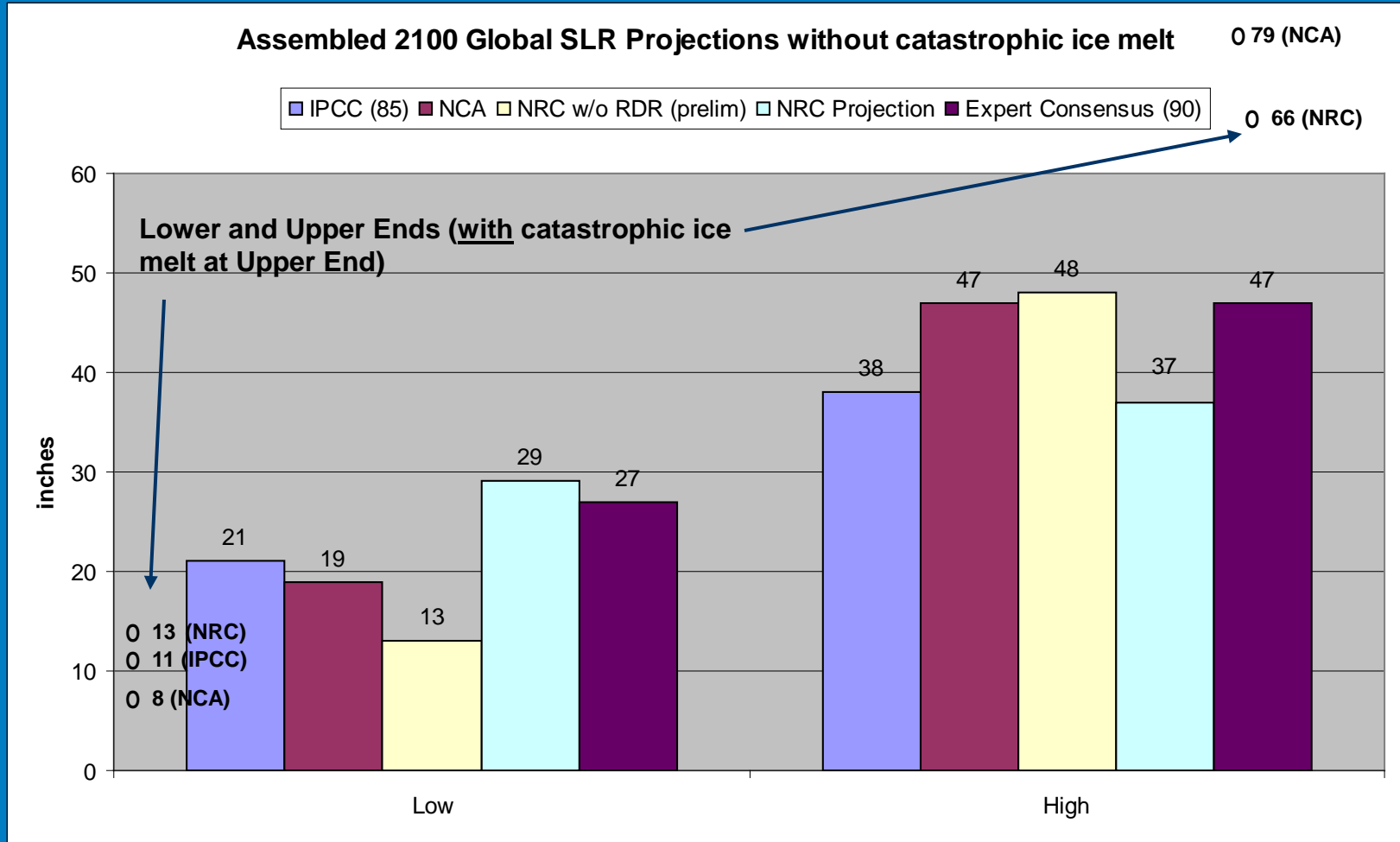
GLOBAL Sea Level Rise - cm					GLOBAL Sea Level Rise - inches				
	Low	High	Projection ¹	+/- for Projection		Low	High	Projection ¹	+/- for Projection
2030	8	23	13.5	1.8	2030	3	9	5	1
2050	18	48	28	3	2050	7	19	11	1
2100	50	140	83	11	2100	20	55	33	4

CALIFORNIA ² SLR - cm			CALIFORNIA ² SLR - inches		
	Low	High		Low	High
2030	4	30	2030	2	12
2050	12	61	2050	5	24
2100	42	167	2100	17	66

SAN FRANCISCO SLR - cm					SAN FRANCISCO SLR - inches				
	Low	High	Projection ¹	+/- for Projection		Low	High	Projection ¹	+/- for Projection
2030	4	30	14	5	2030	2	12	6	2
2050	12	61	28	9	2050	5	24	11	4
2100	42	167	92	26	2100	17	66	36	10

