

AR5 Guidance on Consistent Treatment of Uncertainties

Development of AR5 Guidance

July 2010:

IPCC Cross-Working Group Meeting on Consistent
Treatment of Uncertainties
Jasper Ridge Biological Preserve, Stanford, CA



Development of AR5 Guidance

Decision:

- Update AR4 Guidance to improve distinction and transition between different metrics and consistent application across WGs

Result:

- Guidance Notes for Lead Authors of the IPCC Fifth Assessment Report on Consistent Treatment of Uncertainties

AR5 Guidance: Key Aspects

- Guidance on treating uncertainty in developing key findings of the assessment process.
- Integrated framework for evaluating and communicating the degree of certainty in key findings.

Degree of Certainty for Findings

Two metrics based on evaluation of evidence and agreement:

- Level of *confidence* in the validity of a finding
 - Qualitative
- *Quantified measures of uncertainty* in a finding
 - Expressed probabilistically

Degree of Certainty for Findings: Process

Evidence and
Agreement

Evaluation

EVIDENCE

and

AGREEMENT

- Type
 - e.g., mechanistic understanding, theory, data, models, expert judgment
- Amount
- Quality
- Consistency

Provide a *traceable account* of evaluation of evidence and agreement in chapter text.

Summary Terms for Evaluation

- Evidence: “limited,” “medium,” “robust”
- Agreement: “low,” “medium,” “high”

Evidence and Agreement

Summary Terms for Evaluation

Agreement ↑	<i>High agreement Limited evidence</i>	<i>High agreement Medium evidence</i>	<i>High agreement Robust evidence</i>
	<i>Medium agreement Limited evidence</i>	<i>Medium agreement Medium evidence</i>	<i>Medium agreement Robust evidence</i>
	<i>Low agreement Limited evidence</i>	<i>Low agreement Medium evidence</i>	<i>Low agreement Robust evidence</i>
	Evidence (type, amount, quality, consistency) →		

- This evaluation and the nature of evidence determine next step in process

Degree of Certainty for Findings: Process

Evidence and
Agreement

Sufficient evidence and agreement?

