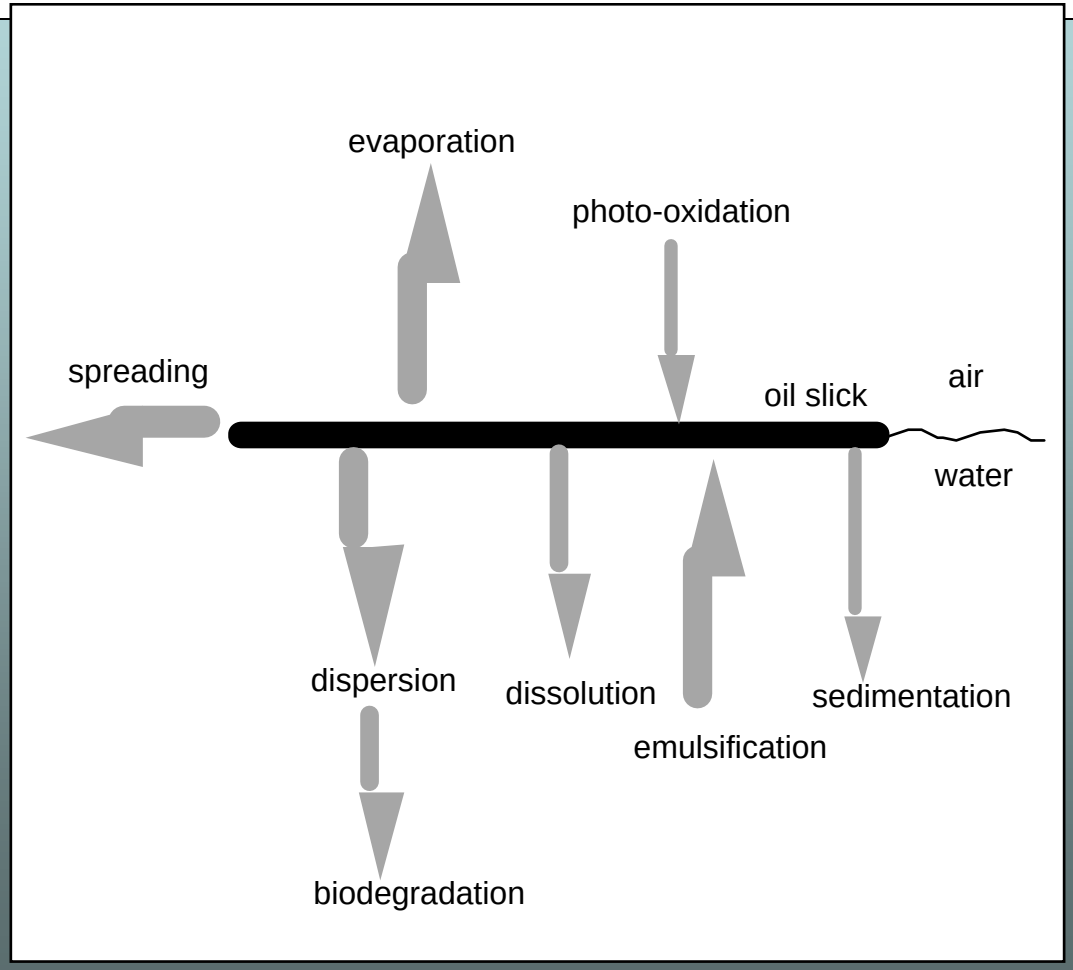
Oil Fate and Behavior

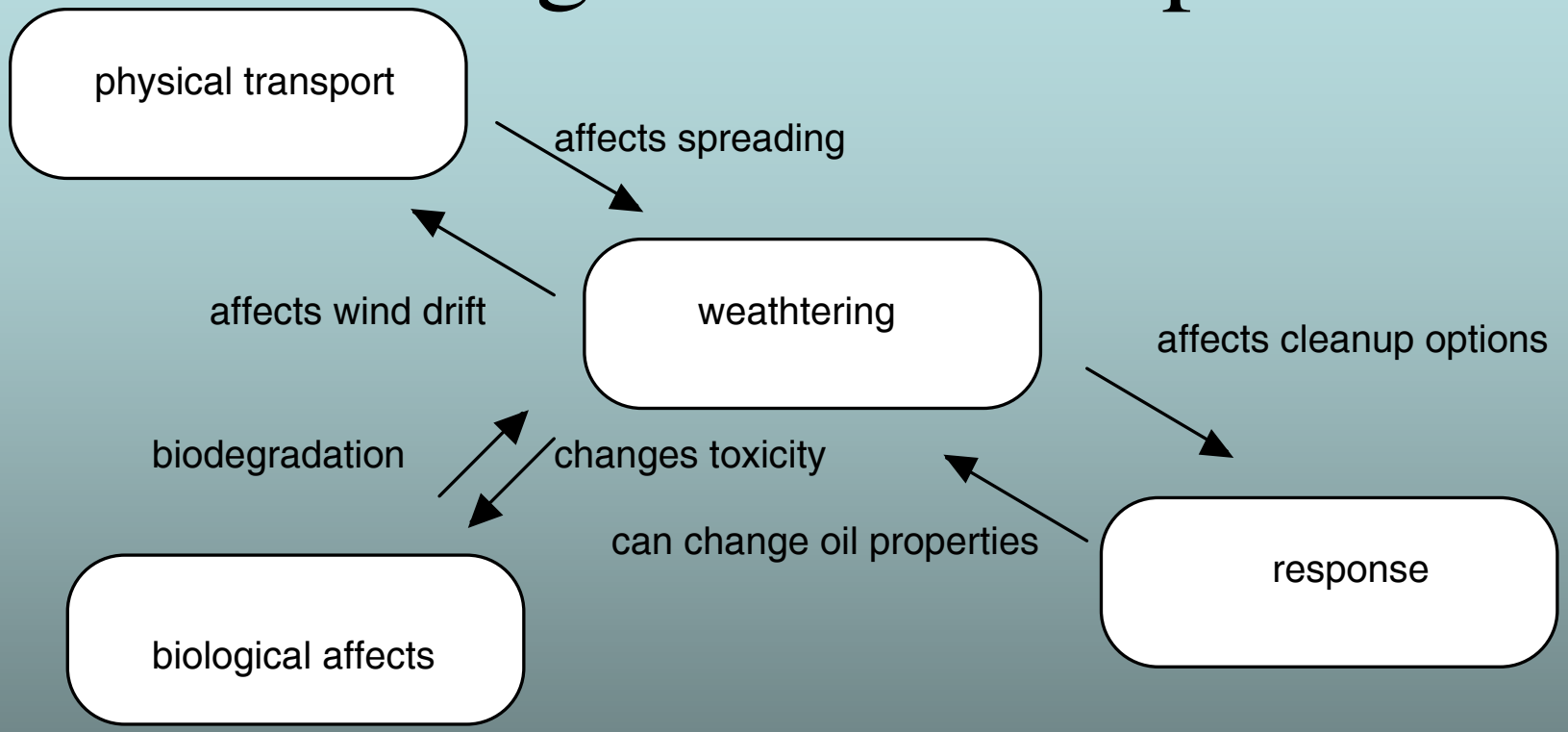
Lots of processes



Why fate is important to response

- Mass balance has response and damage assessment implications
- Viscosity and density affect cleanup options
- Hydrocarbon mix influences toxicity
- Oil distribution in or on water affects resource impact

