**Title of the Paper (use Arial 16pt font, highlight each section below and replace with your text)**

Author Name (1)

Affiliation/Organisation

Email address

Author Name (2)

Affiliation/Organisation

Email address

Author Name (3)

Affiliation/Organisation

Email address

**ABSTRACT**

*The abstract is a short, informative summary of no more than 300 words. The abstract should not simply list the topics covered in the paper, but should (1) state the scope and main objectives of the presented work, (2) describe the methods used, (3) summarise the results, and (4) state the main conclusions. Remember that the abstract will be the most widely read portion of the paper – if it is interesting, the reader will likely go on to read the full paper. The text of the abstract should be 12pt Times New Roman font, italic, single-spaced and left-right justified. Save this template under a different name. Then simply highlight this text and replace it with the words of your abstract. If copying and pasting from an existing document, it is best to use the “Paste Special” – “Unformatted Text” or “Keep Text Only” option under the “Paste” menu to keep the formatting used in this template. Leave a single line space above the keywords listed below.*

**KEYWORDS**: *State up to 5 keywords in 12pt Times New Roman font, italic, separated by commas*.

**1 INTRODUCTION**

The Association of Public Authority Surveyors (APAS) aims to produce conference proceedings of high quality in both content and appearance. To help us achieve this goal, authors are asked to submit their paper using this template (which is based on the template used by the International Global Navigation Satellite Systems Society for its IGNSS conferences). It is also important that you adhere to the submission deadlines, so the conference proceedings can be finalised in time for the conference. Remember that we have to deal with many papers, so late submissions cause a lot of inconvenience. So, please be nice to your APAS committee! Please closely follow the rules outlined in this template. Basically, your final paper should look like this document. The best way to do this is to save this template under a different name using the surname and first name of the presenter (i.e. surname\_firstname\_paper.docx), then edit the template and insert the contents of your paper. Please refrain from using automatic numbering. Most importantly, please don’t hesitate to ask if you should have any questions.

The purpose of the Introduction is to tell readers why they should want to read what follows. This section should provide sufficient background information to allow readers to understand and evaluate the paper’s results. The introduction should (1) present the nature and scope of the problem, (2) review related literature, (3) describe the method of investigation, and (4) describe the main results of the investigation. All text in the main body of the paper should be 12pt Times New Roman font, single-spaced and left-right justified. All headings should be numbered (but please do not use automatic numbering). Leave two line spaces before the main headings and one line space before sub-headings. Leave one line space between paragraphs. To enter your text, simply highlight the paragraphs here and replace with your words.

**2 IMPORTANT DATES AND PAPER SUBMISSION**

Please adhere to the submission deadlines, so the conference proceedings can be finalised in time. Please note that the proceedings will be published on the APAS website, i.e. all papers will be freely available for download. Submitted papers will not be peer-reviewed but are subject to changes made by the Editor of the conference proceedings. The submission deadlines for APAS2021 are listed in Table 1.

Table 1: Submission deadlines for APAS2021.

|  |  |
| --- | --- |
| **Submission** | **Due Date** |
| Abstracts | Friday, 25 September 2020 |
| Draft Papers | Friday, 20 November 2020 |
| Final Papers | Friday, 22 January 2021 |

The abstracts are necessary for the APAS committee to determine details about the topic presented in each paper. Abstracts are very important for generating the conference program and applying for CPD points. Please use the separate abstract template when submitting your abstract.

It is recognised that authors may not be very experienced in writing papers. In fact, we encourage submissions from authors that do not normally present their work at conferences. By submitting your paper before the draft paper deadline, you have the opportunity to receive feedback from the Editor which may result in improvements of your paper. Any suggested changes can then be made before the final paper deadline.

Papers are to be submitted by email to Dr Volker Janssen (Publications@apas.org.au). Please use this paper template. Please do not use automatic numbering, paragraph, tracking and self-checking options as these tend to cause problems in the editing process. If you are unsure, please ask.

**3 STRUCTURE OF YOUR PAPER**

**3.1 General**

There is flexibility as to the naming of the sections providing information on your methods and results. Describe the methodology employed in the work and point to other people’s work using references where appropriate (see section 3.3). Paragraphs should be separated by a single line break and not be indented.

Before beginning to write, organise your material carefully to ensure that your paper will be properly structured. Use a straightforward writing style, simple sentence structure and common vocabulary, but do not sound too casual. Choose the passive voice (i.e. avoid using “we” or “I”).

Explain all technical terms, acronyms and specific terms, remembering that the readers may not be experts in your field of work. Avoid specific local references, inside comments, ambiguous terms and irony.

Note that the proceedings will be made available in PDF format on the APAS website, so you may include web links in the reference list of your paper (see References section at the end of this template for examples). Please ensure that your paper is submitted on time.

**3.2 Document Format and Styles**

This template uses the required formatting, detailed in this section. The paper should be submitted in portrait A4 format using 2.5 cm for Top, Bottom, Left and Right margins. Do not use footnotes.

***3.2.1 Title, Author Information, Abstract and Keywords***

Title: Arial, 16 point, bold, centred. It is preceded by a 12 point blank line and followed by a 20 point blank line.

Author name(s): Arial, 12 point, bold, centred.

Author information (affiliation and email address): Arial, 10 point, centred.

Abstract: Times New Roman, 12 point, italic, left-right justified.

Keywords: Times New Roman, 12 point, italic, left-right justified. The word “KEYWORDS:” is Arial, 11 point, bold and capitalised.

***3.2.2 Headings and Paragraphs***

All headings should be numbered (but do not use automatic numbering).

