

Harmonization of soil RAMs

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RAMSOIL

Risk Assessment Methodologies for Soil Threats



Harmonization of soil RAMs

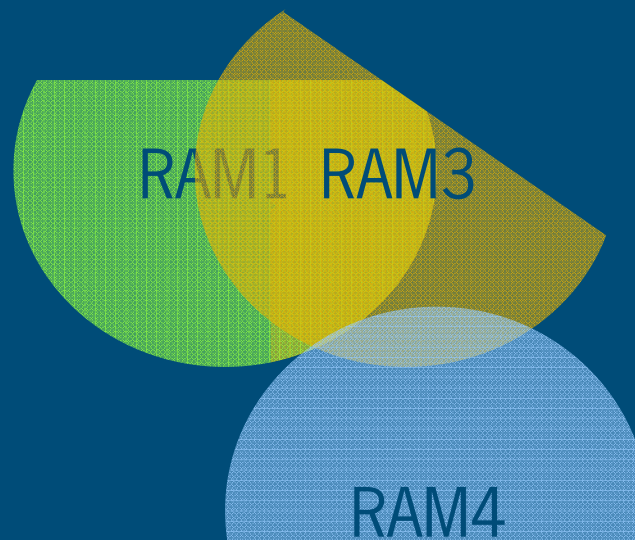
This presentation:

- Current status of soil RAMs
- Reasons for harmonization
- Harmonization of soil RAMs – theoretical framework
- Needs for harmonization
- Options for harmonization
- Conclusions and recommendations

Current status of soil RAMs in Europe

- Questionnaires
 - Policy questionnaires
 - Thematic questionnaires
- Literature review

Current status of soil RAMs in Europe

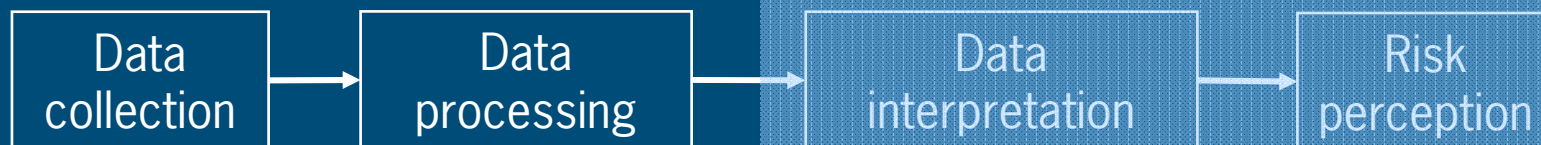


Current status of soil RAMs in EU

Input from policy makers required

Process quantification

Data evaluation



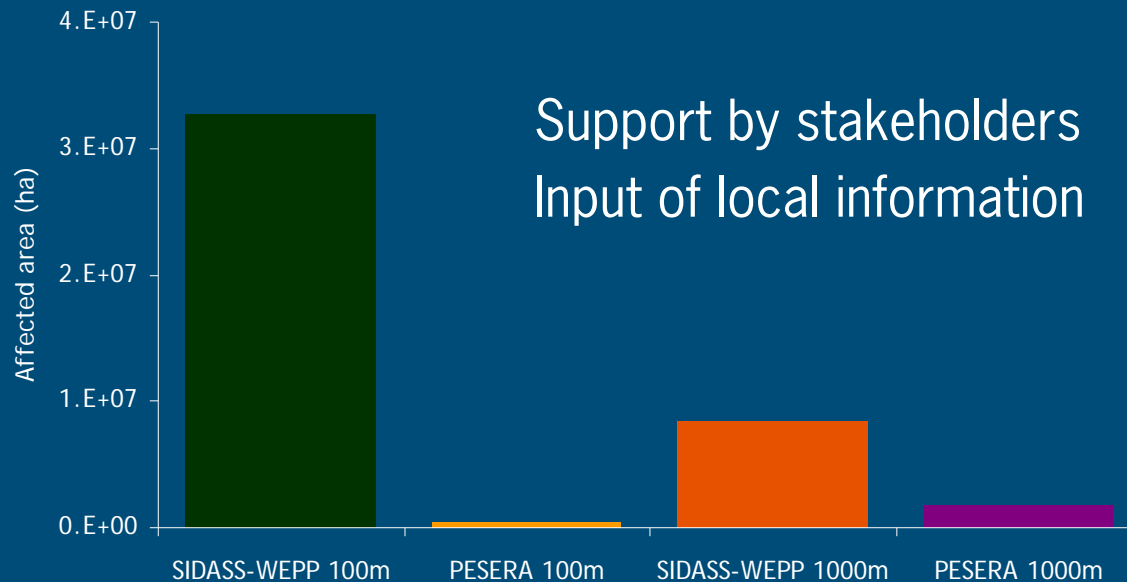
	Data collection	Data processing	Data interpretation	Risk perception
Erosion	All	All	Few	None
SOM decline	All	All*	Few	None
Compaction	All	All	Most	Some
Salinization	All	All*	Most	Some
Landslides	All	All	All	Most

