Dear Referee 1

The authors thank you for the constructive and useful comments and for your valuable time spent reviewing our manuscript “Can riparian vegetation shade mitigate the expected rise in stream temperatures during heat waves in a pre-alpine river?” by H. Trimmel, P. Weihs, H. Formayer, D. Leidinger and G. Kalny. You have been addressing many issues to greatly improve readability of the manuscript.

Below we address all your general and specific comments.

General remarks

No.	Comment	Response
1+2	In general, this paper was difficult to read and review because it lacked focus and clear explanation of the research actually carried out. The objectives of the study were not clearly presented;	We agree that a more precise delimitation to other studies and a clear overview of this study would greatly facilitate readability. The aim and scope of this study were summed up at the end of the Introduction Pg.4, line 16-24, but this section will be enlarged and clarified. We propose following alternative formulation (as already posted within our second short comment): “During the project BIO_CLIC vegetation cover and river morphology was recorded continuously along the river, stream temperatures were recorded at 11 sites as well as main tributaries of the eastern Austrian river Pinka (Holzapfel and Rauch 2015, Holzapfel et al. 2015). This data was used to setup and validate the 1D energy balance and hydraulic model Heat Source (Boyd and Kasper 2003) for the river Pinka. Further Heat Source was used to analyse the mean influence of different meteorological, hydrological and shading parameters during heat wave conditions along a 22.5 km long uniform reach. Existing vegetation was found to be responsible for 4 times as much influence on temperatures as topographic or bank shade on average (1.68°C). This was reported during a different article by Trimmel et al. 2016. The aim of the present article is (1) to estimate the magnitude of stream temperature rise during extreme heat events caused by the expected rise in air temperature until the end of this century compared to the last observed period and (2) to investigate the ability of riparian vegetation to mitigate the expected water temperature rise. In the present article stream temperature was simulated with the 1D energy balance and hydraulic model Heat Source (Boyd and Kasper 2003) for 49km along a diverse section including upstream forested regions and tributaries for each 500m along the river, which amounts to a total of 103 sites. First the longitudinal changes of energy fluxes were analysed during the maximum heat wave, which took place in eastern Austria during summer 2013. Future heat wave episodes, which are likely to occur during the climate periods 2016-2045, 2036-1065 and 2071-2100 in the study region, were selected. Regional climate scenarios, which have been produced within the ENSEMBLE project (Hewitt et al. 2004) were further processed and the meteorological data extracted. The future upstream model water temperature was simulated according the methodology of Caissie et al. (2001). Heat Source was used to simulate the stream temperature of the river Pinka for 12 future episodes and three vegetation scenarios."

