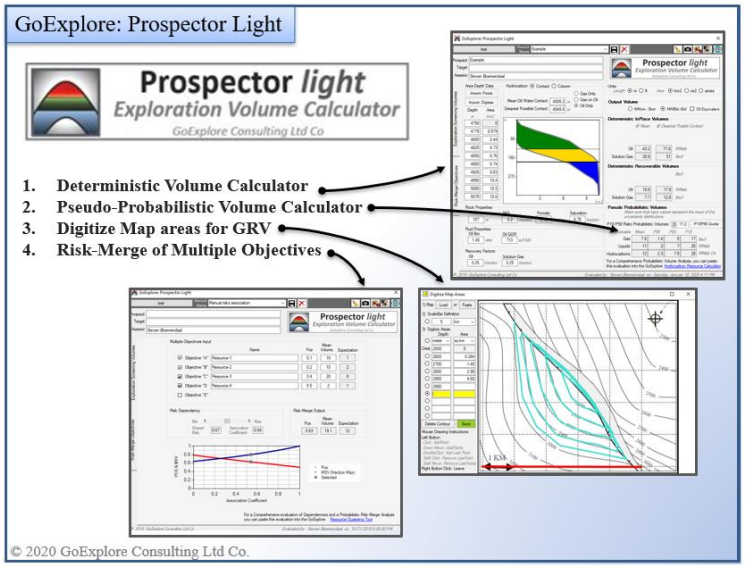
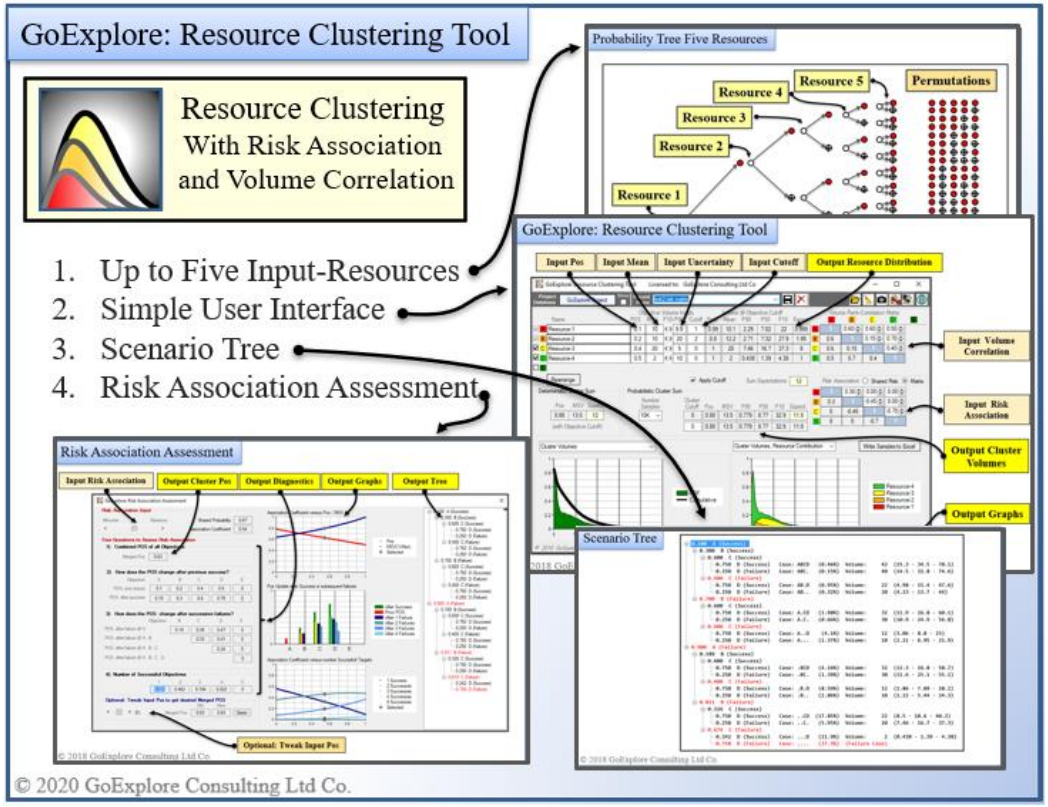