Current status of soil RAMs in EU

- Many RAMs, but most are incomplete.
- The incompleteness of many RAMs may be regarded as a pitfall but actually provides good opportunities for harmonization as the best time to harmonize RAMs is when they are being developed.
- Often scientific understandings are comparable, which provides a basis for harmonization.

Consequences of unharmonized results

- Unharmonized results may lead to different advices.
- E.g. sport fishing in the great lakes, USA
- Differences in affected areas.



Harmonization – theoretical f

Standardization is doing everything exactly similar, i.e. choosing one RAM.

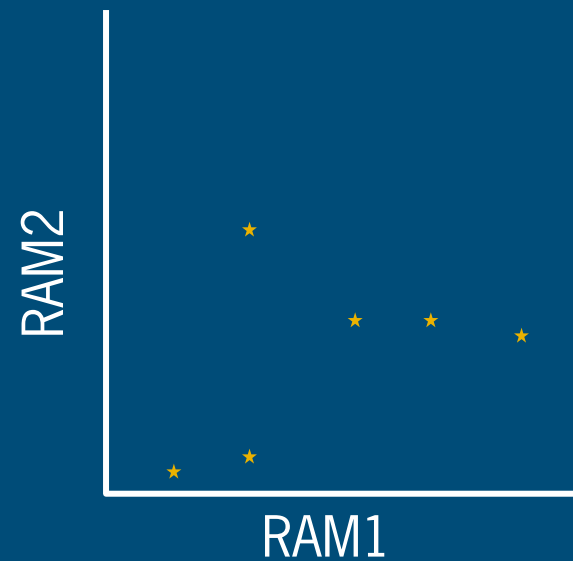
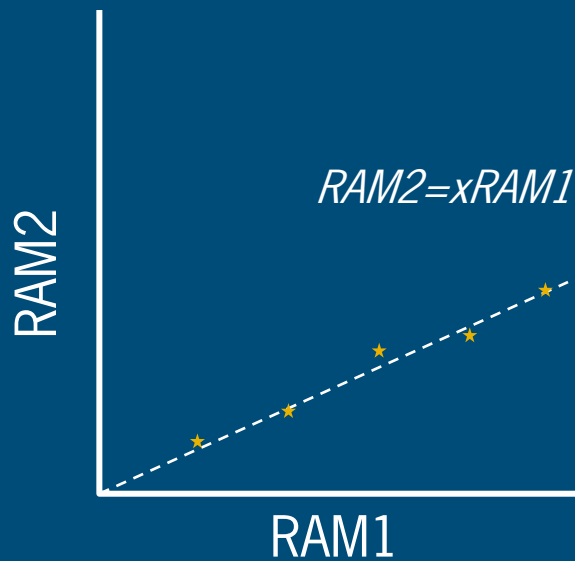
- Harmonization is defined as making results compatible or comparable, hence consistent and thereby minimizes the differences of measures or standards of similar scope.