		Boyd, M. and Kasper, B.: Analytical methods for dynamic open channel heat and mass transfer: Methodology for heat source model Version 7.0, available at: http://www.deq.state.or.us/wg/TMDLs/tools.htm, 2003. Caissie, D., Nassir, E.-J and Mysore, G. S.: Modelling of maximum daily water temperatures in a small stream using air temperatures, J. Hydology, 251, 14–28, 2001. Hewitt, C. D. and D. J. Griggs, 2004: Ensembles-based Predictions of Climate Changes and their Impacts. Eos, 85, p566 Holzapfel, G. and Rauch H.P.: Der Einfluss der Ufervegetation auf die Wassertemperatur der Lafnitz und Pinka, Mitteilungsblatt für die Mitglieder des Vereins für Ingenieurbiologie, Ingenieurbiologie: Neue Entwicklungen an Fließgewässern, Hängen und Böschungen, 1/2015, 4–10, 2015. Holzapfel, G., Rauch, H.P., Weihs, P. and Trimmel H.: The interrelationship of riparian vegetation and water temperature demonstrated with field data measurements and analysis of the rivers Pinka and Lafnitz, in: Geophysical Research Abstracts, 17, EGU General Assembly, Vienna, 12–17 April 2015, 11653–11653, 2015. Trimmel, H., Gangneux, C., Kalny, G. and Weihs P.: Application of the model 'Heat Source' to assess the influence of meteorological components on stream temperature and simulation accuracy under heat wave conditions, Meteorol. Z. 25/4, PrePub doi:10.1127/metz/2016/0695, 2016.
3	this was a climate change type study (and the title should have reflected this)	The formulation "expected rise in stream temperature" was chosen in the title and considered to point out that this study is coping with climate change. To make it clearer the title will be extended to: "Can riparian vegetation mitigate the expected rise in stream temperature due to climate change during heat waves in a pre-alpine river?"
4	A lot of results and discussion material focused around a model which was not described within the present study. As such, this aspect was not evaluated. Nevertheless, authors presented R2, RMSE and model uncertainties, etc., which was somewhat confusing to the reviewer.	The authors agree that the methods section is not well organized and difficult to follow. We suggest so include several subheadings and restructure some paragraphs to make it easier to read. We will take great care, that all aspects necessary to understand the results and discussion, if not mentioned yet will be included. An exhaustive description of Heat Source cannot be given though, because this is not the scope of the article. A short description will be included in the Introduction as well (→ see Response to general remarks, comment #1+2).
5	The heat fluxes presented in this study were all positive, (section 3.1) which is clearly not the case in reality (not sure how authors could model river temperatures with such fluxes)	On this issue we responded within our first short comment: "In this figure the latent, sensible, short- and long wave energy flux averaged over the heat wave episode 4-8. August 2013 are shown. Extreme heat events as treated in this study are outlined by high minimum and maximum air temperatures. High minimum air temperatures limit radiative cooling at night, also higher air temperatures increase the sensible heat flux from the atmosphere towards the river. Under these extreme conditions long wave radiation and sensible heat flux became positive on average. Evaporation was the only energy flux, which was negative on average. The intention of Figure 2B was to better compare the magnitude of the negative latent heat flux with the magnitude of the short wave radiation balance, the magnitude of the other energy fluxes and the view to sky. This is why the latent energy flux was multiplied with (-1) and a minus sign added in the legend. In the text the term "input" and "output" was used to indicate the positive or negative direction of the energy flux. The authors however understand that this representation of the energy fluxes is misleading and will clarify this aspect."

6	The result section was difficult to follow, as authors presented both results from the present study and results from Trimmel et al. (2016). The text was almost presented as a part 2 of that paper, so reviewer was not always able to follow in the results presented were from this study or from the previous study.	Trimmel et al. (2016) was never cited within the Results (Section 3). Section 4 (starting at Pg 11. line 12-32) is a separate section treating the uncertainties of the results (which are the predicted stream temperatures) and was not intended to be a results section. We consider the issue of uncertainties important, because we aimed to forecast the water temperature as precise as possible. We didn't want to include it in the Discussion section itself, because it should help to better discuss the results. Seemingly this was misleading therefore this part will be shortened and integrated into the Introduction and Discussion.
7	The results section also contained discussion material, and then separate discussion section was also presented.	We agree that on Pg. 9 line 30 and 32 two explanatory sentences should be moved to the Discussion. Some sentences in Section 3.1 may read like a discussion, but they actually are descriptions of the facts visible in Figure 2. Figure 2 should be referenced more often in Section 3.1 In Section 3.1 three sentences were found on Pg 9, line 20-25 which could be moved to the Discussion. They were placed there intentionally, because as the reviewer stated, it is quite uncommon to see both the sensible as the long wave heat flux becomes positive. The authors considered it necessary to explain this phenomena directly next to results. If other reviewers also object this, than this part can be moved to the discussion. The same applies to Pg 11. line 5-8 in Section 3.3 were Figure 4 is explained.
8	Finally, the reviewer is not sure of the scientific novel contribution which this present brings	We agree that a clear presentation of the scientific novelty would enhance the article. We propose to insert following paragraph at Pg. 4, line 16 (as already posted within our second short comment): “Many studies have already addressed the influence of riparian vegetation on stream water temperature using field measurements. Other studies cope with different methods to predict stream temperature and few try to answer the question on how climate change might increase stream water temperature. Mainly air temperature is used as a surrogate for stream temperature and energy flux variations at different river sections are not considered. One result or trend may however not be transferred from one river to other. Statements of the riparian vegetation’s potential to mitigate influence of climate change are only reliably valid for a given type of stream and for a given climate zone. The novel aspect of the present study is to investigate the influence of climate change and of riparian vegetation on the same river and attempt to make a realistic forecast of the riparian vegetation’s potential to mitigate climate change in a specific river.”