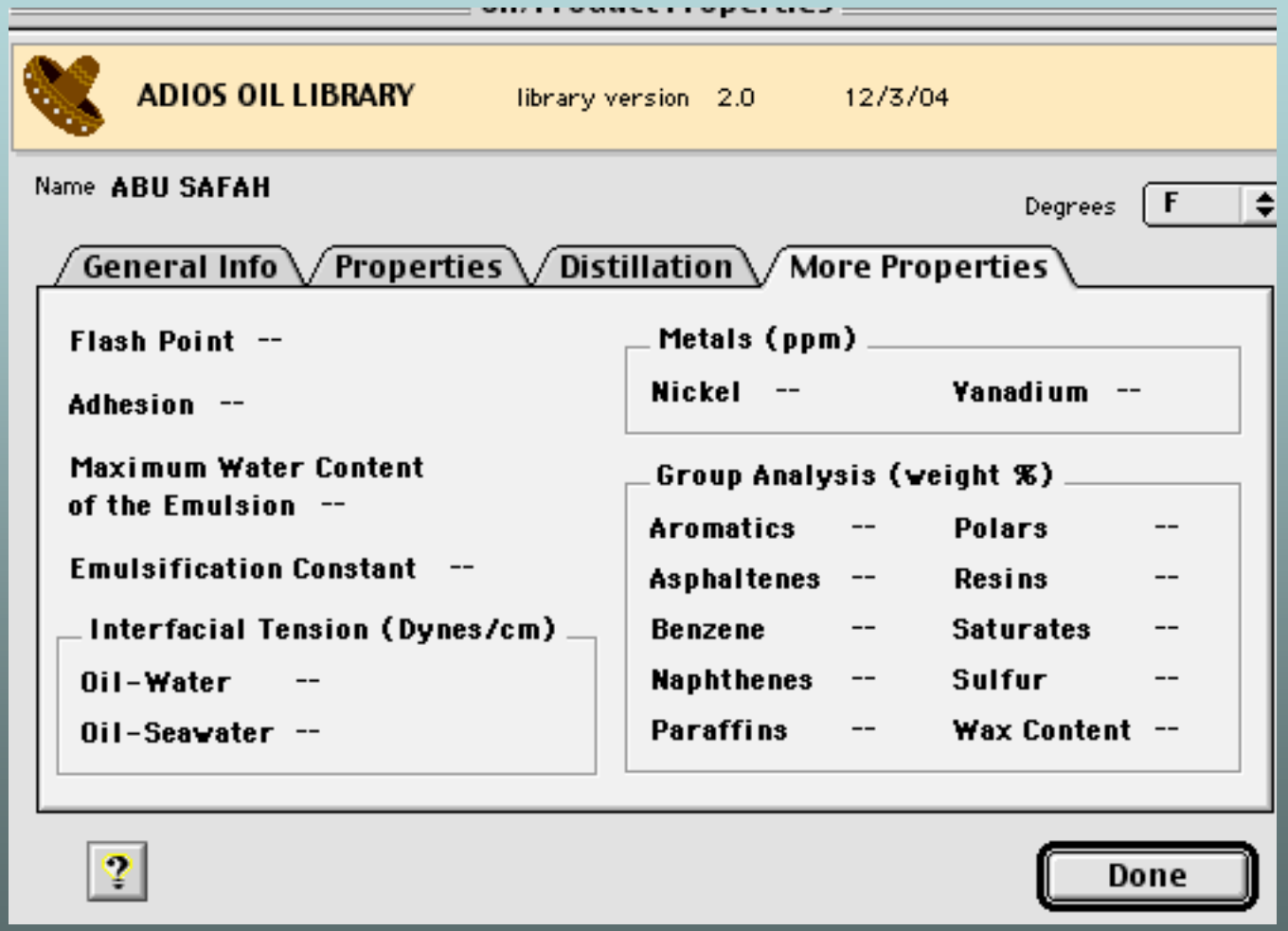
Linkage between topics



Oil parameter categories

- Catalogued oil parameters
- Calculated spill properties
- Fate processes

Oil catalogue parameters



Calculated properties

Good handle

- Density
- Viscosity

Bad handle

- Water content
- Oil droplet size distribution

Estimated processes

Good handle

- evaporation from ‘thin films’
- slick drift

Bad handle

- dispersion
- Langmuir cells
- sedimentation
- emulsification
- photo-oxidation
- spreading

Potential improvements

- Dispersion -Katz and Reed
- Sedimentation - Khelifa
- oil-in-ice
- biodegradation

Providing useful answers

Oil Name = ABU SAFAH
API = 28.6 Pour Point = 19 deg F
Wind Speed = constant at 12 mph Wave Height = computed from winds
Water Temperature = 66 deg F
Time of Initial Release = September 10, 1400 hours

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3. Spill Status (Estimated, in Barrels)

	This Operational Period (Since Last Report)	Total
Volume Spilled	1,000	1,000
Mass Balance / Oil Budget		
Recovered Oil	0	0
Evaporation	269	269
Natural Dispersion	6	6
Chemical Dispersion	0	0
Burned	0	0
Floating, Contained	not estimated	not estimated
Floating, Uncontained	681	681
Onshore	44	44
Total spilled product accounted for:		1,000