

# Video abstracts and video supplements to scientific articles – experiences from Copernicus Publications

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**Abstract.** Besides data sets, model code, and other underlying material, authors may also produce scientific videos relating to their articles. Outlets such as YouTube do not seem to be appropriate locations to host such scientific video supplements or video abstracts due to a lack of reliable long-term preservation and licensing. Therefore, Copernicus Publications and the TIB|AV-Portal of the National Library of Science and Technology (TIB) partnered to provide authors who publish in Copernicus' open-access journals with the opportunity to host their videos in the TIB|AV-Portal and link them to their articles and vice versa via DOIs. This paper presents first experiences and examples from this collaboration.

**Keywords:** scientific videos; open-access publications; video repositories.

## 1 Introduction

A scientific publication is not only the research article, but a cluster of it and its underlying material and related items. Therefore, Copernicus Publications – which has been a scientific publisher since 1994 and an open-access publisher since 2001 – has started to collect the DOIs of data sets, videos, samples, model code, and other supplementary material when authors upload their production files. The online library (i.e. article web page) then links these objects in an "assets tab" alongside the journal article. Via DOIs as persistent identifiers, the assets can be added to the reference list and properly cited in the article. We see these assets as an integral part of the

scientific output rather than just extra material without connection to the traditional scientific bibliography.

The screenshot displays the journal's interface. At the top, the journal title "Geoscientific Model Development" is shown with the subtitle "An interactive open-access journal of the European Geosciences Union". The header includes the EGU logo and navigation links. The main content area features a navigation menu with tabs for "Article", "Assets", "Peer review", "Metrics", and "Related articles". The "Assets" tab is active, showing a list of supplementary materials for the article "VISIR-I: small vessels – least-time nautical routes using wave forecasts" by Gianandrea Mannarini et al. The assets include a PDF supplement, a video supplement, and three case study videos, each with a DOI. On the right, there are sections for "Search articles", "Download" (with PDF and Full-Text options), "Short summary", "Citation" (with BibTeX and EndNote), and "Share" (with social media icons). A sidebar on the left contains navigation links and a "Journal metrics" section showing IF 3.549, IF 5-year 5.280, and SNIP 1.228.

**Figure 1.** Example of an asset tab (<http://www.geosci-model-dev.net/9/1597/2016/gmd-9-1597-2016-assets.html>, 03 August 2016).

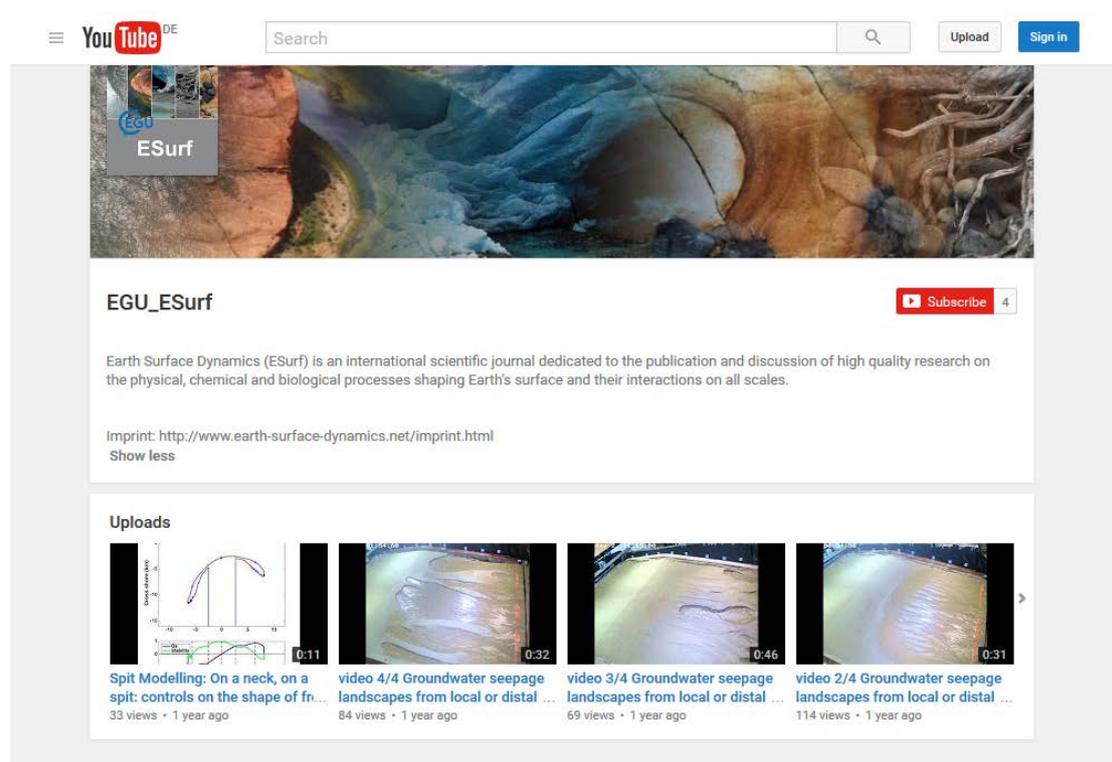
Usually, data sets are stored in reliable data repositories such as institutional repositories, discipline-specific repositories (e.g. PANGAEA), or general data repositories (e.g. ZENODO). The deposition of underlying data in such data repositories is highly recommended by us. In addition, authors are requested to include a data availability statement in their article and to add the citation of the data set to the reference list. Since Copernicus is a publisher, it does not have the suitable infrastructure for the preservation and curation of data sets but specializes in the publication of open-access journal articles.