Specific comments:

No.	Comment	Response
9	Pg. 1, line 13-14: “and turbulent energy fluxes analysed”. Not clear, something is missing here.	Referee 1 is correct, here is one word missing. It should be “and turbulent energy fluxes **are** analysed”
10	Pg. 1, line 14: “Minor stream water temperature increases are modelled	This will be corrected.

	within". Authors are presenting result in the present tense; it should be in the past tense. This applies throughout the document.	
11	Pg. 1, line 14-15: "Minor stream water temperature increases are modelled within the first half of the century, but a more significant increase is predicted for the period 2071–2100". Sentence which is not saying anything, please be more specific.	Alternative formulation - joint with the subsequent sentence on Pg 1. line 15: "Stream water temperature increases of less than 1.5°C were modelled within the first half of the century. For the period 2071-2100 a more significant increase of around 3°C in maximum, mean and minimum stream temperatures was predicted for a 20 year return period heat event."
12	Pg. 1, line 16: "to be in the region of 3 °C". In the range of 3 °C?	Yes
13	Pg. 1, line 16: "Additional riparian vegetation". Not clear how this will be accomplished, regrowth, re-vegetation, etc., please clarify.	In the present study it was not relevant whether riparian vegetation regrows or is planted. The aim was to predict the effect of a potential vegetation cover, which is not present now, but can possibly be accomplished.
14	Pg. 2, line 4: "riparian ecosystems play a superior role in climate change". Riparian ecosystem plays a superior role in climate change to what?	We agree, that the statement is vague. Alternative formulation to "Above that riparian ecosystem play a superior role in climate change adaptation in the 21st century": "Above that riparian ecosystems play a superior role in **determining the vulnerability of natural and human systems to** climate change in the 21st century (Capon et al. 2013)."
15	Pg. 2, line 11: "21st century are nearly certain". Not sure about this level of certainty.	Alternative formulation: "... increases of 3.5°C by the end of the 21st century **are expected in Austria (APCC 2014,** Gobiet et al. 2014)." "is expected" is the formulation used by Gobiet et al. (2014) and APCC (2014, p.84 - Figure 1.10).
16	Pg. 2, line 19: "winter half-year". Not sure about the meaning of this term winter half-year, please clarify.	In this context the winter half-year was defined as the period 1 October to 31 March. The full sentence in the manuscript is "The decrease has been observed in summer and winter half-year (Böhm et al. 2009, 2012)" though. Our suggestion is to simplify it to "summer and winter", and omit the term "half-year".
17	Pg. 2, line 23: "Long term increases of wind speeds or storm activity cannot be detected." Not clear.	Alternative formulation: "Various studies indicate that from observations no long term increase of wind speed or storm activity can be detected in Europe (e.g. Matulla et al. 2008). For the alpine region also no clear signs of increasing wind speed or extremes are projected for the future (Beniston et al. 2007)." Beniston, M., Stephenson, D.B., Christensen, O.B., Ferro, C.A.T., Frei, C., Goyette, S., Halsnaes, K., Holt, T., Jylhä, K., Koffi, B., Palutikof, J., Schöll, R., Semmler, T., Woth, K., 2007. Future extreme events in European climate: an exploration of regional climate model projections. Climatic Change 81, 71-95. doi:10.1007/s10584-006-9226-z Matulla, C., Schöner, W., Alexandersson, H., Storch, H., Wang, X.L., 2008. European storminess: late nineteenth century to present.

