



POTSDAM INSTITUTE FOR  
CLIMATE IMPACT RESEARCH

# **FORest MAnagement Scenarios for Adaptation and Mitigation (FORMASAM)**

C. Reyer, Grenoble, 26-03-2019

**EFI THEMES ADDRESSED: BIOECONOMY AND RESILIENCE**

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Member of

*Leibniz*  
Leibniz  
Association







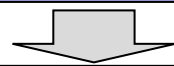
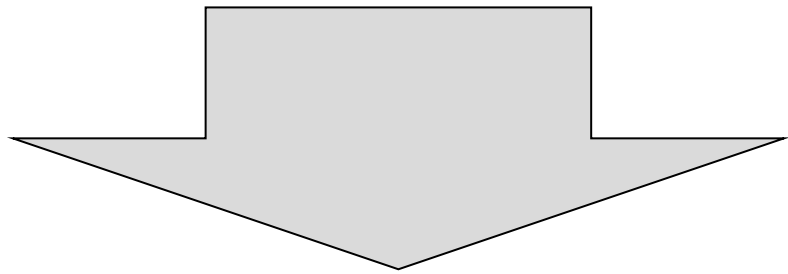
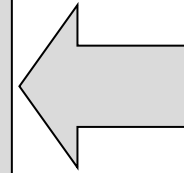
# Aim of FORMASAM

- to develop future forest management scenarios for adaptation and mitigation of climate change that
  - are consistent from stand → landscape → continental level,
  - allow to explore options for climate change mitigation and adaptation at the backdrop of a European bio-economy and changing climatic conditions.

# FORMASAM Structure

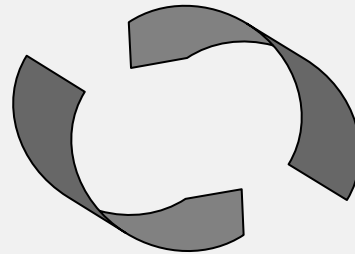
**TG1: Future Forest Management Scenarios**  
(Lead MJ Schelhaas)

**UNECE,  
ToS**



Forest management models at:

