

Line		Observation
64	Solutions	Do you mean analytical solutions ? I doubt. Accordingly I would say “physically based models”
76	ANN model	What is it ? Acronyms should be defined the first time they are used
83	Such a construction is likely to significantly affect t	Only in case of overtopping, I suppose, but not in case of siphoning.
85	The evaluation of the risk of failure and its consequences relies on testing of a number of the catastrophe scenarios	The risk of failure is not based on the catastrophe scenarios, which is, rather, a consequence of the failure.
87	modelling of ...flood plain flows as well as inundation maps	Inundation maps are not an additional item but are the results of modeling.
89	In channels	Do you mean in narrow valley ? This is true and a clear example is the often cited paper by Pilotti et al, ASCE, 2011. But in general a 2D approach in floodplain is mandatory. So I would cancel the reference to hybrid 1D/2D model.
92	Although 1D models are most used ...	I would delete this phrase as far as line 94 because it contains a repetition and the following is not the state of the art.
99	along with determination	and for the determination
115	a rainfall sum of two days	A cumulated 48-hours rainfall
116	, see Fig. 2	(see Fig. 2).
128-130	There are two stations...	It would be useful to plot the discharge hydrograph at the two stations as far as available
Figure 1		Improve: add numbers indicating Witka river, the Miedzianka river and Lusatian Neisse river which are mentioned in the paper but missing in the Figure Moreover, no indication appears here about the area studied in the 2D modeling, that pops up only in Figure 9
152	This information helps explaining ...	Not clear. Do you mean that the maximum water elevation occurred due to the coincidence of two separate flood waves and in corsepondence of the peak of the dam breach wave ?
Figure 3.		Add major dimensions on the blueprint and dashed lines to show the location of the cross section shown in Fig. 4 and 5
167	The body of the dam was well compacted sand	Only sand with no clay core present ? Is this a common practice or something that deserve some additional comments ?

176	An S-shape plan of the reservoir just upstream the dam (Fig. 1)	How can one see it ? Add in Fig. 1 an enlarged map of the reservoir with the dam position The area in which the reservoir is located is not entirely clear to an audience which does not know a priori the area under investigation. A more detailed or enlarged map of the reservoir is needed to help the reader visualize the local geographical context. Furthermore, in my opinion, since the geometrical characteristics of the reservoir play an important role in the article, it is mandatory to show such properties in a map containing the main dimensions involved.
	caused a low angle of inflow direction to the dam axis. As a result, the water level at the left side was higher several centimetres than on the other side, leading to uneven overflow	Without a better layout description this statement sounds not realistic. What evidence do you have for this ? I guess that the kinetic component in a reservoir is negligible and the radius of curvature very large and, accordingly, the bend superelevation in a curve must be undetectable. Here, as in several other points of the paper, the description is too vague and unprecise for the reader to really understand what process is in action. For sure an enlarged map of the reservoir upstream of the dam is needed.
178	The left dam	Do you mean the left side of the dam ?
179	lighting foundations 180 (additional turbulences)	What is it ? What do you mean ?
188	the earth dam was almost completely swept a	the left side of the earth dam
197	The final width of this breach was 58 m as illustrated by Fig. 8.	From the figure one has not this piece of information. Is it the sum of the left and of the right breach widths ?
Table 1	At 17:42 dam – 40 m on the left side and 30 m on the right	What do you mean ? Is it water submergence in cm ?
226	. The growing width of the breach was interpolated based on the photographs and films made during the catastrophe	These documents should be ordered and made available as additional material.
225	For the dam breaches, first a broad crested weir formul	This part provides the computed discharge. Apart that a steady state equation is used to represent a transient phenomena and that two parallel weirs are in action at the same time, no data (e.g., discharge coefficient....) are provided to really understand how the computation was accomplished . Moreover the evaluation of the breach height