		Climate Dynamics, 133-144. doi:10.1007/s00382-007-0333-y
18	Pg. 2, line 26: “dominant energy input causing diurnal fluctuations”. Energy inputs are contributing to both diel and seasonal water temperature variability.	We agree, this is a good complement of the sentence.
19	Pg. 3, line 1: “Since 1980 Austrian river temperatures have increased on average by 1.5 °C during”. Here I would be more specific, one, XX or all Austrian rivers.	Alternative formulation: “Since 1980 **all Austrian river measuring points recorded an increase of stream temperature. Averaged this amounted to an increase of** 1.5 °C during ... (APCC 2014 p. 417, BMLFUW 2011).”
20	Pg. 3, line 6: “affect discharge volume and velocity”. I would delete velocity, as it is implied.	We agree.
21	Pg. 3, line 10-12: The information related to changes in sediment transport and climate change is not important, unless authors are implying that is has an impact on water temperatures, and clearly this study is not addressing this.	We do imply, that sediment transport changes impact water temperature, because they might alter bed conduction flow and flow velocity. Both parameters affect stream water temperature. We consider it important to list all influencing factors, even if this study was not taking into account all aspect in our calculations. Alternative formulation: “Sediment changes might alter the bed conduction flow as well as flow velocity, **which can influence the magnitude and variability of stream temperature**. **In this article the focus was on only on the increase in air temperature caused by climate change**.“
22	Pg. 3, line 33: “microthermal gradients in the river profile”. Not clear.	Alternative formulation: “Apart from its influence on average stream temperature vegetation shade produces **highly spatial variable shade, which results in areas of different sun exposure and energy fluxes. These heterogeneity provides ecological niches which are important for different development stages of river fauna** (Clark et al. 1999).”
23	Pg. 4, line 16-24: Too many vague statements within this paragraph. Be more specific, how many sites within the Pinka River, which regional climate scenarios?	→ see response to general remarks, comment #1+2
24	Pg. 4, line 26-32: No need to describe the upcoming sections. Delete this whole section.	We thought this was requested by the journal within the “manuscript composition” guideline, but it can be removed.
25	Pg. 5, line 9-10: “In this region the highest temperature increases and the largest precipitation reductions in Austria have been observed (Böhm et al. 2009).” Be more specific, by how much?	Alternative formulation: “**Since 1880** in this region air temperature **rose by 2°C. Precipitation was reduced in the HISTAP region corresponding to our study region** by 10-15%, which is the largest reduction in precipitation in Austria (Auer et al. 2007, Böhm et al. 2009, Böhm et al. 2012).” Auer, I., Böhm, R., Jurkovic, A., Lipa, W., Orlik, A., Potzmann, R., Schöner, W., Ungersböck, M., Matulla, C., Briffa, K., Jones, P., Efthymiadis, D., Brunetti, M., Nanni, T., Maugeri, M., Mercalli, L., Mestre, O., Moisselin, J.-M., Begert, M., Müller-Westermeier, G., Kveton, V., Bochnicek, O., Stastny, P., Lapin, M., Szalai, S.,

		Szentimrey, T., Cegnar, T., Dolinar, M., Gajic-Capka, M., Zaninovic, K., Majstorovic, Z. and Nieplova, E.,. HISTALP—historical instrumental climatological surface time series of the Greater Alpine Region. International Journal of Climatology 27, 17–46. doi:10.1002/joc.1377, 2007. Böhm, R.: Changes of regional climate variability in central Europe during the past 250 years, The European Physical Journal Plus, 127, doi:10.1140/epjp/i2012-12054-6, 2012. Böhm, R., Auer, I., Schöner, W., Ganekind, M., Gruber, C., Jurkovic, A., Orlik, A. and Ungersböck, M.: Eine neue Webseite mit instrumentellen Qualitäts-Klimadaten für den Grossraum Alpen zurück bis 1760, Wiener Mitteilungen Band 216: Hochwässer: Bemessung, Risikoanalyse und Vorhersage, 2009.
26	Pg. 5, line 30-33: “The average difference in stream temperature between no vegetation and maximum vegetation during the maximum heat wave of 2013 was calculated to be 3.81 ◦ C by Trimmel et al. (2016).”. Here the reviewer is confused, results from the present study are being reported or this analysis has been carried out before, not clear.	We agree. This was originally meant to describe the vegetation scenarios, but the position of the sentence is misleading therefore the sentence should be omitted or moved to the Introduction. → see response to general remarks, comment #1+2
27	Pg. 6, line 1-6: This information does not belong here. This information should have been presented in the introduction or in the discussion section.	We agree. This sentence was meant to describe the study region, but its position is misleading therefore the sentence should be moved to the Introduction. We also suggest to shorten it. → see response to general remarks, comment #1+2
28	Pg. 6, line 7-9: Is this what is new in the present study compared to Trimmel et al. (2016), i.e., studying a reach of 49 km rather 22.5 km?	We agree. This sentence was meant to describe the study region, but its position is misleading therefore the sentence should be moved to the Introduction. → see response to general remarks, comment #1+2
29	Pg. 6, line 27-28: “These comparisons showed a high consistency, so the INCA data set was used”. Vague statement, please be more specific and quantitative.	Alternative formulation: “Since the local permanent meteorological stations of ZAMG were used to produce the gridded INCA data set, they are highly consistent. The comparison of the INCA data with the air temperature measured at our reference station close to the river showed a RMSE of 0.67°C and a R^2 of 0.99 for consecutive hourly measurements during summer half-year 2013 (1 Apr – 30 Sept). So the INCA data set was used as proxy to represent the local meteorological conditions within the catchment.”
30	Pg. 7, line 11: “Stream temperature and flow volume were used as upstream boundary condition.” Authors should use the term discharge or river discharge, rather than flow volume.	We agree. The term “discharge” will be used.
31	Pg. 7, line 17-20: It would be better if authors would have presented root mean square errors (RMSE) rather the R2, or presenting both, as the R2 is not very informative on a model’s performance. Also, not sure about the	We agree, that these two sentences is not very useful. We also have to admit, that there was a typing error regarding the RMSE and deeply apologize for this. Apart from this the periods are confusing. We suggest following alternative formulation including corrected values: “Observed hourly water temperatures (12 537 values) over the