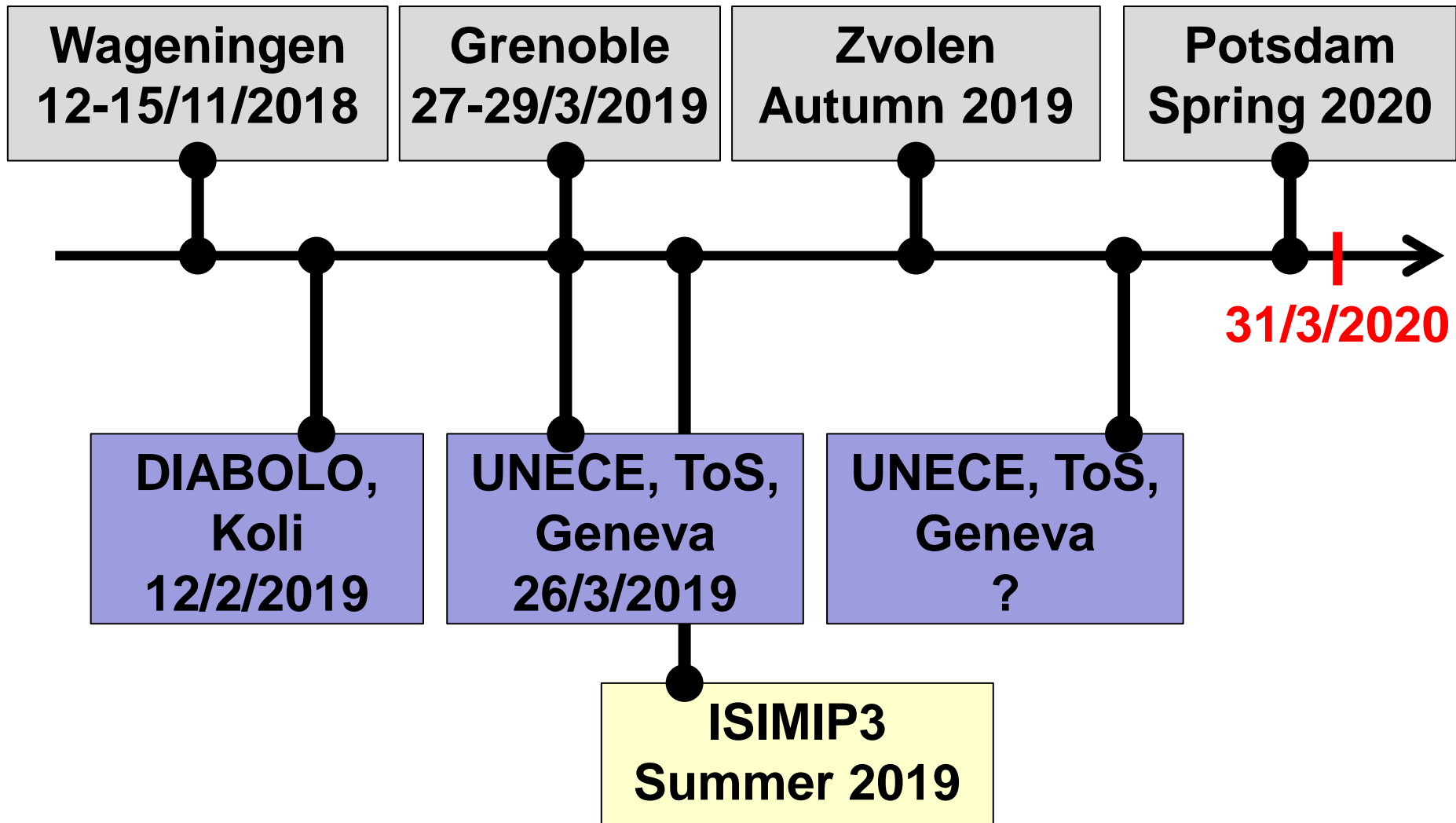
**TG2: stand scale**  
(Lead A Mäkelä)



