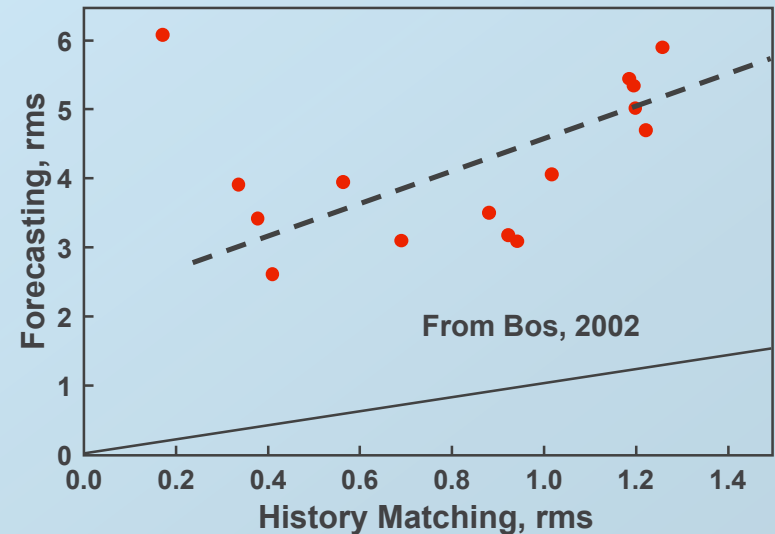
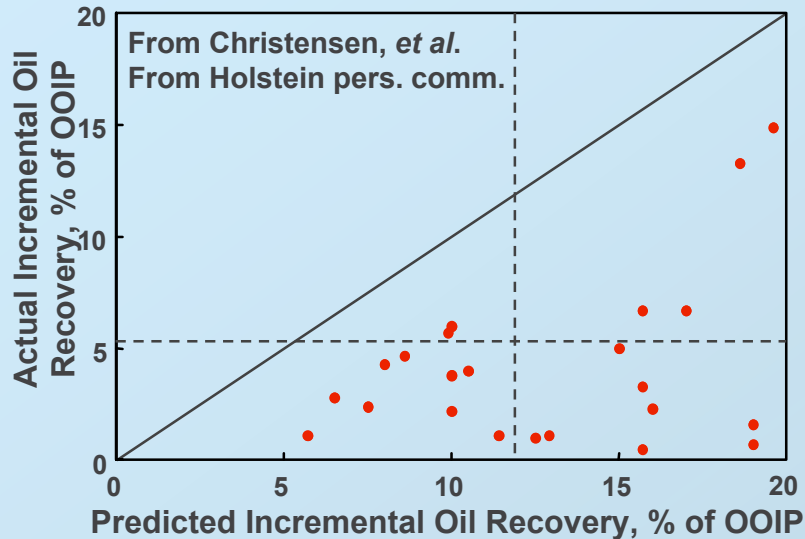