Main headings: Arial, 12 point, bold, left justified, fully capitalised.

Sub-headings: Arial, 11 point, bold, left justified. The first letter of each word is capitalised.

Sub-sub-headings: Arial, 11 point, bold, italic, left justified. The first letter of each word is capitalised.

Main headings are preceded by two blank lines and followed by one blank line. Sub-headings and sub-sub-headings are preceded by one blank line and followed by one blank line.

Paragraphs: Times New Roman, 12 point, left-right justified, single-spaced. Each paragraph is followed by a single blank line and not indented. Use single spaces between sentences.

**3.3 Referencing**

Please ensure that referencing is consistent throughout the paper. Where a reference appears as part of a sentence, it should show the authors’ names, followed by the year of publication in parentheses. This example refers to the work of Janssen and Watson (2018). Where the full reference is parenthesised, it should appear as follows (Janssen and Watson, 2018). When reference is made in the text to work by three or more authors, only the first author’s surname should be used, followed by et al. For example, more details about this testing methodology can be found in Roelse et al. (1971).

A complete list of references cited must appear in the References section at the end of the paper (12pt Times New Roman font). The first line of each reference is not indented but each following line is indented by 0.5 cm. Each reference should use an after-paragraph spacing of 6pt. All authors must be listed. References should be listed alphabetically by the first author’s surname. If multiple references to one author are included, references should be listed alphabetically according to the second author, and then chronologically. To be of real value, authors should attempt to only reference material that is readily accessible to the reader. Ensure that complete information about each reference is given. Do not abbreviate journal titles. Several examples are given in the References section at the end of this template.

**3.4 Figures and Tables**

The results of experiments can be presented as figures or tables. Selective presentation of results is important. Repetitions should be avoided. All figures and tables must be embedded in the document, inserted in an appropriate place and centred. Use the Wrap Text 🡪 **“in line with text”** layout option for all figures. Figures formatted in the layout option as “in front of text” will cause severe difficulties in the editing process.

Figures may be black & white or full colour. They should be no wider than the width of the text column. Line drawings must be of adequate resolution (at least 150 dpi) at printable scale (100%). Photographs should have good contrast and intensity. Photographs must also be of adequate resolution (preferably 300 dpi) at printable scale (100%). Please ensure that photographs are of manageable size before they are inserted into the document (i.e. reduce the size before inserting them). Tables can be created within Word.

Figures and tables should be numbered according to the order they are referenced in the paper. All figures and tables should be referred to by their number in the text before they are shown. When referring to figures and tables in the text, spell out and capitalise the word Figure or Table.

Figure captions and table headings should be kept brief but be explicit enough so that the reader can understand the significance of the figure or table. Figure captions should be centred and placed directly beneath the relevant figure. The caption should be typed in 10pt Times New Roman font and use a before-paragraph setting of 6pt (Figure 1).



Figure 1: APAS emblem.

Table headings should be centred and placed directly above the relevant table. The heading should be typed in 10pt Times New Roman font and use an after-paragraph setting of 6pt (Table 2).

Table 2: Descriptive statistics for the datasets investigated.

|  |  |  |
| --- | --- | --- |
|  | **Dataset 1** | **Dataset 2** |
| **Data within specifications (%)** | 99.6 | 99.8 |
| **Horizontal RMS (mm)** | 12.3 | 15.4 |
| **Vertical RMS (mm)** | 21.2 | 30.8 |

**4 CONCLUDING REMARKS**

This section should briefly summarise the work presented in the previous sections. Include (1) the principles, relationships, and generalisations inferred from the results, (2) any exceptions to (or problems with) these principles, relationships and generalisations, (3) agreements or disagreements with previously published work, (4) theoretical and practical implications of the work, and (5) conclusions drawn.

**ACKNOWLEDGEMENTS**

These are optional. They should acknowledge any significant contributions made by people or organisations to the work presented (e.g. supply of data or funding).

**REFERENCES**

Brown N.J., Featherstone W.E., Hu G. and Johnston G.M. (2011) AUSGeoid09: A more direct and more accurate model for converting ellipsoidal heights to AHD heights, *Journal of Spatial Science*, 56(1), 27-37.

GA (2020) AUSPOS – Online GPS processing service, <http://www.ga.gov.au/scientific-topics/positioning-navigation/geodesy/auspos> (accessed July 2020).

ICSM (2020a) Geocentric Datum of Australia 2020 technical manual, version 1.3, <https://www.icsm.gov.au/publications/gda2020-technical-manual-v13> (accessed July 2019).

ICSM (2020b) GDA2020 and GDA94 technical manuals, <https://www.icsm.gov.au/gda2020-and-gda94-technical-manuals> (accessed July 2020).

Iliffe J. and Lott R. (2008) *Datums and map projections for remote sensing, GIS and surveying* (2nd edition), Whittles Publishing, Dunbeath, 208pp.

Janssen V. (2009) Understanding coordinate reference systems, datums and transformations, *International Journal of Geoinformatics*, 5(4), 41-53.

Janssen V. and Watson T. (2018) Evaluating the performance of AUSGeoid2020 in NSW, *Proceedings of Association of Public Authority Surveyors Conference (APAS2018)*, Jindabyne, Australia, 9-11 April, 3-18.

NSW Spatial Services (2020) CORSnet-NSW, <http://www.corsnet.com.au/> (accessed July 2020).

Roelse A., Granger H.W. and Graham J.W. (1971) The adjustment of the Australian levelling survey 1970-1971, *Technical Report 12*, Division of National Mapping, Canberra, Australia, 81pp.