		using the 2D model is badly explained and potentially totally arbitrary.
239	Properly restore	Explain better. What do you mean ?
243	Eq (1),	<p>This mass balance equation is wrong because it disregards storage in the flooded area. In a following part of the paper we are informed that (see line 333) “The influence of valley retention on the flood propagation is remarkable. This retention was of about 20 mln m³, not counting for the Berzdorfer lake.” However, no variation of the stored water volume appears in this equation, where inflow hydrographs equate, at each time step, the output hydrograph.</p> <p>Moreover Eq (1) shows the mass balance introduced to solve “iteratively” the unknowns present in the numerical model. In the following lines only the term $Q_{ND}(t)$ is classified as unknown and the other terms being known by the authors at some time (the discharge into the lake should be computed automatically by MIKE 21 using the floodplain topography), so what exactly is the iterative procedure used in the numerical model is not clear.</p>
265	Since the Lusatian Neisse downstream channel was modeled as an openended reach, the downstream boundary condition was set as a normal depth.	<p>I suppose that the flow is subcritical at this cross section and you have a stage-discharge relationship that was further enriched by a measurement at the peak of the event at Zgorzelec cross-section</p> <p>Why didn't you use the measured stage-discharge curve, $Q(h)$, as a downstream boundary condition in place of a normal depth that could be unjustified ? Actually how can you be sure that you have not any backwater effect from downstream at the Zgorzelec cross-section ?</p>
264	preparation of the roughness raster from the land cover based on aerial photographs;	Detail better. Provide a map with roughness coefficient.
268	proper Courant numbers	What is the proper value in your case ?
285	the real life estimates	Real life ? Do you mean the values computed using the weir equation at line 225 ?
285	The origin of the discrepancies is attributable to specif	Why do you not consider that a major discrepancy arises from the complex layout of the breach in this case ? Actually in your case you have two parallel and independent breaches developing at the same time. I doubt that any of the empirical equation considered makes explicit reference to such a complex situation.
Figure 10		Add dimension beside 2 for the velocity vector. This velocity map is very hardly understandable due to the overlapping of

		the vectors. Please add a second map with color shading for velocity only.
293		The sentence reported is vague and does not provide a complete explanation of the reason of the difference between the left and right embankment in terms of the breach width, which, as stated in the current work, is very important in all the reported calculations. A more precise explanation is needed in my opinion.
315	The solution of the problem is iterative	This is not clear. The problem is not clearly set
320	local scouring needs to be taken into account (local roughness coefficients would be beyond an acceptable range).	These are two separate issues: the fixed bed hypothesis and the uncertainty of the local roughness. What do you mean with this statement ?
322	. Yet, one also needs to bear in mind that high water marks are not absolute values in terms of accuracy, some of them are just indicative	Again, a phrase without a proper explanation. Clearly, any measurement is affected by uncertainty but what do you exactly mean ?
325	high water marks	Is there a plot that compare measurements and modelled water elevations ?
329	the 2D model delivered a close to reality inflow to the Berzdorfer lake	On what basis one can conclude that the inflow is close to reality ?
330	The resulting dam breach hydrograph QN (t) was determined with a peak discharge of 1380 ...at Fig. 11	The Figure is 12 I suppose.
	Figure 12	I do not understand the physical reason of the discharge plateau in the outflowing dam breach hydrograph of Figure 12. If the Witka entering discharge is growing in time and the outflowing discharge is constant, it means that the level in the reservoir is growing. Why the outflowing dam breach hydrograph does not grow with the water level in the reservoir ?

Figure 9:		<p>In the figure there are red marks underneath the names of the locations reported typical of a grammatical check tool, their presence is unessential. Furthermore the schematics provided is very helpful in understanding the domain in which the numerical method is applied, but the lack of a geographical counterpart of the same scheme (a map with all the locations highlighted) damages the understanding of the spatial dimensions involved in the simulation. As previously noted, a map is required to help the reader to orient himself in the various locations described in the current work.</p>
Figure 12		<p>Colors used to depict the two hydrographs are too similar and generate confusion</p>

Line		Observation regarding questionable use of words
16	In the twenty-first century,	Do you mean "in the twentieth century"
19	Ageing	Aging is better, as at line 23
33	extend	extent
35	Very high	Do you mean "fast " ?
37	respective	on
38	development	evolution
44	Upon this...	Reword more properly
48	Estimated parameters	Not clear: do you mean "uncertain parameters" ?
50		the breach height, width, and side slope ratio
53	Accurate,	Delete comma
55	Dam forming material	dam, simply
59	and found out that the DLBreach model was found to be the most accurate	and found out that the DLBreach model was the most accurate

67	Fundamental for the determination of the outflow hydrograph is the breaching time	the breaching time is fundamental ... and then “which” used twice. Reword the phrase
72	the breach deformation time	“Chinnarasri et al. (2004) ...”; deformation ???
85	catastrop	catastroph ic scenarios in ...”
99	Finally, a two-dimensional (2D) hydrodynamic model ...	Reword the whole phrase
103	Cartographic Information	Description of the study area
108	was that of 183 hectares	was 183 hectares
109	significant head water slopes	???
121	appearance	occurrence
134	To discussion	significant uncertainty because a direct reliable estimation ...
135	In addition, the topography makes it more difficult due to	What do you mean ? reword this phrase
146	threes	trees
189	begn	The overtopping of the right dam beg a n approximately ..
....		
355	an reversed	An inverse ? a reverse ?