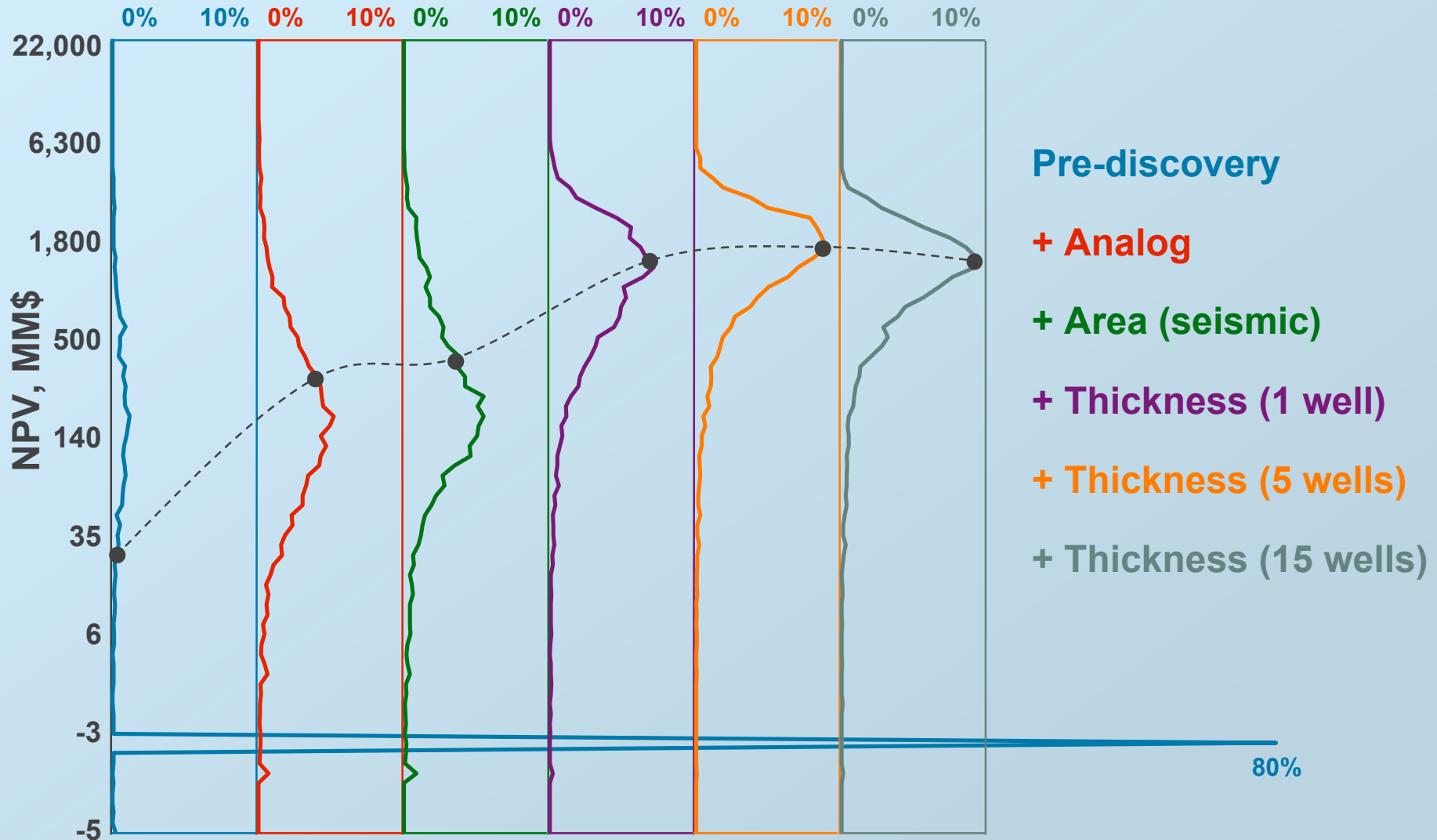


