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		Trajectory Research cycle	
		seneral Phi Meth Meteo Theory othesis Exp. knalysis	
	<b>\Q</b> ,	General hi personal Phi Meth Meteo Theory Hypothesis Exp. Analysis	orion
\e	Submodule Unit	Hyp Con	
Module	Subme Unit	Phi Co	Title Descri
6	5 0		Introduction to the course
0			Introduction to the course
1			Know they tools
1			Program
1		x x x x	Introduction + learning objectives
1		x	
1			Context and theory  Mixed layer budget equations intro
		X X	Research methods used in meteorology
1 1	_	X X	Mixed layer budget equations and boundary layer height
		X X	
1			Hypothesis  Percental question to quide your first experiment
1		x x	Research question to guide your first experiment
1			Experiment and analysis
1		X X	Relation to the research question
1	_	x x	Setup of the experiment
1		x x	Analysis of the experiments
1	_	x x x	Cycling between experiment and analysis
1	_	x x	Modified sensitivity experiment
1		x x	Analysis of the modified experiment
1		x x	Optional sensitivity experiments
1		x x	Observations needed fot model validation
1		x x	Setup of the experiment
1		x x	Analysis of the experiments
1		x x x	Modifications to model setup based on observations
1			Conclusion
1			Synthesis
2			Everything has a cause
2			Program
2		x x x x	Introduction + learning objectives
2	2.2 2.2.3	x x	How are clouds formed?
2	2.2 2.2.4	x x	The effect of surface sensible heat flux and initial temperature jump on
2	2.3		Hypothesis

2	2.3 2.3.2		х	х		What causes deepening of the boundary layer: a complete reasoning chain
2	2.3 2.3.3		Х	Х		The research question directs our research in this module
2	2.4					, ,
2	2.4 2.4.2		Χ	Х		Range of models used in the field meteorology and the place of CLASS in this landscape
2	2.4 2.4.3		Χ	Х		Observations needed fot model validation
2	2.4 2.4.3		Χ	Х		Setup of the validation experiment
2	2.4 2.4.3		Χ		Х	Analysis of the model validation
2	2.4 2.4.3		Χ		Х	Modifications to model setup based on observations
2	2.4 2.4.4		Χ	Х		Motivation of sensitivity experiment based on research question
2	2.4 2.4.4		Χ	Х		Setup of sensitivity experiments
2	2.4 2.4.4		Х		Х	Analsysis of sensitivity experiments
2	2.5					Conclusions
2	2.6					Synthesis
3						Trust, verify, falsify
3	3.1					· ·
3	3.1 3.1.1	x x x	Х			Program and learning objectives
3	3.2					Theory
3	3.2 3.2.4		х х			Feedback loops in the climate system
3	3.3					•
3	3.3 3.3.2		Х	Х		Research questions related to soil moisture effect
3	3.4					,
3	3.4 3.4.2		Χ	Х		Uncertainty in climate simulations
3	3.4 3.4.3		Χ	Х		Observations needed fot model validation
3	3.4 3.4.3		Χ	Х		Setup your own model validation experiment
3	3.4 3.4.3		Χ		Х	Analysis of the model validation
3	3.4 3.4.3		Χ	Х	X	Modifications to model setup based on observations
3	3.4 3.4.4		Х	Х		Motivation for the sensitivity experiment
3	3.4 3.4.4		Χ	Х		Setup the sensitivity experiment
3	3.4 3.4.4		Х		Х	Analyze the results of the sensitivity experiment
3	3.5					Conclusions
3	3.6					Synthesis
4						Coloritation (198), cook to an about (1881), and a colorions
4	4.1					
4	4.1 4.1.1	x x x	Х			Program and learning objectives
4	4.2					•
4	4.2 4.2.3		х х			Uptake of CO2 by vegetation
4	4.3					Hypothesis

4         4.3.4.3.2         x         x         Experiments and analysis           4         4.4.4.3         x         x         X           4         4.4.4.4.3         x         x         x           4         4.4.4.4.3         x         x         x           4         4.4.4.3.3         x         x         x           4         4.4.4.4.3         x         x         x           4         4.4.4.4.4         x         x         x           4         4.5         .         .         .           5         5.1         .         .         .         .           4         4.5         . </th <th>4</th> <th>4.3 4.3.2</th> <th></th> <th></th> <th></th> <th>Х</th> <th></th> <th>Х</th> <th></th> <th></th> <th></th> <th>The ultimate research question</th>	4	4.3 4.3.2				Х		Х				The ultimate research question
4	4	4.3 4.3.2				Х		Х				Formulate your hypothesis
