

## IMPORTANT SKILLS FOR MODERN AVALANCHE FORECASTERS: SOCIAL MEDIA, PHOTOGRAPHY, VIDEOGRAPHY, BLOGGING

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**ABSTRACT:** Social media and blogging has become an important part of communication among avalanche forecasting in past years. Although it seems easy to manage social media channels and a blog there are many things to know when dealing with these. I point out some best practice out of the usage of these forms of communication such as: how to write a blog, basic knowledge for good photography, basic rules for engaging videos and how to deal with social media channels and their latest changes mainly due to progressively evolving algorithms and their limitations in reach for our posts.

**KEYWORDS:** social media, blogging, weak layer alert, best practice

### 1. INTRODUCTION

The way how information is spread among the users of avalanche forecasting products has changed rapidly since the internet got omnipresent. In former times, recreationists had to obtain information actively. In past years, due to the increasing importance of social media and messaging-apps, the active way of obtaining information was replaced by receiving information passively. Nowadays, a modern end-user has only to register for a news feed or follow the organization respectively the product he is interested in in various social media channels. Avalanche warning services all over the world have begun to use these new possibilities to distribute their information.

With these advantages of how to spread information also some disadvantages are following. In particular Facebook often impede the sharing of the information by the means of different algorithms, causing only a partial distribution of the information to the end-users. Therefore, such postings reach only part of the subscribers. Moreover, we see that the range of influence is getting worse and worse with every new change of these algorithms. Users often do not know that they passively only see parts of the information a warning service provides on social media. They suppose that they get the whole information which is shared. Therefore, an avalanche forecaster has to know how to deal with the latest trends in social media and a warning service has to be adaptive to new developments.

As a result of these developments, the avalanche forecaster has to progressively evolve better skills in online marketing and writing. Although a scientific

background is obligatory for every avalanche forecaster, being understandable for people with any educational level, and having a sense of how information can be spread to reach as most recreationists as possible is a new challenge today.

Avalanche advisories are most effective when they are timely, widely distributed, easy to understand, attention-grabbing and incorporate user input (Diegel and Tremper, 2012). Using social media in avalanche forecasting follows user expectations of how to perceive information, creates a more sense of community and belonging by two-way communication, improves observation quality and media relations, provides real-time information while users are driving to the trailhead and provides experience richness ("it is one thing to hear day after day about persistent weak layers and another thing entirely to see a video of an ECT popping out violently on the 12<sup>th</sup> tap 2 weeks after a storm"; Diegel & Tremper, 2012)

In this paper I therefore describe some issues regarding to digital marketing we are currently dealing with in the avalanche warning service (AWS) of Tyrol and will provide background information how we can interact efficiently with our customers, how to deal with the latest changes in digital marketing and will give a short outlook to future challenges for avalanche warning services in the world-wide-web.

### 2. BLOGGING



Figure 1: Logo of the AWS Tyrol Blog

In the field of digital marketing besides social media blogging is state of the art. In many cases a blog is easier to understand by practitioners and is basically one of the most efficient ways of avalanche edu-

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cation – like reading a book: one chapter after another. Meanwhile, the value of the avalanche-blog reaches the value of the avalanche bulletin within skiing communities of the areas where good blogs are offered by the AWS.

A good blog illustrates the situation, is catchier than the bulletin. It is set on the personal touch of the forecaster, on fine photography and can only succeed if the blogger follows some basic rules:

- Recommended sequence:
  - o Start: Concise introduction + travel advice
  - o Middle: analysis, background
  - o End: theory, conclusion
- Use subheadings and structure your post
- Always a conclusion at the end and a travel advice at the beginning
- Link to static content within a blogpost, to previous blogposts or content of other AWS
- Mix more and less detailed blogposts based on the situation and on your general workload
- Mix emotions with information
- Mix complex posts with simple ones
- Show behind the scenes and how you assess the avalanche hazard. Transparency and reproducibility is one of the main factors to understand your hazard assessment by recreationists
- Read blogs of other forecasters and learn out of their techniques

### 3. PHOTOGRAPHY

An attractive blog is living of fine photography. No avalanche forecaster must be a professional photographer. However, it is crucial to be familiar with the three fundamental basics of photography and their interactions:

#### Aperture, shutter speed and ISO

The internet offers countless descriptions and tutorials how to work with these parameters (summary in Fig. 2). Spend one day or two and I'll promise: you will see the world of photography with different eyes.