# Predicting Oil Recovery....



- **Weak correlation between predicted and actual**
- **Overpredict solvent IOR by about a factor of two**
- **History matching does not help much**

# Evolution of Uncertainty (Hultzsch, 2005)...



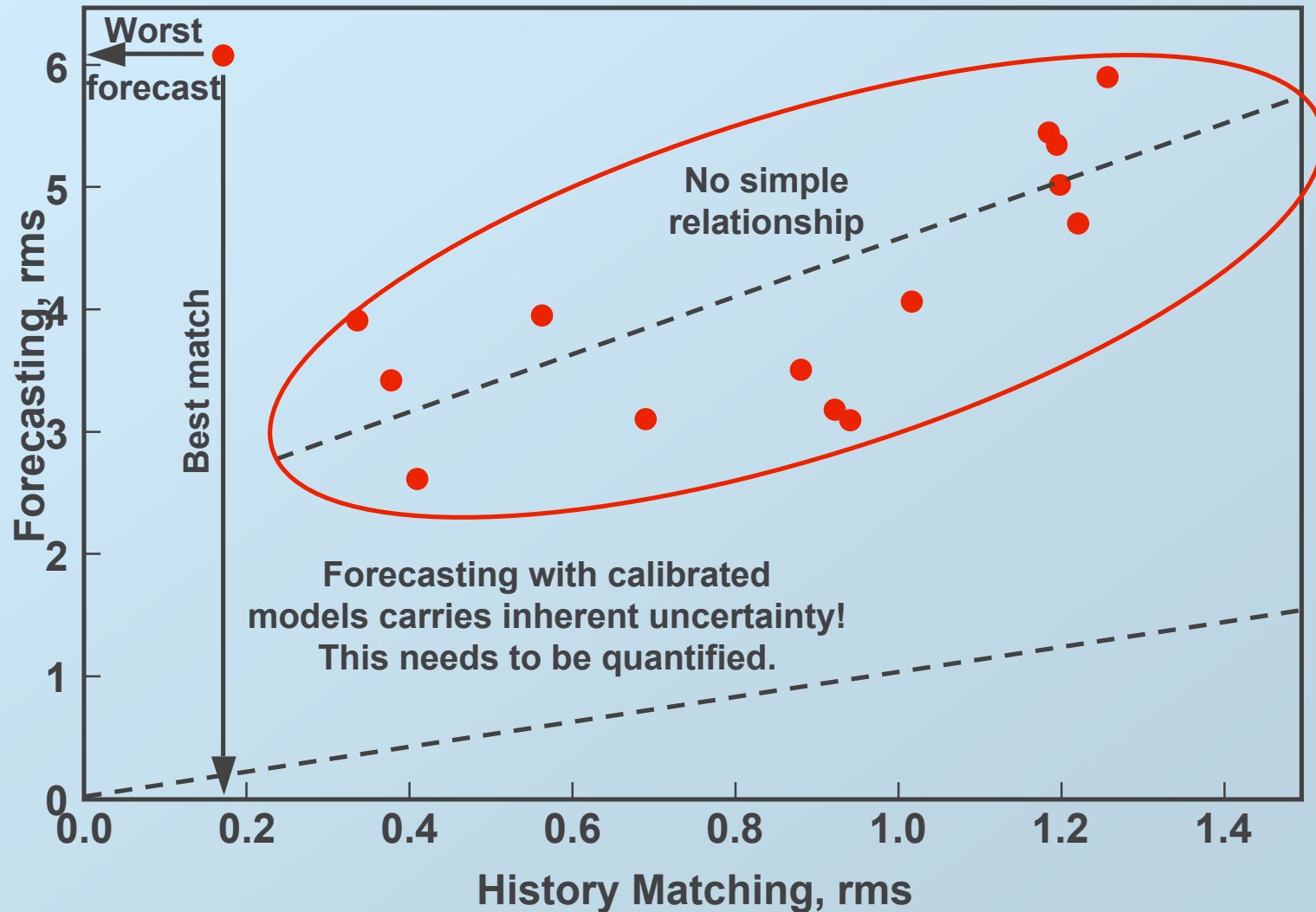
# Evolution of Uncertainty (Hultzsch, 2005)...