Degree of Certainty for Findings: Process

Evidence and Agreement

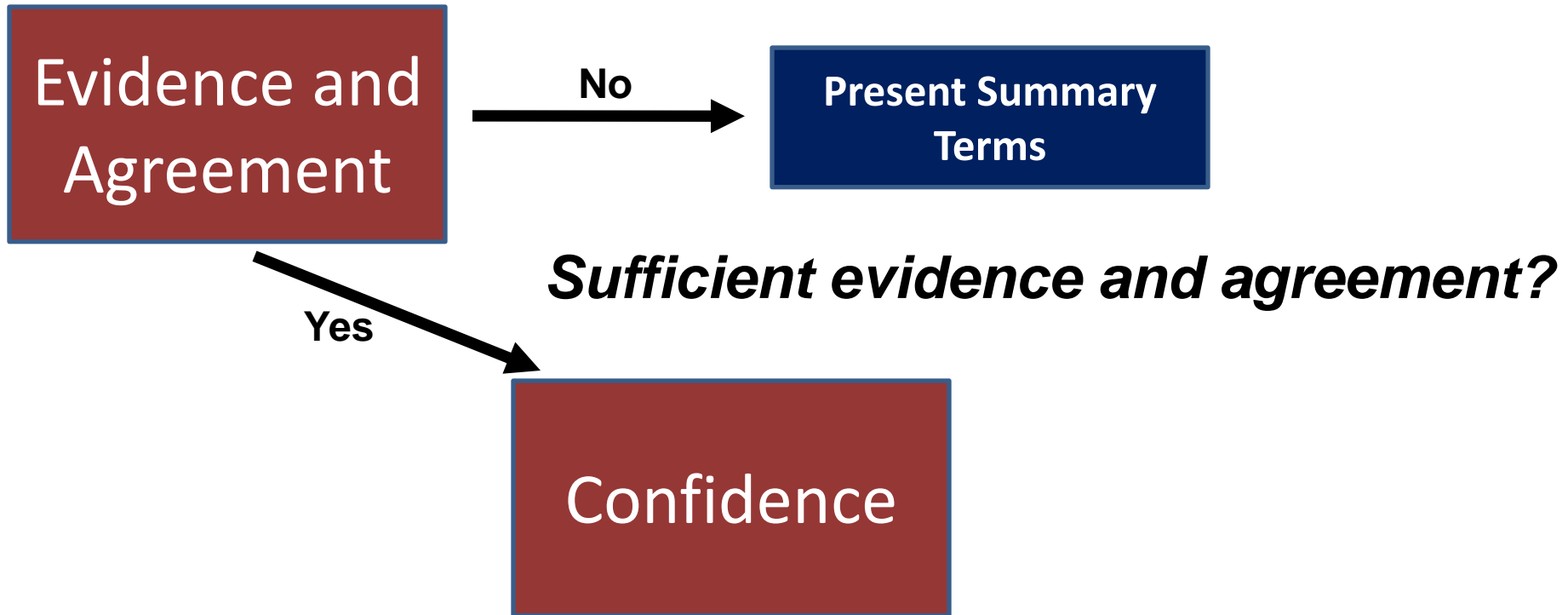
No



Present Summary Terms

Sufficient evidence and agreement?

Degree of Certainty for Findings: Process



Confidence

Validity of Finding

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<i>Medium agreement Limited evidence</i>	<i>Medium agreement Medium evidence</i>	<i>Medium agreement Robust evidence</i>
<i>Low agreement Limited evidence</i>	<i>Low agreement Medium evidence</i>	<i>Low agreement Robust evidence</i>

Agreement ↑

Evidence (type, amount, quality, consistency) →

Confidence Scale

Confidence

Levels of Confidence

Confidence synthesizes evaluation of evidence and agreement into a judgment about the validity of a finding.

“Very high”

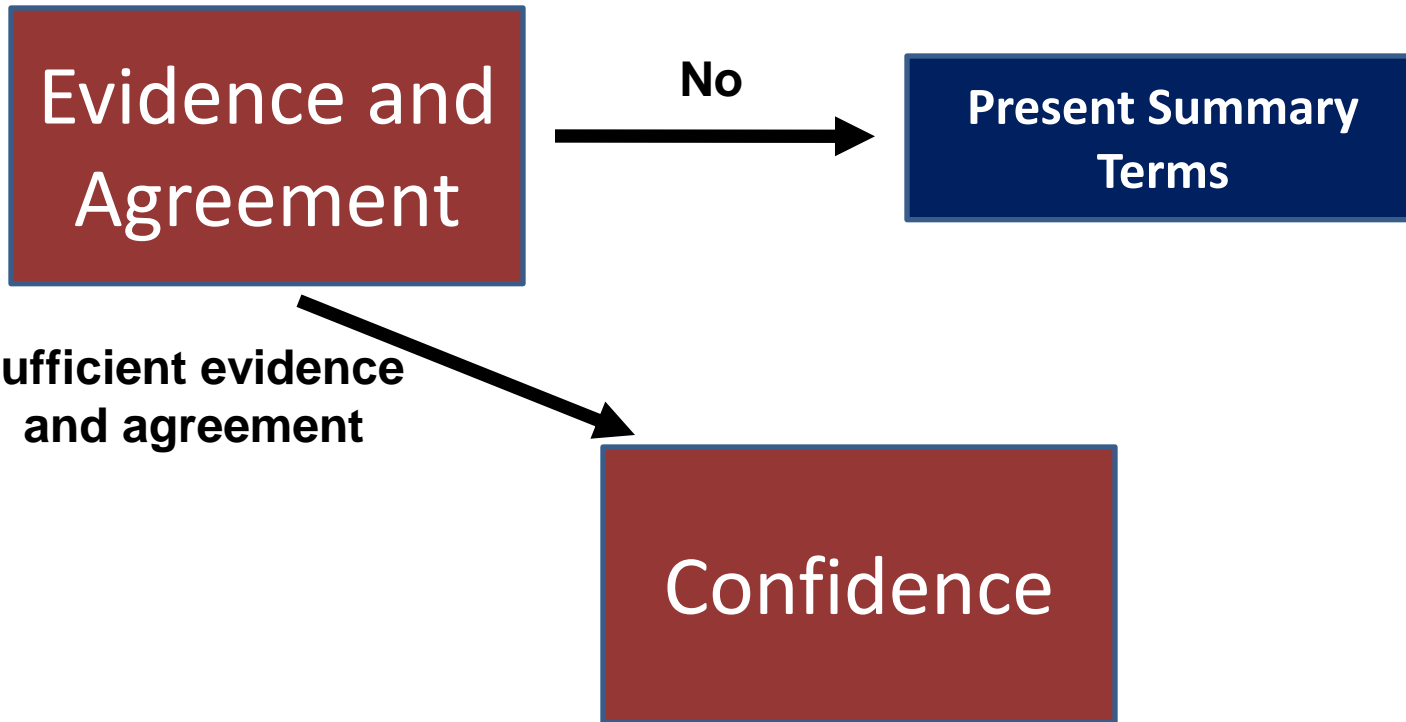
“High”