	reported RMSE of 0.08 (◦ C? maybe). If it is an RMSE of 0.08 ◦ C, it does not fit with R2 values of 0.92 to 0.96.	period 7 July 2012 to 9 September 2014 were used to fit the model. The coefficient of determination R^2 between observed and predicted water temperature for this period was 0.96, the RMSE was 0.68 °C. For the summer half-year 2013 (1 Apr – 30 Sept), the R^2 was 0.89, the RMSE was 0.80 °C. “
32	Pg. 7, line 22: “The substrate temperature was initialized with the upstream model boundary temperature”. Not clear about the substrate temperatures, where and at which depth?	Alternative formulation: “Heat Source uses only one substrate temperature, which is representative for the whole sediment layer. The depth of the sediment layer is set to 1m, which is corresponding to the available geological information of the river Pinka. The substrate temperature used in the model is set equal to the stream temperature at the uppermost model point. For each consecutive model point the substrate temperature is calculated depending on the local thermal conductivity, thermal diffusivity, layer depth, hyporheic exchange, the river morphological profile and the received solar radiation at the river bed. “
33	Pg. 7, line 27: “Tributaries are defined by their water temperature and discharge values.” Vague statement. Were they measured and then used in the model?	Alternative formulation: “The discharge and water temperature of **the river Pinka at the upstream model boundary** and the main **tributaries** of the 2013 episode **were measured**. ”
34	Pg. 7, line 28-29: Not exactly clear on what the boundary station means.	Alternative formulation : “The water temperature data of the remaining tributaries and their future values were synthesised using the daily fluctuations of **the water temperature at the upstream model** boundary adding a fixed offset depending on the distance of the inflow to the **upstream model** boundary.” → see Pg. 7, line 11 – 21, response to general remarks, comment #6 and comment #33
35	Pg. 8, line 9-10: Information presented within these two lines and related to the climate change aspect of this study should have been clearly stated in the introduction.	The aim of the study was presented at the end of the Introduction on Pg. 4 line 22-24. But the reviewer is correct, that a restructuring of the end of the Introduction, where the scope of the study is described would greatly improve readability. Alternative formulation: → see response to general remarks, comment #6
36	Pg. 8, line 26-27: “The most important influences of atmospheric energy fluxes and vegetation shade on stream temperatures are depicted in Fig. 2.”. There is an issue with this figure, as three different vegetation scenarios were presented in Figure 2a and only one heat flux scenario is presented in Figure 2b. Also, all heat fluxes presented in Figure 2b are positive, which is not possible. Generally, some fluxes will be positive (incoming shortwave radiation); however, other will be negative (longwave radiation/evaporative flux), while sensible heat, for instance, will be both positive and negative.	The issue regarding the direction of the energy fluxes was responded during our first short comment/the response to the general remarks, comment #5. The caption of the figure could be extended with following text suggestion: “Q_sw, Q_lw and H are directed towards the river column (positive direction), LE is directed from the river column to the atmosphere (negative direction).” Regarding the figure we agree, that the comparison of the energy fluxes of all vegetation scenarios are of interest and suggest to add another figure, which is included below, which shows the energy fluxes in separate subfigures for all three vegetation scenarios (Fig. X1). Especially the change in sensible heat flux and long wave energy flux as a function of the distance to the river's source is very clear in the open sky scenario (V0) and damped by dense vegetation (V100). Another figure showing a variant of Figure 2 including all vegetation scenarios and the latent heat flux in the original