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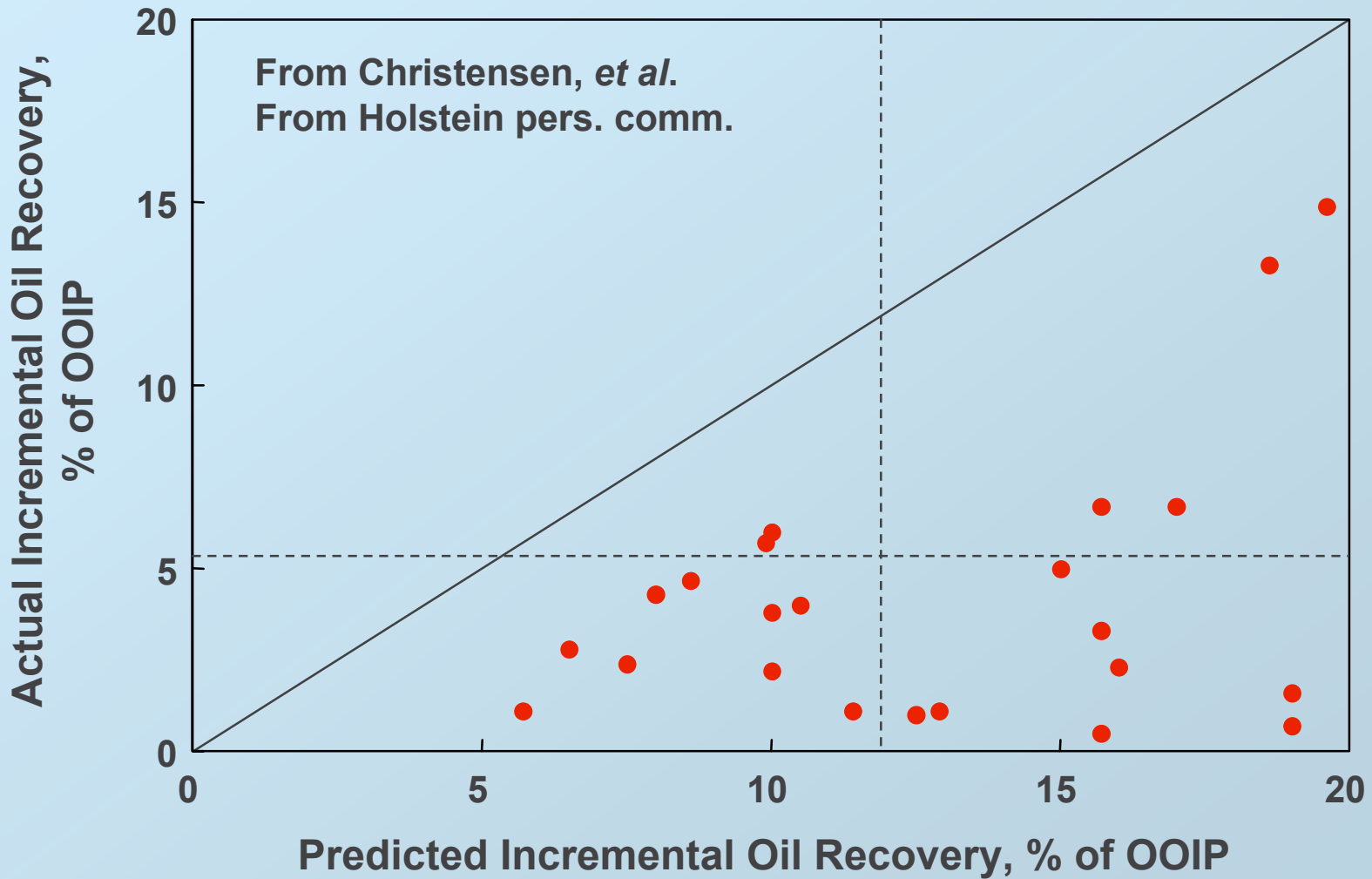
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- **Exploration (geologic) risk is largest factor**
- **Uncertainty drastically reduced with one well**
- **Uncertainty stabilizes fairly early**
- **But does not go away**
- **Expected value may increase or decrease with new information**
- **Procedures for estimating uncertainty are well developed in finance, decision analysis**
- **Must be adapted for use in hydrocarbon production**

# The Success of History Matching (Bos, 2002)...



# Predicted vs. Actual Incremental Oil Recovery for Solvent EOR...



# Permeability vs. IOR...