The actual workload is not to understand how they influence a picture but to take some time to play with all of them in different situations. This will make you to automatically choose the right values and the best exposure program in most situations (such as P, A – shutter priority, T – aperture priority).

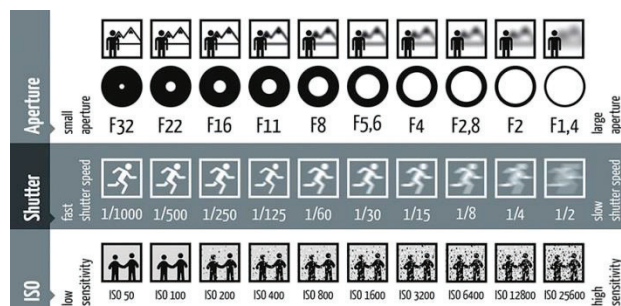


Figure 2: The three parts of exposure and their influence on photography.

Especially in snowy terrain, camera automatics have problems by choosing the right exposure. Who don't wants take some time to understand how to work with aperture, shutter speed and ISO should at least make use of the exposure compensation: mostly present in camera settings through *EV (Exposure value)*. By shifting the *EV* to negative numbers, the picture gets darker, shifting to positive numbers, the picture gets brighter.

Additionally, the rule of thirds and golden ratio, their effects on photography improves the impression of photography a lot. Short description: Don't place the main thing to the center, place it to one of the four junctions of six hypothetical lines which split the photo horizontally and vertically in three same-sized parts as shown in Figure 3.

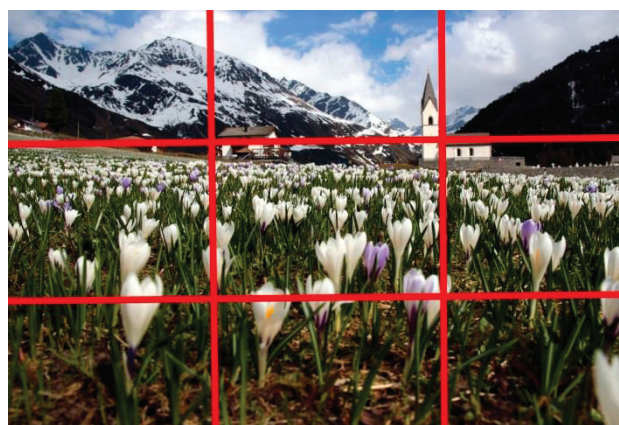


Figure 3: For rule of thirds, separate the picture in 9 more or less same-sized parts and place your main thing in one of the junctions of the hypothetical lines. It will look much better than placing it to the center.

Last but not least, favor cameras with at least an APS-C sized image sensor due to a) better photo quality and even more important b) the possibility to work with depth of field. DOF is the distance about the plane of focus where object appear acceptably sharp in an image. It offers to possibility to guide user's attention to the important parts of the picture.

### 4. VIDEOGRAPHY

Videos for avalanche information don't need to be professional: Don't waste time in editing and cutting

your videos. Information should be integrated in positive and negative emotions in a symbiotic relationship with great footage. “Great footage” refers to scenes the customer is not familiar with: e.g. an ECTP3, a wet avalanche in 24° terrain. A great ski ride is not part of great footage in the field of avalanches.