GoExplore Consulting
Free Friday Webinars
Merging Prospect Volumes
with the Resource Clustering Tool
May 8th 9am Houston Time

Agenda

- Introduction to Merging Risk-Volume Assessments
- Dependencies
- GoExplore: Prospector-Light / Resource Clustering Tool
- Demo
- Wrap-up





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Why Merging Risk-Volume Assessments?

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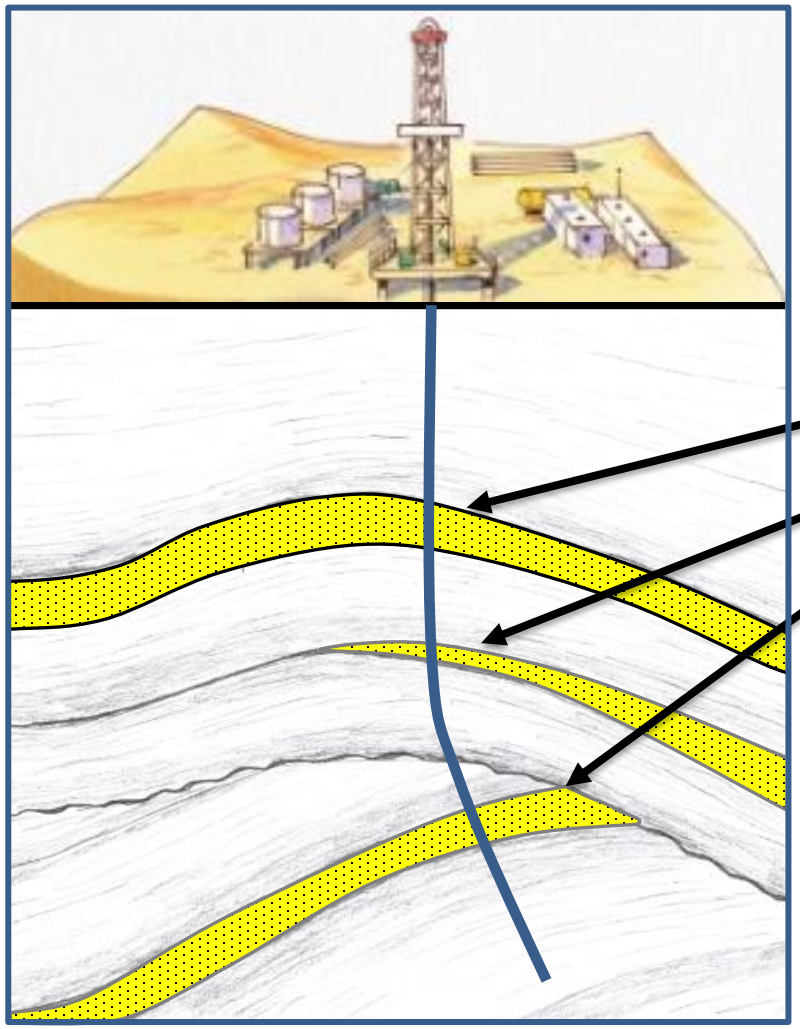
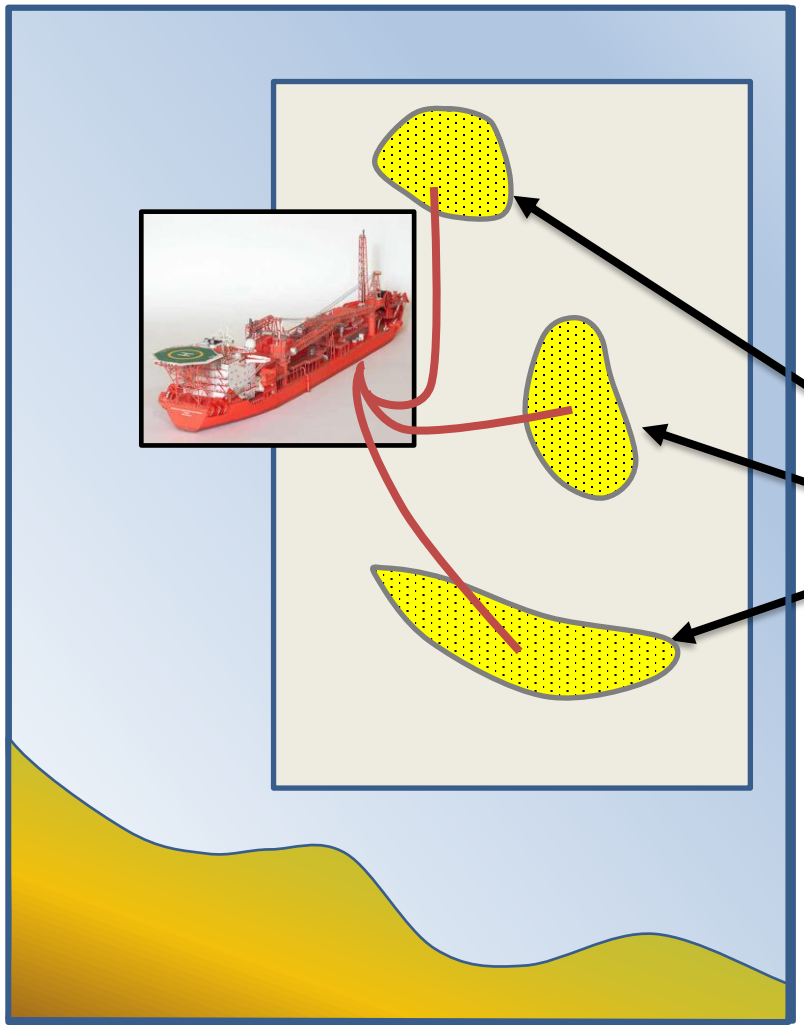