		negative direction in one figure is included below (Fig. X2). The information about the two different evaporation methods is omitted in Fig. X2, which, we have to admit, is less important for the article than the comparison of the vegetation scenarios.
37	Pg. 9, line 1-11: All reported fluxes are positive within this paragraph (see comment above). How can authors have possibly fitted river temperatures, with such fluxes?	In this section we are distinguishing between “input” and “output”. Outputs are always negative, while inputs are positive. But there will be a minus sign added to clarify this. → This issue was responded during our first short comment and in the response to the general remarks, comment #5.
38	Pg. 9, line 13-14: “This leads to a rapid increase in the water temperature of the cool spring water.” Authors do not have the data to support such statement.	We do have measurement data, that fit the simulated data and show the same strong increase in water temperature close to the spring (Figure 2C - the measured data is plotted with an “x”). Alternative formulation: “This lead to a rapid increase in the water temperature of the cool spring water, **which is clearly seen in both measured an simulated data (Figure 2C)**.”
39	Pg. 9, line 32-33: “Future boundary water temperature increases by the end of the century by up to 4.1 °C (Table 2)”. Not clear.	Alternative formulation: “For the water temperature at the upstream model boundary an increases of 4.1°C for a 20 year return event of the 2085 in respect to 2013 was simulated (Table 2).
40	Pg. 10, line 9-10: “The stream temperatures increase from the upstream model boundary at DFS 13 to DFS 62 during the 2013 heat wave event was about 7 °C (Fig. 2).”. Was the water temperature increase due to tributary inflows (with different water temperatures) or due to the surrounding meteorological conditions (most likely tributary inflow)?	The increase was under the assumption of a realistic scenario, including all known parameters (tributaries, realistic vegetation, river gradient and morphology, meteorology,..).
41	Pg. 10, line 14-15: Not sure why water temperature would drop from 25.0 °C to 24.8 °C (middle period) when the climate is warming from 22.4 °C to 22.6 °C.	On Pg. 10, line 14-15 the mean and maximum water temperature of a 20 year return event and all analyzed future climate periods are presented. The corresponding values are found in Table 3. Mean air temperature was rising from 27.2°C to 28.4°C (Table 2). The climate episodes used in this study were selected using air temperature thresholds. As they simulate realistic potential episodes they differ in global radiation, wind speed and humidity (see Table 2). Lesser amount of global radiation sums can lead to lower stream temperature despite higher air temperature. Higher wind speeds triggers increased evaporation which might lead to higher energy output and lower stream temperature despite higher air temperature. This is stated in the discussion already (Pg 12, line 21-24). While mean water temperatures don't react so strong, reduced global radiation and higher wind speeds have a stronger effect on i.e. the maximum stream temperature. The authors agree that the reaction of the maximum stream temperature should be pointed out in the discussion following Pg 12, line 24. i.e. “This was most evident in maximum water temperatures.”
42	Pg. 11, line 5: “additional vegetation	Alternative formulation:

	becomes more distinct in the downstream sections". Not clear about additional vegetation, please clarify.	"Looking at the longitudinal distribution of water temperature along the river it can be seen that for the Pinka the benefit of **additional tree cover maximizing riparian shade** became more distinct in the downstream sections."
43	Pg. 11, line 12-32: This whole section on model uncertainties does not seem to belong in this paper. How can a reviewer assess a model uncertainties when no information was presented on the model?	→ This issue is addressed in the response to general remarks, comment #6
44	Pg. 11, line 30-32: "overhang caused changes in water temperature of +/– 0.40 ◦ C, +0.44 /–0.46 ◦ C and +0.01 /– 0.05 ◦ C respectively". It is at times difficult for the reviewer to understand which data come from the present study or Trimmel et al. (2016). Authors should remember that this section is the results section and most of the information presented here seems to be discussion material.	This section was not intended to be a results section, it is a separate section treating the uncertainties. → This issue is addressed in the response to general remarks, comment #6.
45	Pg. 12, line 12-13: "As the air–water temperature difference – unlike the absolute temperature level – is not expected to increase, no increase in sensible heat flux can be predicted.". Not sure what authors mean, please clarify.	We agree that this formulation is confusing. We suggest to reformulate line 12-15: "Short term influences which act on the daily amplitude of the river's temperature are not expected to change in magnitude, therefore the ability of the vegetation to alter the stream's microclimate and water temperature is likely to remain the same." We suggest to restructure the Discussion section to treat the magnitude of stream temperature rise and vegetation influences in separate subsections.