Warning-videos should not be longer than 1 minute! Tapping of an ECT + result + travel advice don't take more than 30 seconds. Be empathetic: Even you – similar to most users – don't want to invest time in additional information you actually don't need.

Videos with a more detailed description should not be longer than 3 minutes. Focus on the most important things!

Always remember KISS – keep it short and simple.

#### 4.1 What to share where

Videos which are thought to reach the customer fast and efficient are distributed directly in the social media channel because of their algorithms, rating videos higher which are published directly on the platform.

Youtube or Vimeo should be used to broadcast educational videos, integrated in static content via the homepage, the glossary and in blogposts.

### 5. SOCIAL MEDIA - BEST PRACTICE

#### 5.1 Facebook

Algorithms determine how many followers will see a post in their newsfeed. An avalanche forecaster must be familiar with the latest changes in these algorithms and has to adopt to the new circumstances quickly.

Especially within Facebook the limitation of their consecutive modified algorithm – also known as EdgeRank until 2011 – influences the broadcasting patterns of AWS'. The times when posts reached most or even all of your followers are over. Despite the fact that actually followers give the statement that they want to always stay up-to-date by liking your site. Today, either you have to pay for a higher reach or you have to adopt better to the algorithm.

The latest great modification of the Facebook algorithm was launched in February 2018. The AWS Tyrol adopts by:

Live-videos: Starting in season 2018/19 we want to create live videos in Facebook, especially for perfidious avalanche situations when recreationists will have problems to adopt correctly to the situation.

Live-videos can be published via Android and Apple with the Facebook Pages Manager application. The followers will be informed by push-notification. Thus,

a high rate of views and a relatively high reach within the followers can be achieved. Live-videos don't have to be professional – they are a possibility to provide an insight to the work of the AWS, including the communication of a very important information and favorable a travel advice for the weekend, respectively the next days in the situation of hard avalanche-manageability.

Yaytext: Facebook does not offer an editor to layout your post, change fonts, use bold or italic. Yaytext.com provides some basic text editing opportunities for your Facebook post by copy&paste. Check it out!

Current avalanche bulletin: we do not post the daily avalanche bulletin anymore due to the degradation of the algorithm. Facebook is our distribution channel for special warnings and the static content of our homepage.

Blogposts: are posted immediately in Facebook with a short comment about the article. To add some sentences manually is important because of the algorithm

Weekend Review/Preview: we publish a weekend preview (+ optional week review) via Blog and a clear statement of where to find best conditions currently.

Additional content: twice per week. E.g. link to avalanche education material, announcement of avalanche lectures. We use the schedule-function for additional content (Fig. 4).

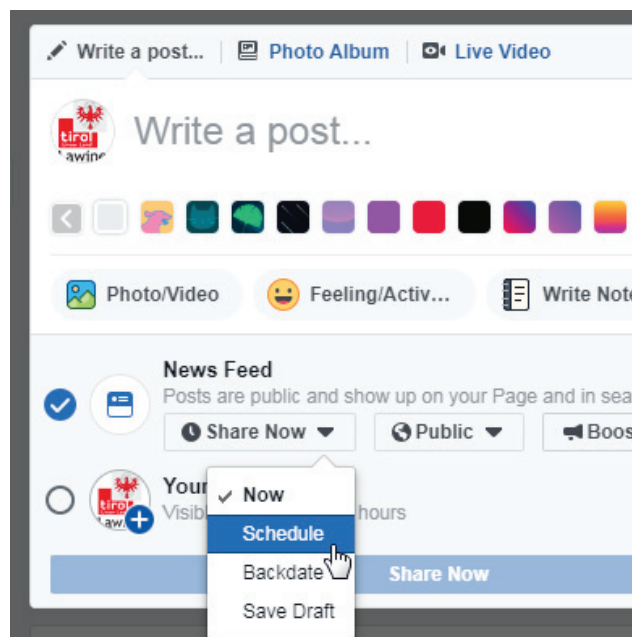


Figure 4: Facebook offers a schedule-function for posts in pages

All in all, we want to publish a maximum of 5 posts per week in winter in order to achieve a high rate of reach within our followers.