**TG4: European scale**  
(Lead A Rammig)

**TG3: landscape scale**  
(Lead R Seidl)

# Timeline FORMASAM and related activities

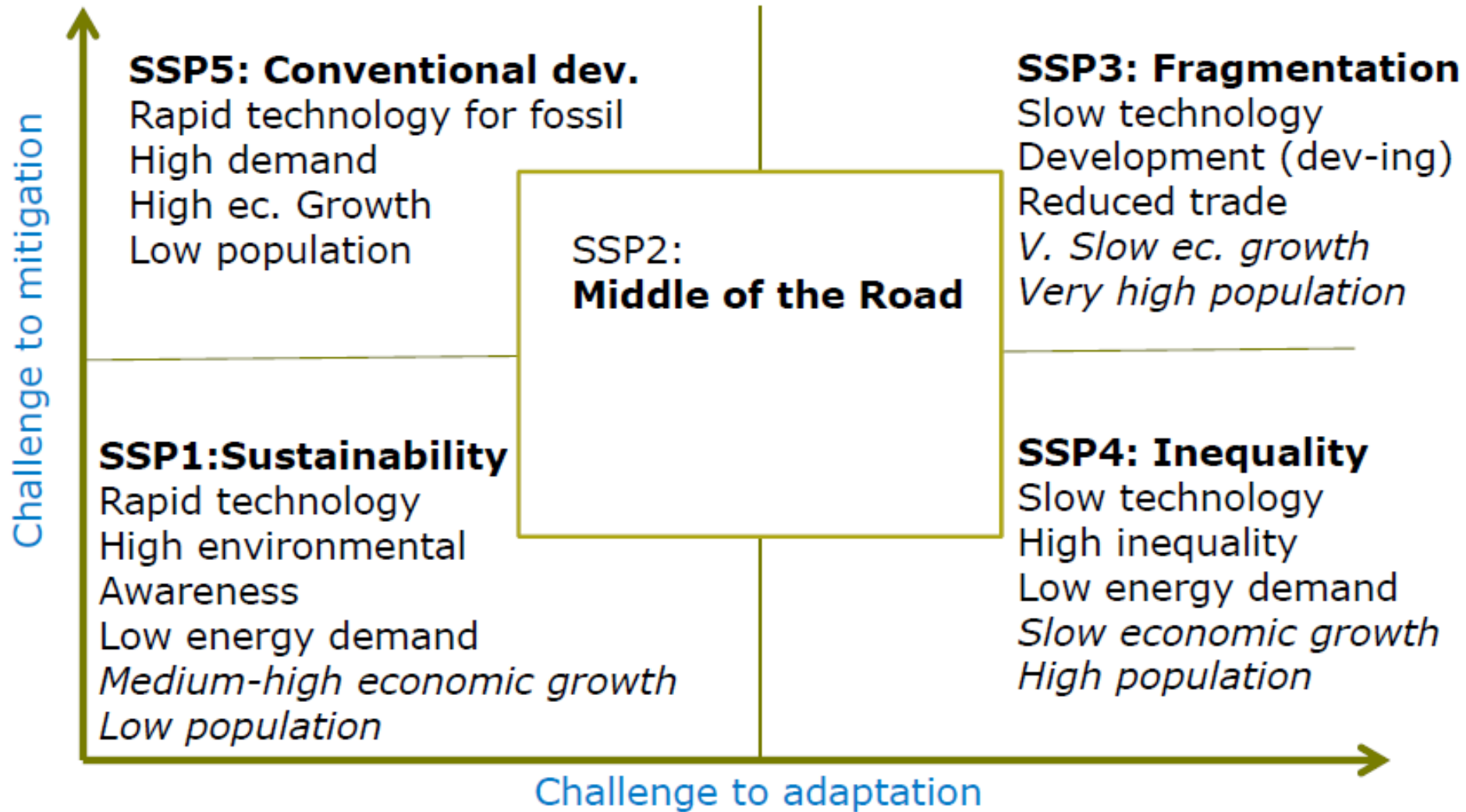


# Goal of this meeting

- **Consolidate and finalise management scenarios as well as modelling protocol to simulate future forest development**
  - For stand, landscape and EU models?
  - Status of simulation set-up?
- **Storylines for management scenarios?**  
**Adaptation/disturbances management scenarios?**

# Scenario framework

# Shared Socioeconomic Pathways (SSPs)





# RCP-SSP combinations provide climate and forest harvest demand

	SSP1	SSP2	SSP3	SSP4	SSP5
RCP2.6	ISIMIP2b	ISIMIP3b	UNECE/FSOS	UNECE/FSOS	ISIMIP2b
RCP4.5	UNECE/FSOS	UNECE/FSOS	UNECE/FSOS	UNECE/FSOS	UNECE/FSOS
RCP6.0	UNECE/FSOS	ISIMIP3b	UNECE/FSOS	UNECE/FSOS	UNECE/FSOS
RCP8.5	Not compatible	Not compatible	Not compatible	Not compatible	ISIMIP2b