4       4.4. 4.4.3       x       x       Setup your own model validation experiment         4       4.4. 4.4.3       x       x       X       Analyse your own sensitivity experiment         4       4.4. 4.4.4       x       x       x       Context of the experiments         4       4.4. 4.4.4       x       x       X       Analysis of the experiments - warmer climate         4       4.4. 4.4.4       x       x       x       Analysis of the experiments - warmer climate         4       4.4. 4.4.4       x       x       x       Analysis of the experiments - increased CO2         4       4.4. 4.4.4       x       x       x       Setup of the experiments - increased CO2         4       4.4. 4.4.4       x       x       x       Setup of the experiments - increased CO2         4       4.4. 4.4.4       x       x       x       Setup of the experiments - increased CO2         4       4.5       x       x       South analysis of the experiments - increased CO2         5       5.1       x       x       x       South analysis of the experiments - increased CO2         6       5.1       x       x       x       X       X       X         8       5.2	4	4.4										Experiments and analysis
4 4.4 4.4.3	4	4.4 4.4.3				Х			Х			Context of this validation
4       4.4.4.4.3       x       x       x       x       x       x       x       Context of the experiments         4       4.4.4.4.4       x       x       x       Setup of the experiments - warmer climate         4       4.4.4.4.4       x       x       x       Setup of the experiments - warmer climate         4       4.4.4.4.4       x       x       x       Setup of the experiments - increased CO2         4       4.4.4.4.4       x       x       x       Setup and analysis of experiments - C3 vs C4 plants         4       4.5       x       x       x       Southesis         5       -	4	4.4 4.4.3				Х			Х			Setup your own model validation experiment
4	4	4.4 4.4.3				Х				Χ		Analyse your own sensitivity experiment
4 4.4 4.4.4	4	4.4 4.4.3				Х			Х	Χ		Feedback on your sensitivity experiment
4	4	4.4 4.4.4				Х			Х			Context of the experiments
4 4.4 4.4 4	4	4.4 4.4.4				Х			Х			Setup of the experiments - warmer climate
4	4	4.4 4.4.4				Х				Х		Analysis of the experiments - warmer climate
4       4.4.4.4.4       x       x       x       x       Setup and analysis of experiments - C3 vs C4 plants         4       4.5       . <t< td=""><td>4</td><td>4.4 4.4.4</td><td></td><td></td><td></td><td>Х</td><td></td><td></td><td>Х</td><td></td><td></td><td>Setup of the experiments - increased CO2</td></t<>	4	4.4 4.4.4				Х			Х			Setup of the experiments - increased CO2
4 4.5	4	4.4 4.4.4				Х				Х		Analysis of the experiments - increased CO2
4 4.6	4	4.4 4.4.4				х			х	Х		Setup and analysis of experiments - C3 vs C4 plants
5	4	4.5										Conclusions
5 5.1	4	4.6										Synthesis
5 5.2	5				-	-	-	-	-	-		To plan or not to plan
5 5.2 5.2.1	5	5.1										Program
5       5.2       5.2.2       x </td <td>5</td> <td>5.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Writing your proposal</td>	5	5.2										Writing your proposal
5       5.3	5	5.2 5.2.1			Х	Х	Х	Х	Х			Formulate your research motivation, research question and method; consult with your peers
5       5.3       6.2	5	5.2 5.2.2			Х	Х	Х	Х	Х			Write your proposal
5       5.3       5.3.2       x </td <td>5</td> <td>5.3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Receiving feedback</td>	5	5.3										Receiving feedback
6	5	5.3 5.3.1			Х	Х	Х	Х	Х			Receive and provide feedback
6 6.1	5	5.3 5.3.2			Х	Х	Х	Х	Х			Finalize your proposal and hand it in
6 6.2	6				-	-	-	-	-	-		The proof of the puddin
6 6.2 6.2.2	6	6.1										Program
6 6.2 6.2.3	6	6.2										Performing your research
6 6.3 Receiving feedback 6 6.3 6.3.1 x x x x x x x x x Receive and provide feedback	6	6.2 6.2.2	2	х х	X	Х	Х	Х	Х	Х	х х	Perform your research project
6 6.3 6.3.1 x x x x x x x x Receive and provide feedback	6	6.2 6.2.3			Х	Х	Х	Х	Х	Х	х х	Write your research report
·	6	6.3										Receiving feedback
6 6.3 6.3.2 x x x x x x x x x x x Finalize your report, including appendices on methodology and your checklist; and hand it in	6	6.3 6.3.1			Х	Х	Х	Х	Х	Х	х х	Receive and provide feedback
	6	6.3 6.3.2		х х	Х	Х	Х	Х	Х	Х	х х	Finalize your report, including appendices on methodology and your checklist; and hand it in