Like data sets, other underlying and related materials corresponding to journal articles should also be stored and preserved in a sustainable manner. These items should not be “hidden” in supplement zip files – but rather be available in easily accessible, suitable, and sustainable repositories.

## 2 Scientific video abstracts and supplements

When the interest in displaying scientific videos relating to journal articles came into consideration for Copernicus Publications for the first time, one of its journals – Earth Surface Dynamics (ESurf) – requested to set up a YouTube channel to host its scientific videos, which are related to articles published in the journal.

[https://www.youtube.com/channel/UCs5Y1IkfwO9I9YVhKq\\_3IRw](https://www.youtube.com/channel/UCs5Y1IkfwO9I9YVhKq_3IRw).



**Figure 2.** ESurf’s YouTube channel

([https://www.youtube.com/channel/UCs5Y1IkfwO9I9YVhKq\\_3IRw](https://www.youtube.com/channel/UCs5Y1IkfwO9I9YVhKq_3IRw), 03 August 2016).

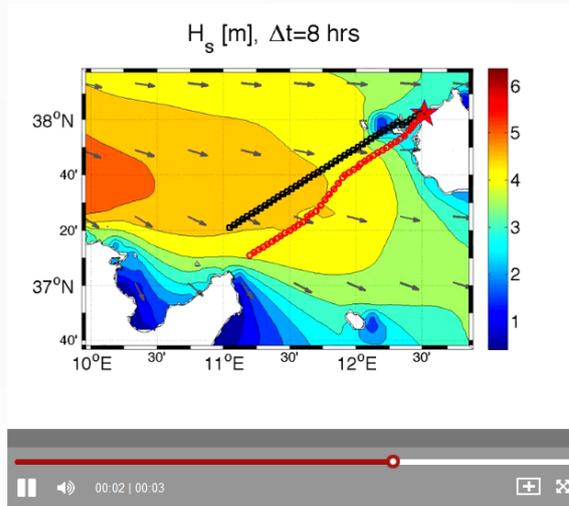
Even though YouTube is an easy-to-use medium, there is no guarantee that the videos which are available on the channel today also will be available in the future. Hence, channels like YouTube are not suited to guarantee long-term accessibility of scientific videos (video abstracts and video supplements). In addition, the citability of YouTube videos is questionable because video links may change and there is no structured way of citing this resource. Another crucial aspect – YouTube cannot provide licensing for scientific videos. But for the reusability and openness of scientific outputs, liberal licence terms (such as the Creative Commons licences) are key. Furthermore, no back-linking to the respective articles is possible.

To facilitate a sustainable hosting of video abstracts and video supplements, Copernicus started to cooperate with the TIB|AV-Portal of the National Library of Science and Technology (TIB) in late 2015.