ISIMIP2b

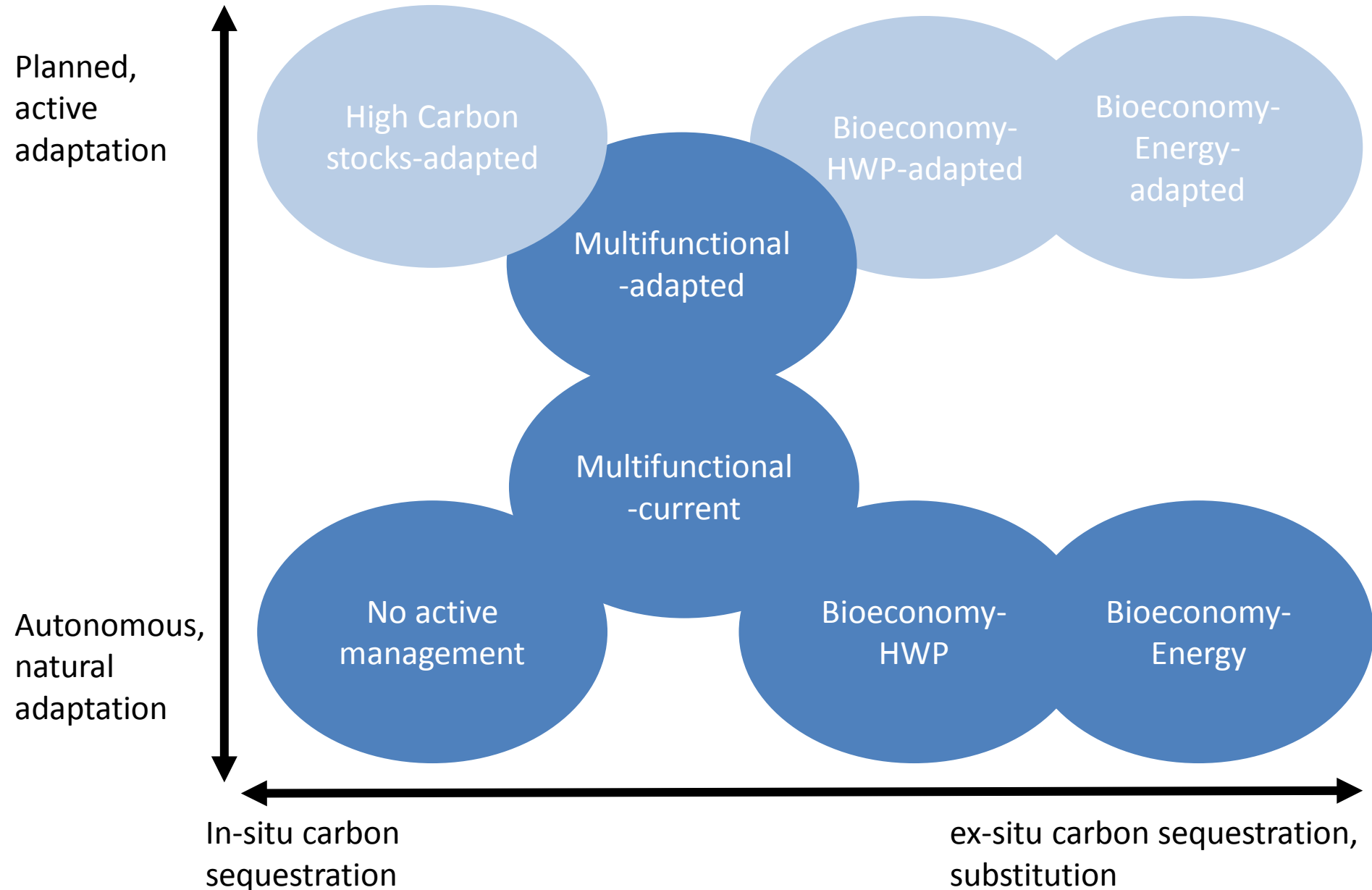
ISIMIP3b

UNECE/FSOS

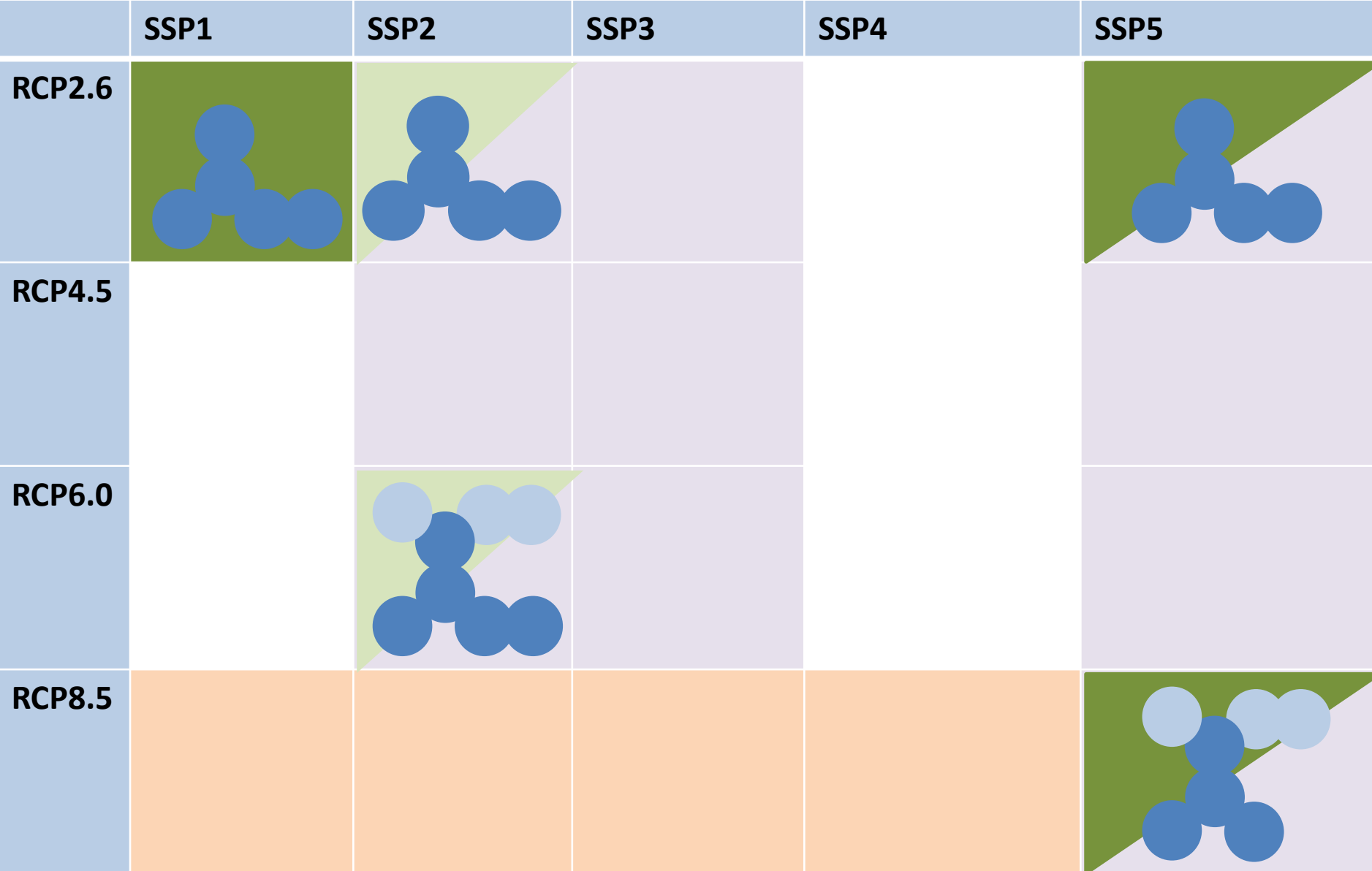
Not compatible

Not covered

# Forest mitigation and adaptation space provides context within each RCP-SSP combination



# RCP-SSP combinations + forest mitigation and adaptation space



ISIMIP2b