“Medium”

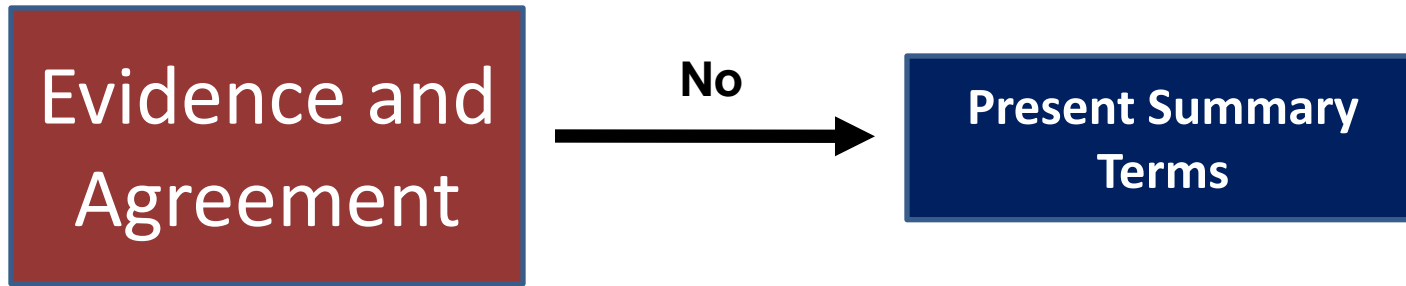
“Low”

“Very low”

Degree of Certainty for Findings: Process



Degree of Certainty for Findings: Process

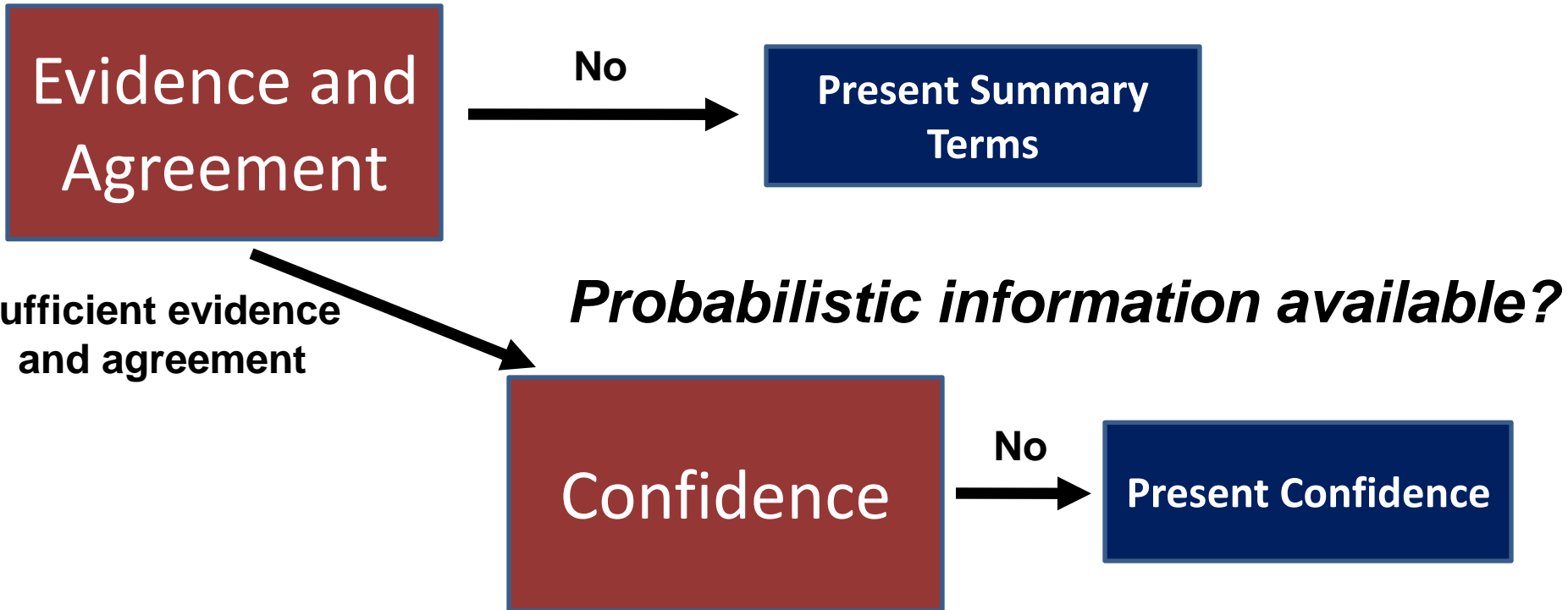


Probabilistic information available?