harmonization —————> standardization

Harmonization – theoretical framework

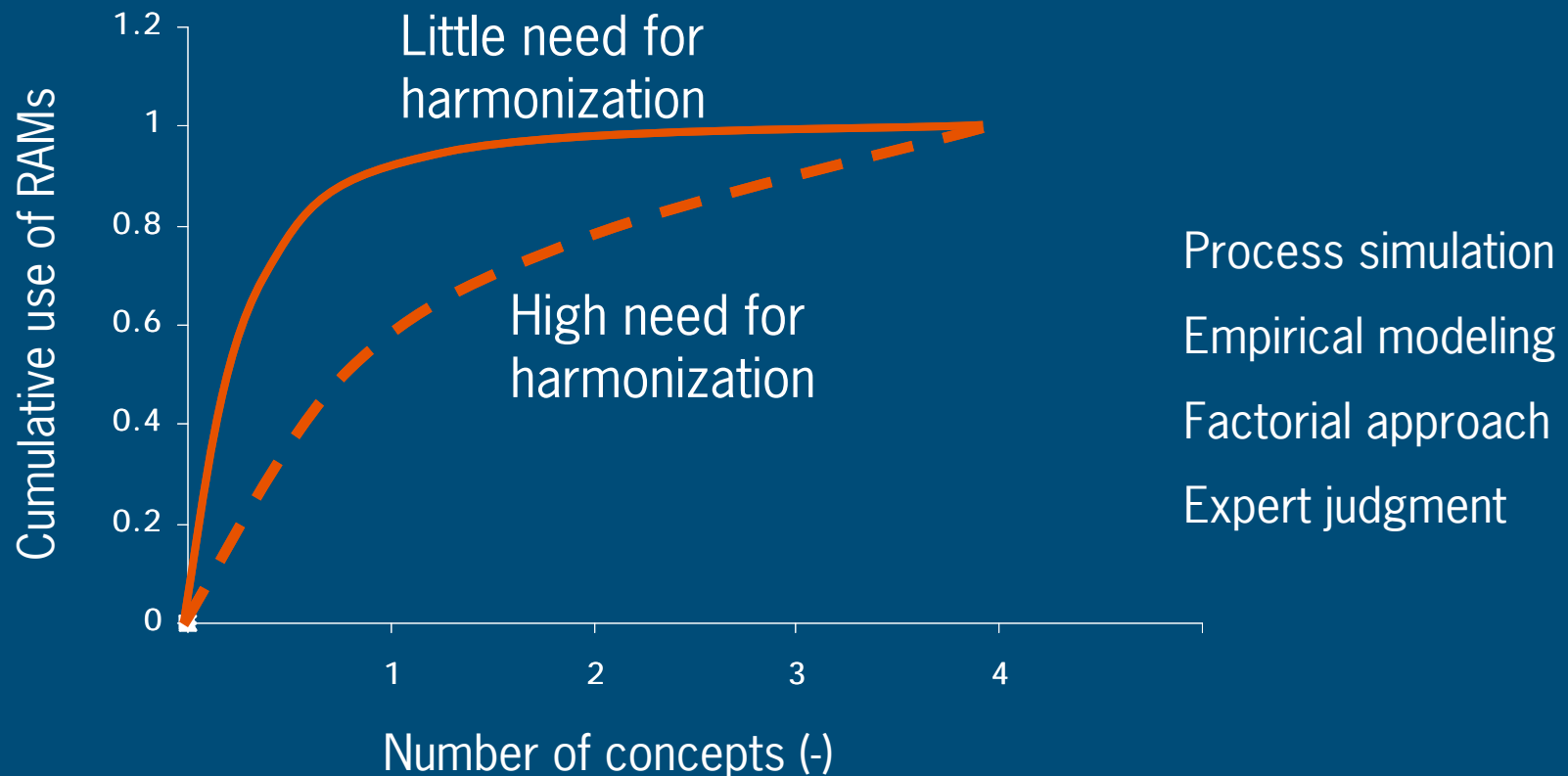
- Harmonization can be achieved through conversion factors or finding consensus of approaches.