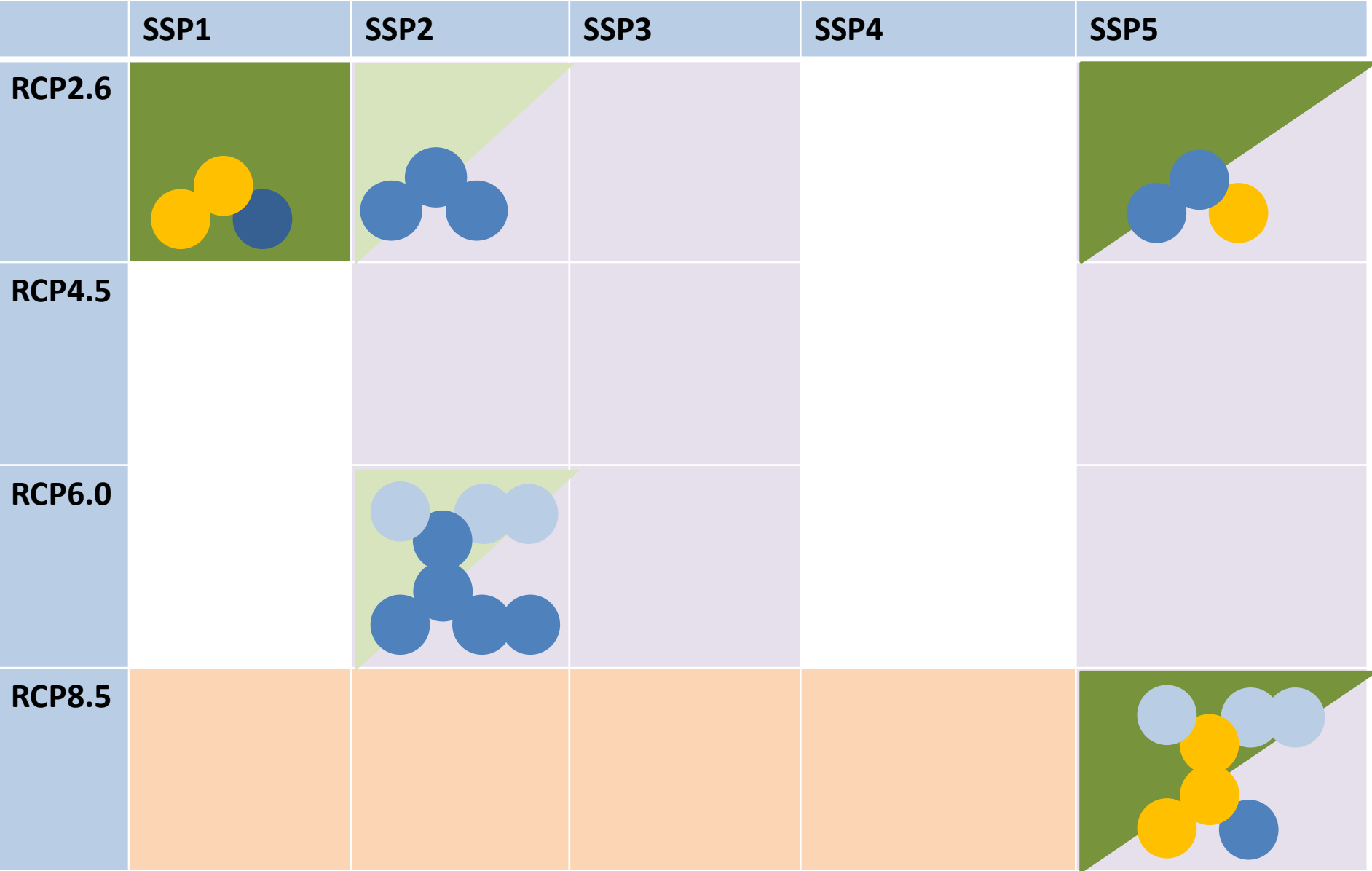
ISIMIP3b

UNECE/FSOS

Not compatible

Not covered

# RCP-SSP combinations + forest mitigation and adaptation space (hyytiäl)



ISIMIP2b

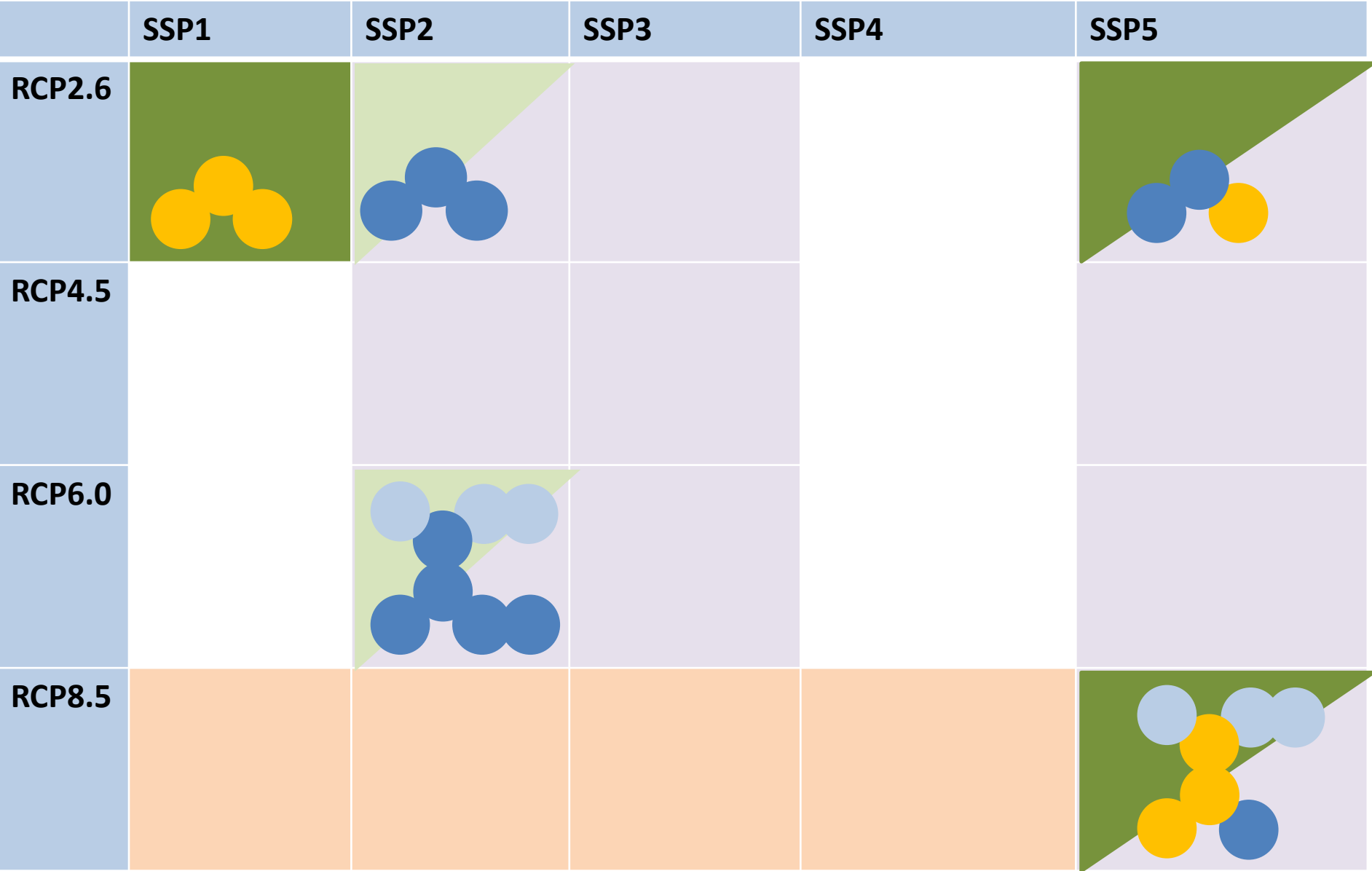
ISIMIP3b

UNECE/FSOS

Not compatible

Not covered

# RCP-SSP combinations + forest mitigation and adaptation space (solling)



ISIMIP2b

ISIMIP3b

UNECE/FSOS

Not compatible

Not covered



Substrate System	Species	growth type (fall-stem, only stem, branches...)	Thinning Type	Intensity	Root Length	Thinning frequency	replant? not veg.	planting / Pisy in. sketching class 2y	Disturbance / Mowings
average Pisy	Pisy	stem	T. below / above stem	High - 80 Final Stand % BA red	50	Final Stand 20-20-20	replant Pisy	2000 (keep 1500)	
"	"	stem + branches	T. below (leaves, pulp)	+	60	20	"	2500	
"	"	stem	stem, below, above stem	-	120	20-20-20 20-20-20	replant + hold veg. Pisy	2500 or less	
5 Pisy	17	"	below, below, above?	as 3-4 replant	80	20-40-60	↓	2000	