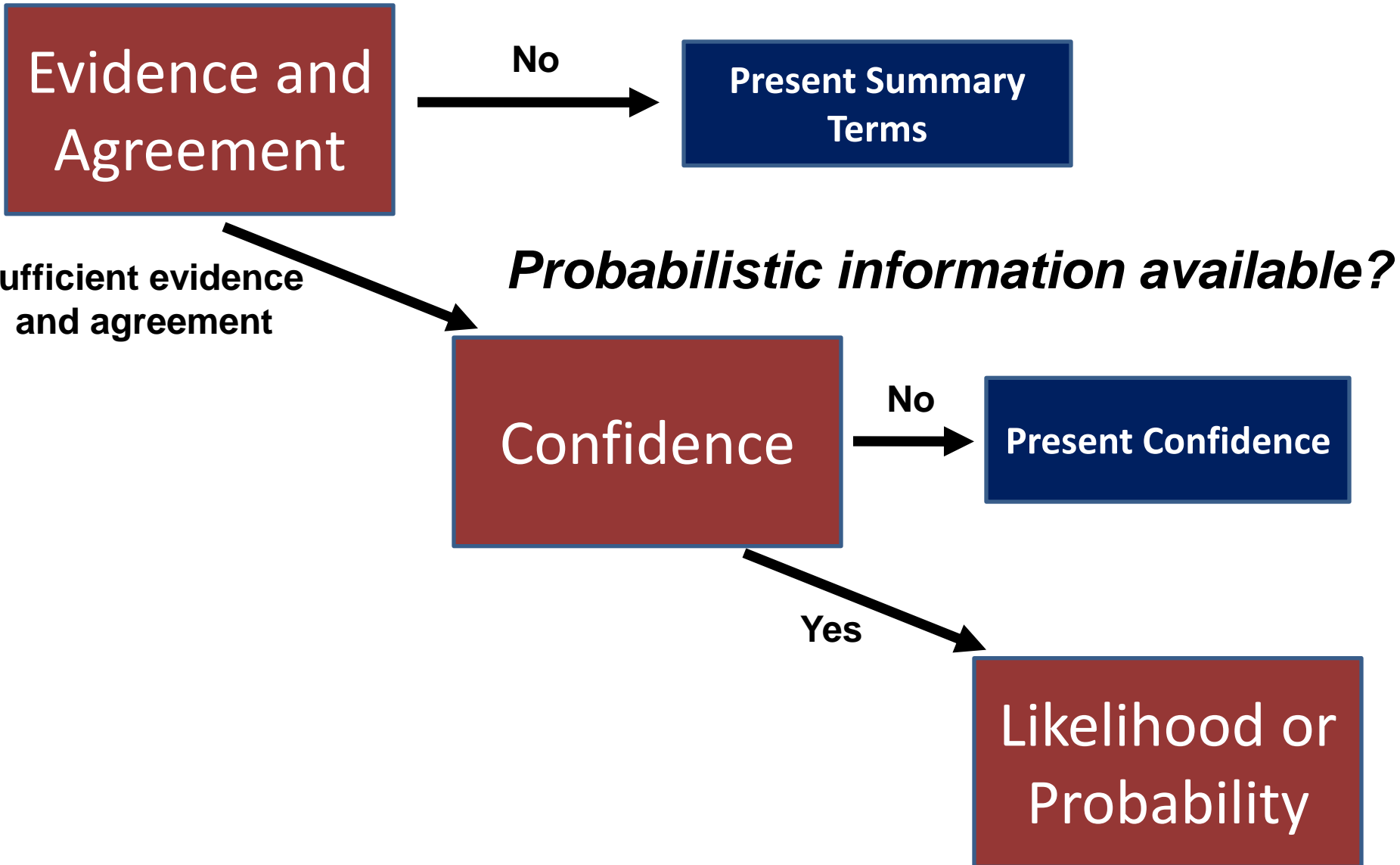
Confidence

Sufficient evidence
and agreement

Degree of Certainty for Findings: Process



Degree of Certainty for Findings: Process



Likelihood or
Probability

Probabilistic estimate

Likelihood expresses a probabilistic estimate of the occurrence of a single event or of an outcome lying in a given range.

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Term	Likelihood of the outcome
<i>Virtually certain</i>	99-100% probability
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<i>Likely</i>	66-100% probability
<i>About as likely as not</i>	33 to 66% probability
<i>Unlikely</i>	0-33% probability
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Use more precise probability ranges when appropriate.

Degree of Certainty for Findings: Process