Scientists who publish their articles in Copernicus Publications' open-access journals can present their research results in short, citable video abstracts and add video supplements to their articles. Thereby they can use the TIB|AV-Portal to publish these video abstracts or supplementary videos. Through the DOI assigned to the video by TIB|AV-Portal, we request the authors to include the full citation of their video in the journal article and its reference list. The video is then linked alongside the article through the above-mentioned "assets tab", and the reader can obtain access to the TIB|AV-Portal. In the TIB|AV-Portal, readers can then search the video abstracts/supplements by individual film sequence and cite them precisely to the second, thanks to the automatic analysis of speech, images, and text.



## An optimal route computed by VISIR-I - case study #1 of gmd-2015-167



### FOR THIS VIDEO, THERE ARE NO AUTOMATIC ANALYSIS RESULTS.

Analysis results are only provided for videos from the realms of technology/engineering, architecture, chemistry, information technology, mathematics, and physics.

Citation of segment <http://dx.doi.org/10.5446/18087#t=00-01,00-03>

Embed Code  
`<iframe width="560" height="315" scrolling="no" src="//av.tib.eu/player/18087" frameborder="0" allowfullscreen></iframe>`

Download video > Purchasing a DVD

## Metadata

### Formal Metadata

Title	An optimal route computed by VISIR-I - case study #1 of gmd-2015-167
Title of Series	An optimal route computed by VISIR-I
Part Number	1
Number of Parts	3
Author	Mannarini, Gianandrea
License	CC Attribution 3.0 Germany: <a href="#">↗</a> You are free to use, adapt and copy, distribute and transmit the work or content in adapted or unchanged form for any legal purpose as long as the work is attributed to the author in the manner specified by the author or licensor.
DOI	<a href="https://doi.org/10.5446/18087">10.5446/18087</a> <a href="#">↗</a>
Publisher	Copernicus Publications
Release Date	2016
Language	Silent film

### Technical Metadata

File Size	1,10 MB
Duration	00:03

### Content Metadata

Subject Area	Earth Sciences
Abstract	Geodetic (black markers) and optimal (red markers) route from Trapani (Italy) to Tunis (Tunisia) for vessel V1 of Table 5 and departure on 26 December 2013 at 21:00 UTC. Significant wave height analysis fields $H_s$ are displayed with coloured shadings and wave directions are displayed with arrows. As seen in Table 11, in this case, the geodetic route takes longer than the optimal route to reach the destination.
Keywords	optimal least-time route vessel waves

### Accompanying Materials

[VISIR-I: small vessels least-time nautical routes using wave forecasts](#) [↗](#)

**Figure 3.** Example of a supplement video in the TIB AV-Portal

(<https://av.tib.eu/media/18087?1284>, 04 August 2016).

So far, authors mainly use this opportunity to deposit video supplements to their articles on the TIB|AV-Portal or other repositories. For example, they add the visualization different model scenarios to their article (<http://www.geosci-model-dev-discuss.net/gmd-2016-59/> and <http://www.geosci-model-dev.net/9/1597/2016/gmd-9-1597-2016-assets.html>) or they show certain processes in a video or animation (<http://www.ann-geophys.net/34/293/2016/angeo-34-293-2016-assets.html> or <http://www.soil-discuss.net/soil-2016-13/>).

Until now, authors did not take advantage of the possibility of creating video abstracts even though these three- to five-minute video statements could provide valuable background information about their research and present their research activities to a wider audience in a video abstract.

### **3 Conclusions**

Repositories (like the TIB|AV-Portal) for audio-visual material are the optimal solution for hosting scientific videos and are therefore essential partners for scientific publishers nowadays. In the case of the TIB|AV-Portal, all necessary features (issuing of DOIs, preservation, accessibility, licencing, and back-linking to the article) are provided.

Authors still need to be trained to host their related material (e.g. videos) on suitable repositories. Especially the inclusion of non-textual resources in the reference list of their articles does not seem to be on their radar yet. However, citations to non-textual resources would increase the recognition of these additional research outputs.

In addition, authors should be encouraged to create video abstracts. They do not seem to be aware of this possibility of providing another “gateway” to their work. Presenting their work in other words and visually could reach a wider audience and thus further promote their individual topic in particular and open science in general.