	Pos	MSV	P90	P50	P10
Target 1	0.3	100	22	70	220
Target 2	0.2	150	33	105	330
Target 3	0.1	200	44	140	440

What is the POS and Volume Description of this Prospect?

Why Merging Risk-Volume Assessments?



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What is the POS and Volume Description of this Cluster?

Merging Risk-Volume: Calculating Merged Volumes

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You cannot add P10, P50, P90 or MSVs volumes from the individual segment

Merging is a Statistical operation that considers:

- The Input Volume Distributions
- The Input Risk Profiles
- **Dependencies between Volume distributions (correlation)**
- **Dependencies between the Risk Profiles (association)**

Dependencies:

If we know the outcome in Objective A, how does it affect our estimate of Objective B?

Association (related to Risk)

Change Chance Factor estimates

Correlation (related to Volume)

Change Volume/Property estimates

Example Risk Dependency (Association)

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A Prospect has two Objectives:

- **Objective A: PoS = 50% MSV 100 MMbbl**
- **Objective B: PoS = 50% MSV 100 MMbbl**

What is the combined POS and MSV of the Prospect (combined objectives) in case of:

- **No Risk Dependency (No Association)**
- **Full Risk Dependency (Full Association)**

Example Risk Dependency (Association)

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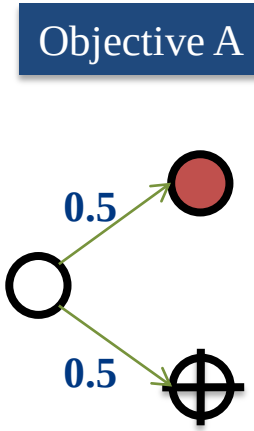
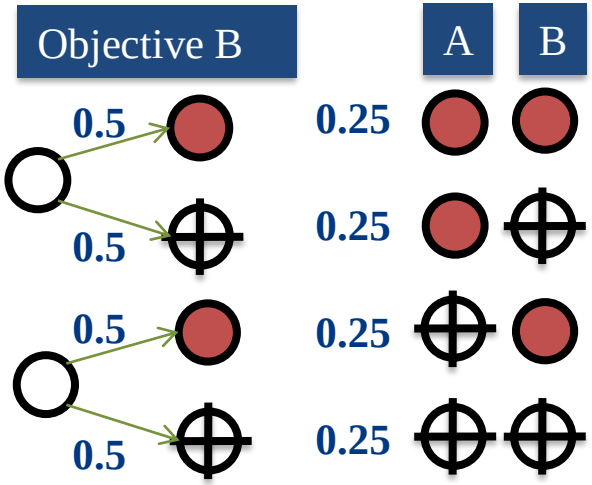
Independent Risk-addition

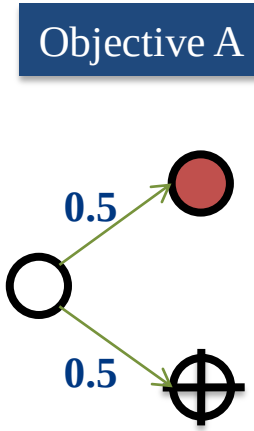


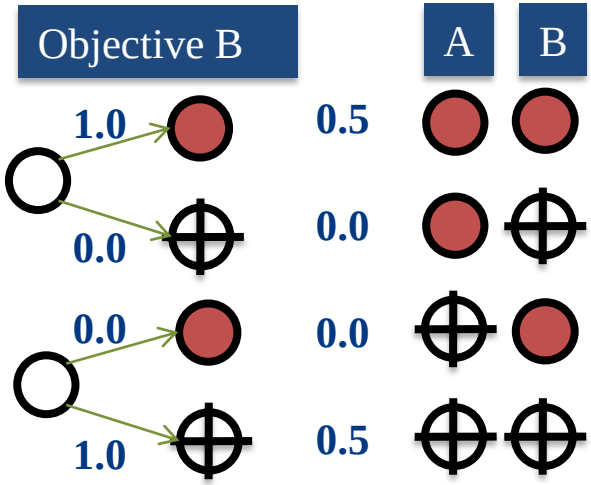


MSV	Expectation
200	50
100	25
100	25
0	0

Risked Addition: Pos 0.75 133 100

Fully Dependent Risk-addition





MSV	Expectation
200	100
100	0
100	0
0	0

Risked Addition: Pos 0.5 200 100

How to estimate Risk Dependencies?

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The Dependency effects Several Aspects on which you might have an opinion:

1. How does the POS of Objective "B" change **after a success** at Objective "A" ?
2. How does the POS of Objective "B" change **after a failure** at Objective "A" ?
3. What should the combined POS be of Objective A and B ?
4. How many successful objectives do you expect ?

Dependency (Association Coefficient)

	0.0	0.2	0.4	0.6	0.8	1.0
POS "B" change after success at "A"	0.5	0.56	0.61	0.67	0.76	1.0
POS "B" change after failure at "A"	0.5	0.44	0.39	0.33	0.24	0
Combined POS be of Objective A & B	0.75	0.73	0.7	0.66	0.62	0.5
One Successful Target	0.66	0.62	0.57	0.5	0.4	0.0
Two Successful Targets	0.33	0.38	0.43	0.5	0.6	1.0