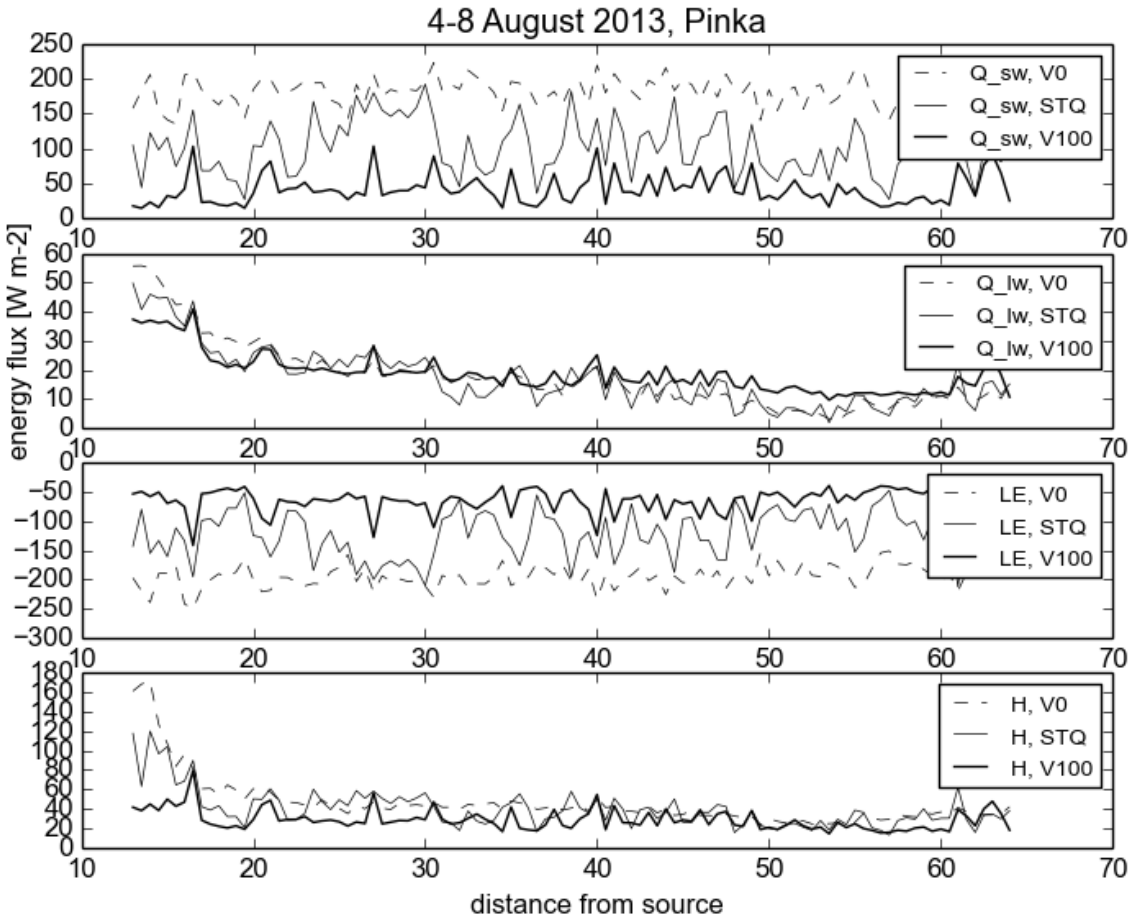

Figure X1: Comparison of short wave (Q_sw), long wave (Q_lw) radiation balance, latent (LW) and sensible (H) heat flux for the 4 – 8 August 2013 along the river Pinka for three vegetation scenarios no vegetation (V0), maximum vegetation(V100) and Status quo (STQ).