WASH, ORE ³ SLR - cm			WASH-ORE ³ SLR - inches		
	Low	High		Low	High
2030	-4	23	2030	-2	9
2050	-3	48	2050	-1	19
2100	10	140	2100	4	50

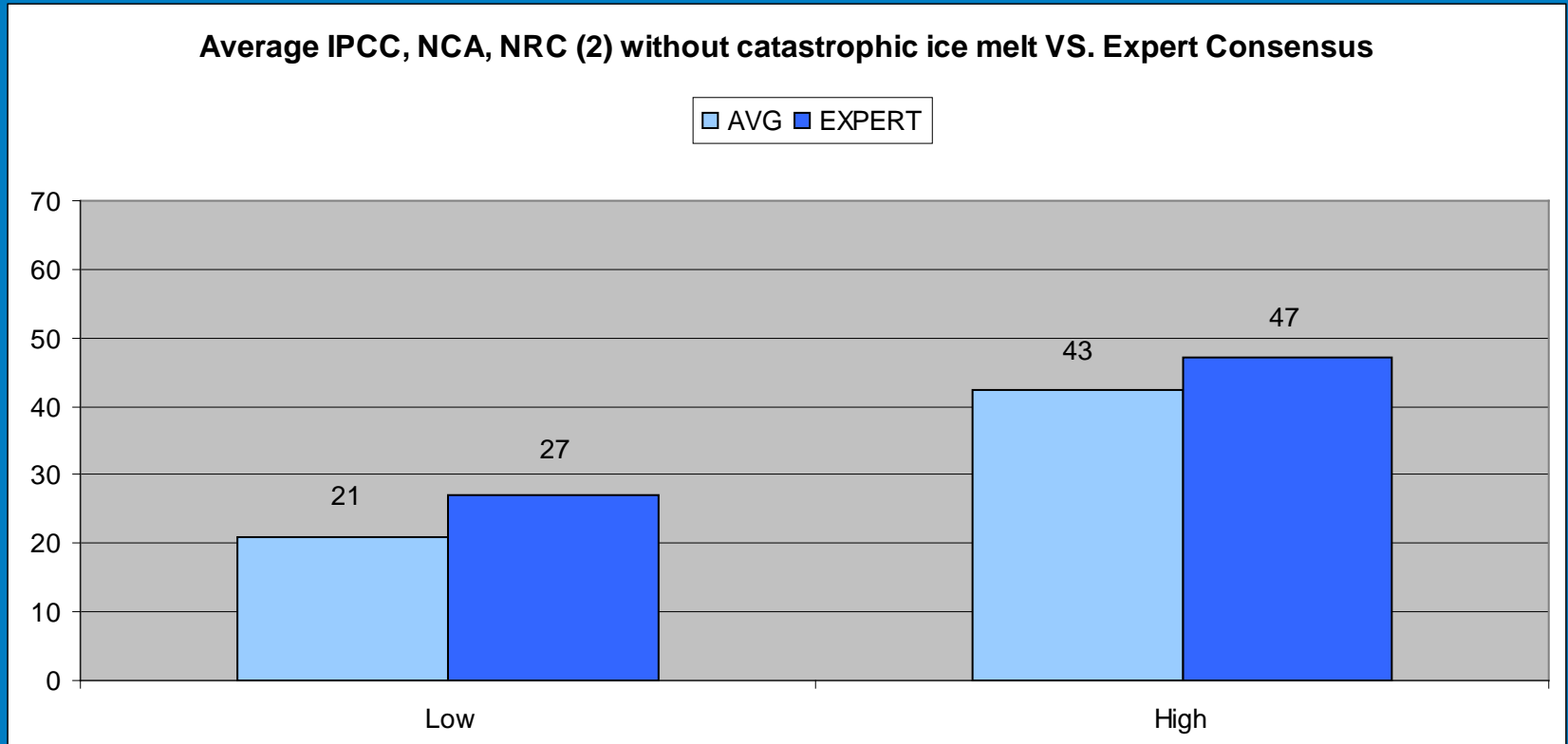
Looking at All Sources, Middle Scenarios, Expert Consensus



IPCC Fifth Assessment Report:
 National Climate Assessment (NCA):
 National Research Council (NRC):
 Expert Consensus (Horton et al):