GoExplore: Resource Clustering Tool

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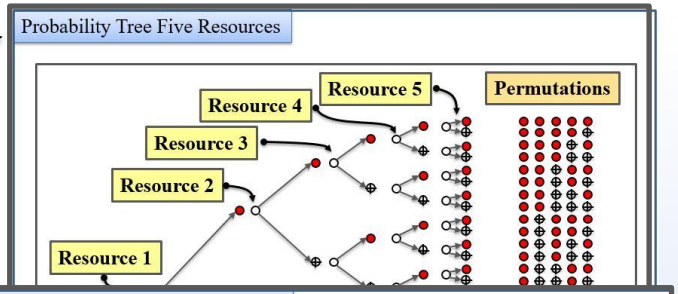
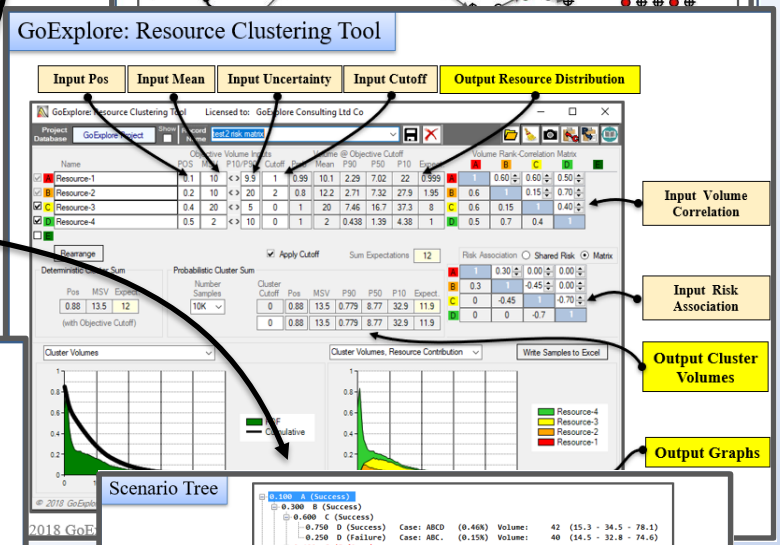
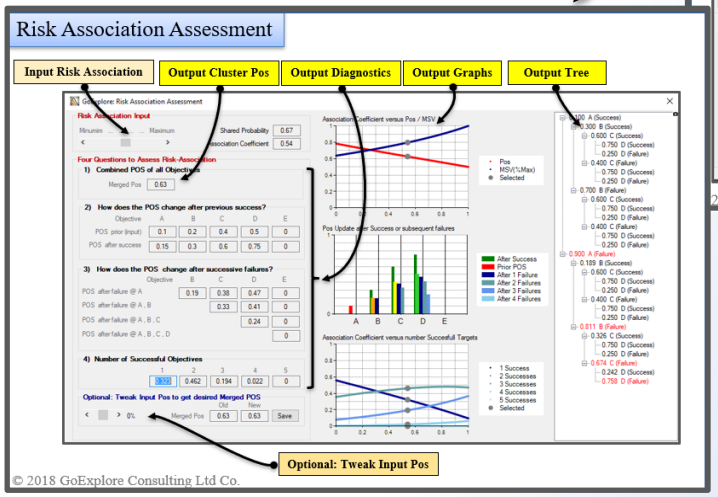
GoExplore: Resource Clustering Tool

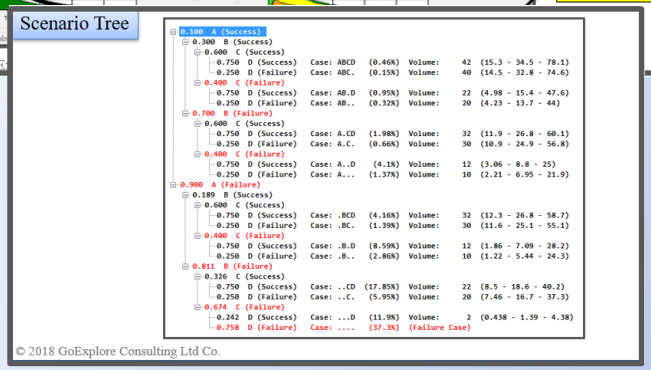
Resource Clustering
With Risk Association
and Volume Correlation