- Need vs options for harmonization.

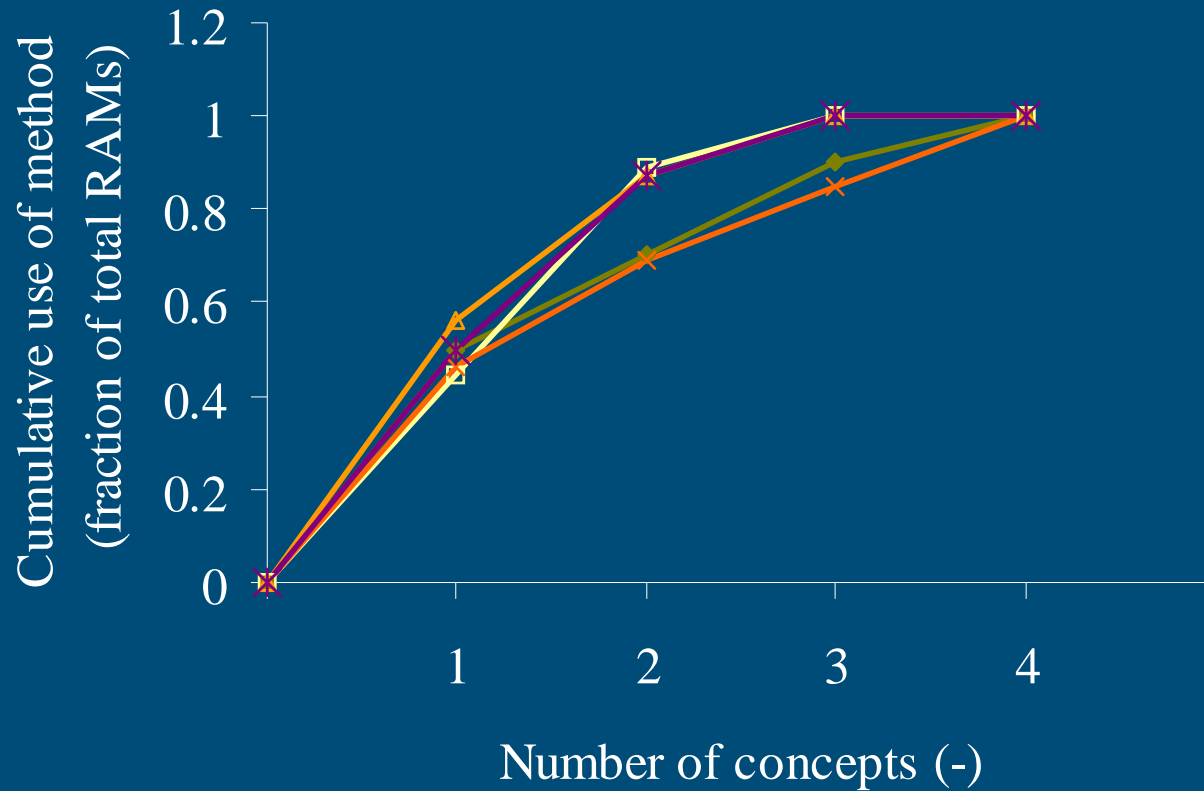
Need for harmonization

- Ideally: run every RAM for the same site and look at differences



Need for harmonization

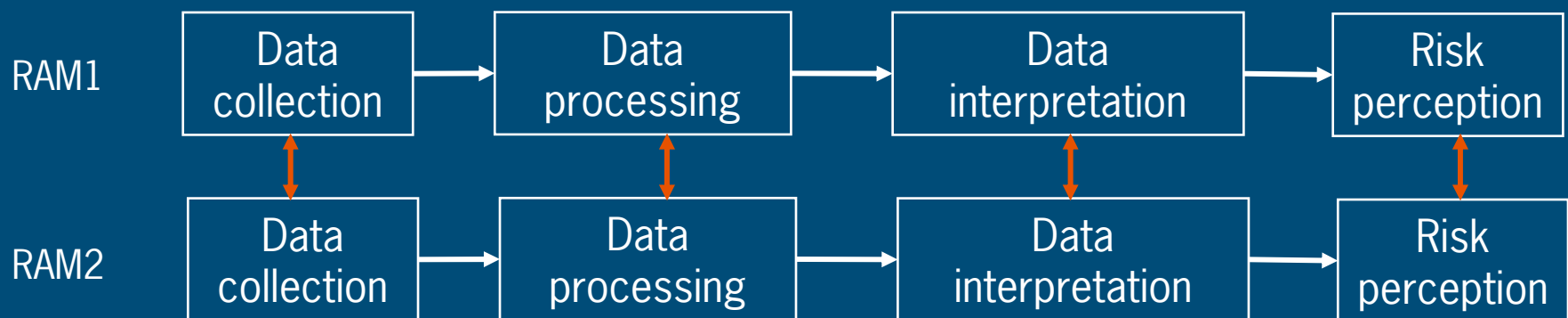
- erosion
- salinization
- landslides
- compaction
- SOM decline



Highest needs for harmonization for compaction and erosion.

Options for harmonization

- Methodology: quantify relative share of common elements (MI)
- Data collection: common criteria of Annex 1
- Data processing: common use of fundamental concept
- Data interpretation: reciproke of number of threshold values
- Risk perception.....



Options for harmonization

Data collection focusses on the common criteria, but neglects issues like sampling depths, monitoring networks, etc

	<i>Data collection</i>	<i>Data processing</i>	<i>interpretation</i>	<i>RISK perception</i>	<i>Average</i>
Erosion	0.62	0.55	0.17	n.c.	0.45
Salinization	0.81	0.62	0.13	n.c.	0.52
Compaction	0.58	0.35	0.09	n.c.	0.34
Landslides	0.77	0.63	0.55	n.c.	0.65
SOM decline	1.00	0.50	n.c.	n.c.	0.75

Best options for landslides and SOM decline

Is averaging the best way to estimate harmonization options? Results are predominantly based on process quantification.

Conclusions

- There are many RAMs currently in use; the vast majority has comparable basic understandings.
- Many RAMs are incomplete, i.e. lack data interpretation and risk perception.
- Harmonization is not always feasible, due to different definitions (e.g. wind versus water erosion).
- The need for harmonization seems highest for salinization and erosion, when evaluated on the basis of CFD.
- The options for harmonization seem best for landslides and SOM decline, when evaluated on the basis of MI.

Current developments

- With the EU soil thematic strategy objectives and scales of soil RAMs are straightened out. This facilitates the development of harmonized RAMs.
- Recent activities show increasing assessments at EU level. This may overcome harmonization of local or national RAMs, but may also result in loss of local information.

Recommendations

- Provide a ‘tiered’ approach at EU level
- Tier1 is an assessment at EU level (hence standardized)
- Tier2 is an assessment at national level with more detailed approach (harmonized with Tier1)

Thank you

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Issues for discussion

- Strict interpretation of the definition of harmonization and standardization?
- Soil science in Europe has a long history and consequently many RAMs exist. RAMs differ because of differences in objectives, notions, scales, personal differences, driving factors and climatic conditions. Is harmonization always feasible or are there situations for which harmonization is not feasible?
- Harmonization has consequences for the soundness, flexibility and acceptability of RAMs. Is harmonization obligatory or unnecessary complex?