# FORMASAM reporting

# Deliverables

- **Deliverable (D1):** Discussion notes from meetings (→ **break-out group notes!**)
- **Deliverable (D2, D3):** management scenarios (→ **Contribute!**)
- **Deliverable (D4, D6, D8):** An analysis of strengths and weaknesses of current forest stand, landscape and EU models for simulating management in Europe's forests (→ **Done!**)
- **Deliverable (D5, D7, D9):** Model protocol including future forest management scenarios (→ **this and next meeting!**)

→ First report due on 30<sup>th</sup> of April 2019

# Financial Reporting

ENF\_financial\_report.xlsx - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Add-Ins Acrobat

Clipboard Font Alignment Number Styles Cells Editing

A2 Please enter the actual costs of the 1st reporting period

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Please enter the actual costs of the 1st reporting period													
2	Please enter the actual costs of the 1st reporting period													
3														
4														
5	PARTNER	COORDINATION	Enter only other than personnel costs				Total other costs	Personnel costs	Total actual costs of the 1st RP					
6	#Acronym (Coordinator)	- €	TRAVEL	EVENTS	GRANTS	DISSEMINATION	- €	- €	- €					
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budget 1st period 2nd period

Ready 100%

When	What	Who
<b>Wednesday 27-03-2019</b>		
8:30	Registration	
9:00	Official Opening	B. Reineking
9:05	Introduction to the meeting & summary from kick-off meeting	C. Reyer
9:30	External Keynote: Linking global development goals and forest management alternatives - the GLOBIOM approach	F. di Fulvio (IIASA)
10:15	Coffee break	
10:45	Presentation of GFPM results for different SSPs	MJ Schelhaas
11:15	Discussion/refreshing of Scenario approach	all
12:00	Lunch	
13:00	Field Trip highlighting local management challenges in mountain forests (there might be snow - hiking shoes, sunscreen and sunglasses required)	all
20:00	Joint networking dinner organised by IRSTEA	



**Thursday 28-03-2019**

9:00	Tree size inequality and productivity of forests	T. Cordonnier
9:25	Demographic changes of tree species at their edges, a trait-based analysis	G. Kunstler
9:45	Organisation of the break-out groups, tasks and discussion	all
10:15	Coffee break plus poster session	
10:45	Break-out groups TG1-4 (reporting sheets for <a href="#">TG1</a> , <a href="#">TG2</a> , <a href="#">TG3</a> , <a href="#">TG4</a> )	Task Groups
12:30	Lunch	
13:30	Break-out groups continued (reporting sheets for <a href="#">TG1</a> , <a href="#">TG2</a> , <a href="#">TG3</a> , <a href="#">TG4</a> )	Task Groups
15:00	Coffee break plus poster session	
15:30	Break-out groups continued (reporting sheets for <a href="#">TG1</a> , <a href="#">TG2</a> , <a href="#">TG3</a> , <a href="#">TG4</a> )	Task Groups
16:30	Plenary and reporting from break-out groups, official closing	all
17:00	End of main meeting	

**Friday 29-03-2019**

9:00	ISIMIP/FORMASAM stand-scale modellers meeting	ISIMIP members
14:00	End of meeting	<b>Who?</b>

# Organisations of group work

- Report in google docs
- Landscape group all happy?
- MJ to join EU group after some time?
- Stand modellers → Christopher will help
- Scenario group: write up storylines? Graphical visualisation of framework? Product/paper?

## Since Wageningen

- Scenario matrix ready
- FORMIT management sceanrios published
- Forest demand Scenarios from GFTM available

# Closing

- **Summary from break-out groups**
- **Send pictures**
- **Next meeting in Zvolen on 18-20 of September 2019**
- **Final meeting in Potsdam in early 2020**
- **Get ready for reporting**
- **(Interested to get involved into the FSOS study?) → process**
- **ISIMIP workshop in Paris**
- **Next steps?**