1. Up to Five Input-Resources
2. Simple User Interface
3. Scenario Tree
4. Risk Association Assessment









Demo

Merging Risk-Volume Assessments

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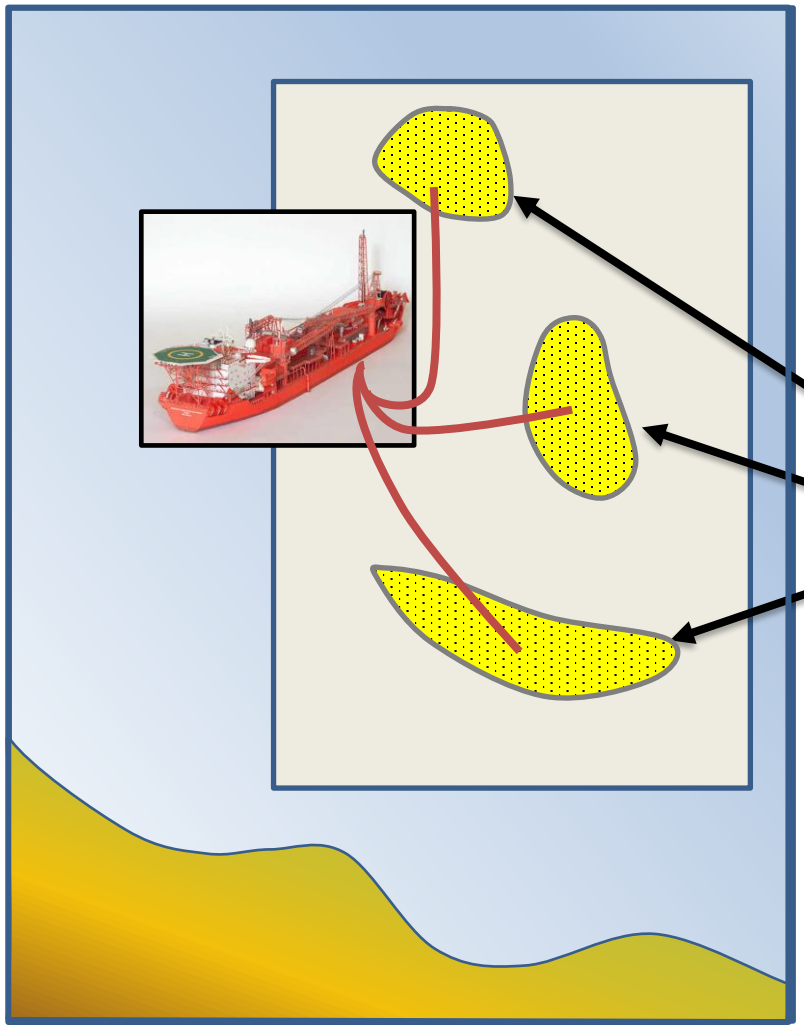

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Wrap Up

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- **Things we can't do:**
  - Add MSVs:

    $MSV_{sum} = MSV_1 + MSV_2 + MSV_3 + \ldots$
  - Add P_{50}s, P_{90}s, P_{10}s etc.

    $P50_{sum} = P50_1 + P50_2 + P50_3 + \ldots$

- **Things we can do:**
  - Apply "Expectation of Sum = Sum of Expectations"

    $MSV_{sum} \times PoS_{sum} = MSV_1 \times PoS_1 + MSV_2 \times PoS_2 + MSV_3 \times PoS_3 + \ldots$

- **Preservation of Expectation**

  Expectation of Sum = Sum of Expectations
- PoS_{sum} is controlled by degree of risk dependence (association)
- MSV_{sum} is controlled by PoS_{sum} and the sum of Expectations

Final Slide

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We offer a:

- **3-day course on Quantitative Prospect Evaluation**

You can download the Software at:
www.goexplore.consulting

Contact: Bloemendaal@GoExplore.Consulting


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Any Questions ?


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Thank You