**Note:**

- Don't use services to generate automatic posts (out of the RSS-Feed)
- Educate your followers to mark your site with "see first"
- Encourage followers to share content
- Share engaging videos
- Broadcast live-videos on Facebook
- Be selective what you publish
- Pay attention when you publish

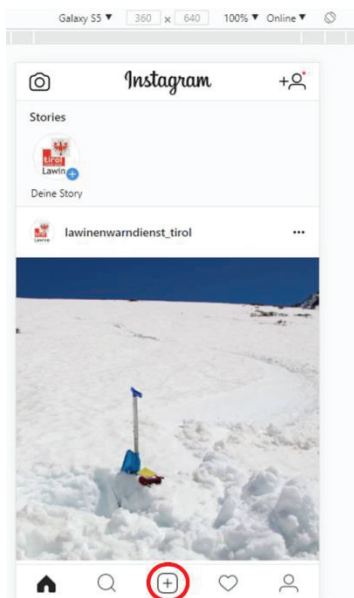


Figure 5: Instagram.com shows the tool bar, including the post-button (red), on computers by refreshing the page after you've started developer's mode in Google Chrome.

**5.2 Instagram**

Instagram is the main social media channel besides Facebook among recreationists in Europe. In the AWS of Tyrol, we use Instagram as an additional tool to raise awareness through a younger group of recreationists.

We post once to twice per week, favorable on Friday. A post in Instagram must be short and always contains a photo. To insert links is not possible. The substitution of links in Instagram posts are hashtags. We defined our main hashtags before we started Instagram. We focus on travel advices in Instagram with hardly any additional information.

We mostly post with the desktop computer, enhanced by the developer's mode in Google Chrome: Instagram actually only allows mobile devices to post. After opening Chrome in developer's mode with Ctrl+Shift+i, you have to refresh instagram.com – then you can post on your desktop-computer because the site is thinking you are a mobile device (Fig. 5).

**5.3 WhatsApp – Broadcasting**

WhatsApp is the most popular messaging service worldwide today. Adapting technology to distribute WhatsApp-newsletters is too complex for an AWS but many providers offer WhatsApp-Newsletters with an intuitive backend.

The newsletter can be sent automatically for each new bulletin and each new blogpost based on the RSS-feeds, additional newsletters can be created manually. Until now, it is not limited by an algorithm: a link to the latest bulletin and latest blogpost reaches within 10 minutes every subscriber by push-notification. Subscribing is simple: Users have to create a contact of the phone number and send a message with "start". To unsubscribe, they have to send "stop".

Additionally, users can send observations through this WhatsApp chat to the AWS, including photos and videos. We don't promote this kind of two-way communication because of receiving probably vast numbers of lower quality information.

The newsletter of the AWS of Tyrol has about 10000 users now. It is the most popular kind of staying up-to-date. Despite that, it is not the cheapest way to distribute information but it has definitely the best ratio of effort and output because every subscribed user gets every update – in contrast to other social media channels.

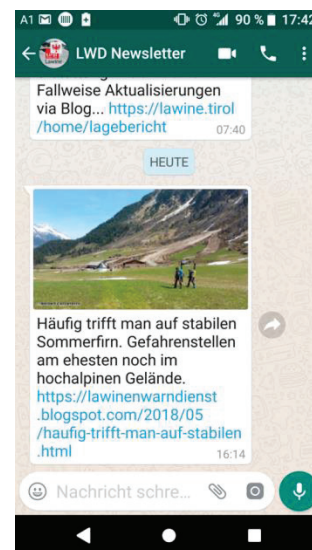


Figure 6: Screenshot of AWS Tyrol newsletter in WhatsApp

## 5.4 WhatsApp – gather information

To gather high-quality information through WhatsApp, we have a mobile phone in our AWS with a phone number only for this purpose. We have two WhatsApp groups: One for mountain guides with special interest in snow and avalanches and one for our qualified observers. Anyone in the group can see all messages within the group. This shows some advantages:

- The more active group members form a pressure to the less active ones, resulting in more and better information spread through the groups.
- The psychological barrier to send information through WhatsApp is generally extremely weak in comparison to send an email or do a phone call
- If we are interested in special subjects (e.g. surface hoar), we spread a short request for information among the groups

Unfortunately, WhatsApp does not offer an API (application programming interface) until now. Therefore, we use WhatsApp-Web, an application to manage the chatrooms on the computer: Simple, functional and with the possibility to download the photos and videos to our archive.

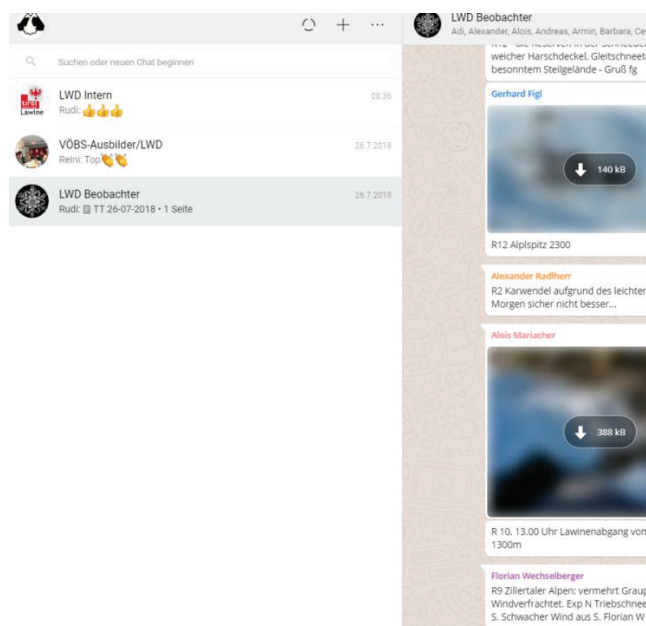


Figure 7: Screenshot of WhatsApp-chats in Web-/desktop-application

## 6. WEAK LAYER ALERT

Through all our distribution channels we further want to create so-called “weak-layer alerts” – beginning in season 2018/19. Anytime we expect a high fatality-/accident-rate with fast evolving weak-layers (near-surface faceting processes and buried surface hoar), we want to call our warnings “weak-

layer alerts” to establish a term within the recreating communities which is combined with special attention out in the field. The weak-layer alert should turn into a “brand” everybody knows. It is important that weak-layer alerts are not published too often in order to keep users in special awareness of them.

## 7. CONCLUSIONS

Using social media for avalanche forecasting is state of the art. Every AWS should broadcast information through selected social media channels beside the avalanche bulletin on their homepage – set on the fact that preferred way of perceiving information is changing fast.

Also, a blog is obligatory for every high-quality AWS. It illustrates and translates the information of the bulletin and is one of the most effective educational programs out there.

Last but not least, only a forecaster who has fun with is a good blogger, a good photographer and good a content broadcaster. Find the right person(s) for your team and get started.

### Note:

- Use brainstorming and build an editorial plan for social media
- Check regularly on changes to algorithms & consider adoptions
- Get familiar with basics in photography and blogging
- Use (live-) videos & emotions but stay reliable and KISS
- Establish the “weak layer alert” before avalanche situation with a high expected accident rate.
- Give persistent weak layers a name as in weather forecasting for highs and lows
- Link to external high-quality information
- Call for information among followers in special situations (e.g. growing surface hoar)
- Consider a WhatsApp/Telegram Newsletter to spread your information
- Harness athletes to communicate your objectives via social media

## ACKNOWLEDGEMENT

Thank you Utah forecasters, we can learn a lot out of your media strategies.

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