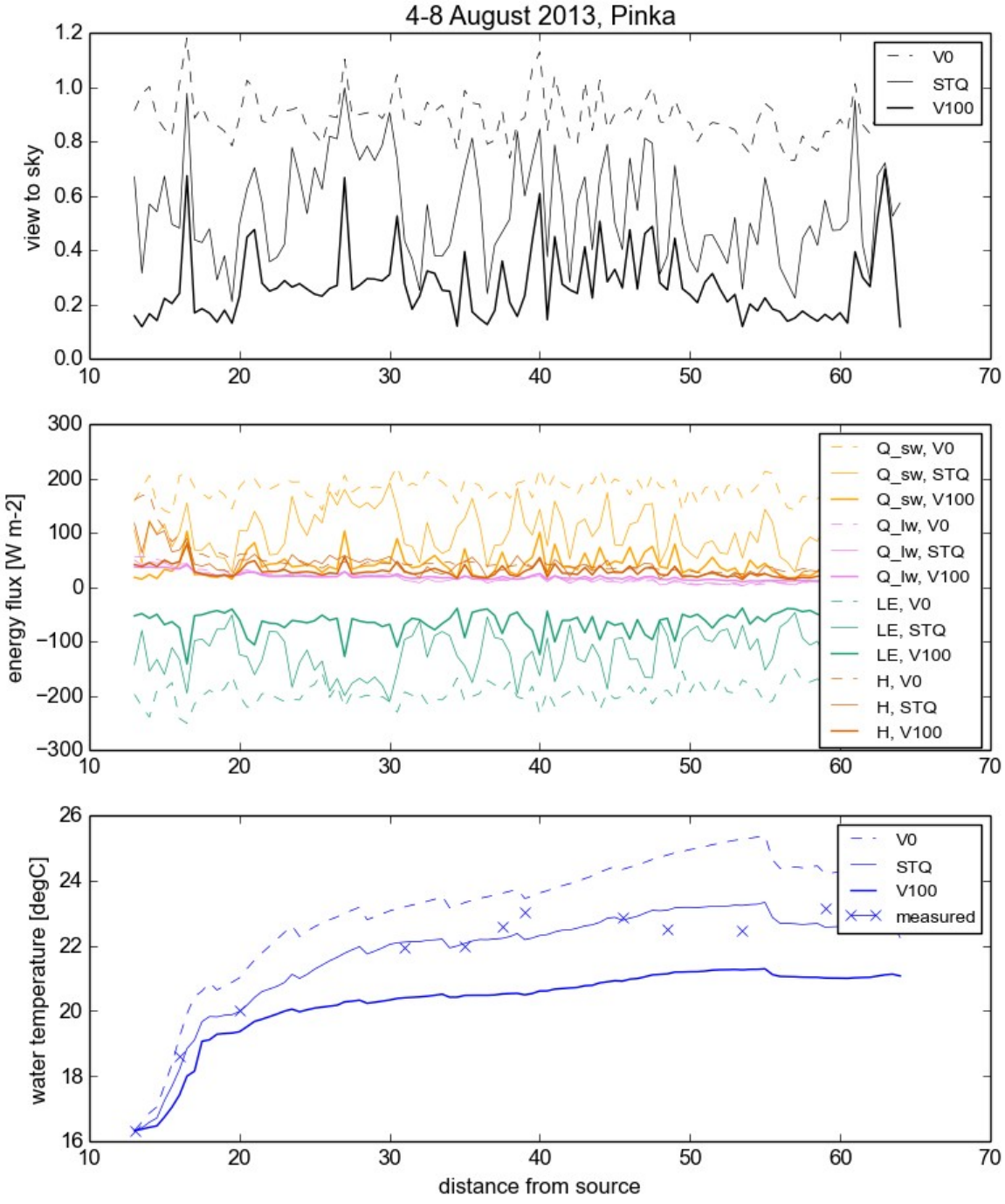

Figure X2 (Variation of Figure 2 including all vegetation scenarios but omitting the information about the two different evaporation calculation methods):
VTS levels, predicted energy fluxes: short wave (Q_sw), long wave (Q_lw) radiation balance, latent heat (LE) and sensible (H) heat flux and water temperature (WT) means for the heat wave episode of 4 - 8 August 2013 for no vegetation (V0), existing vegetation (STQ) and maximum vegetation (V100) scenario.