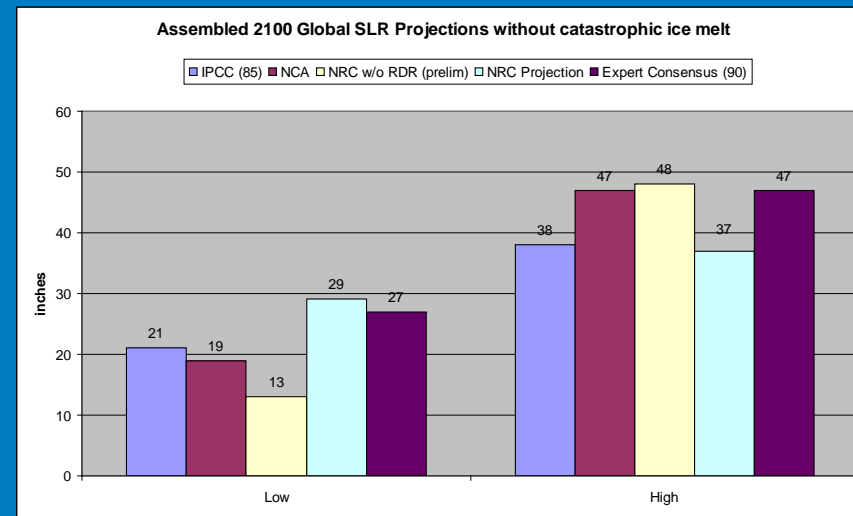
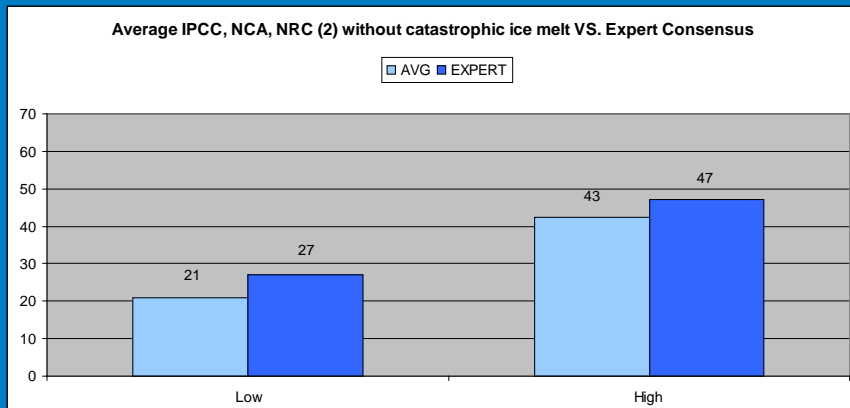
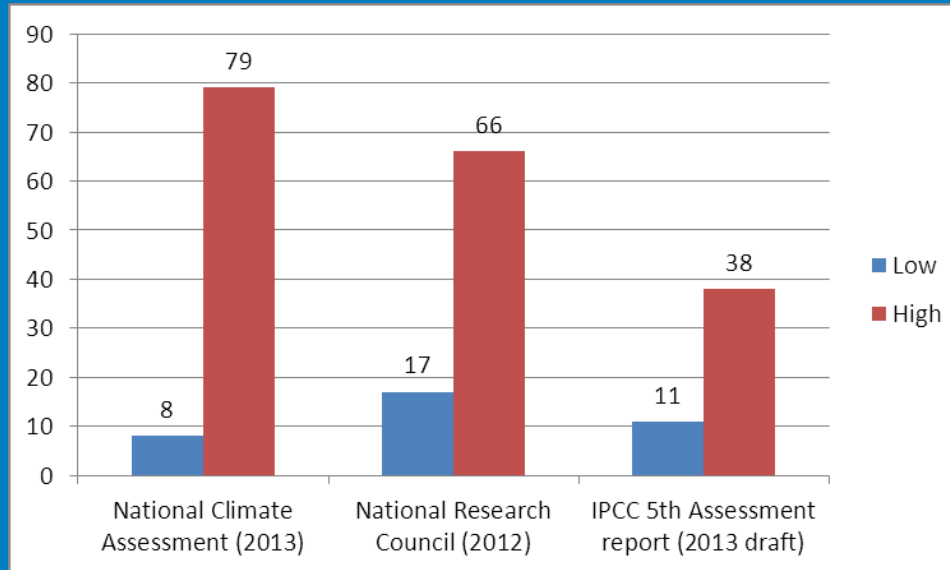
Highest AR5 emissions scenario RCP 8.5 but conservative on ice.
 Middle two scenarios, with higher using semi-empirical and “limited ice sheet loss.”
 Global #s: 1) Total minus Rapid Dynamic Response (18 cm); 2) “Projection”
 90 SLR experts surveyed on RCP 8.5 scenario.

Middle Ground: Average authoritative sources without catastrophic ice melt and Expert Consensus



Global Sea Level Rise

The Quest for Best Available Science...



Thank you!

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