High–level accessibility review – LAA
(GeoScienceWorld Platform)

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GeoScienceWorld Platform

Summary

Top 3 problems for the GeoScienceWorld Platform

This assessment covers portions of the GeoScienceWorld Platform. The assessment revealed serious problems with assistive technology compatibility, resulting in some users missing some information required to understand content and operate functions.

1. **Linked Images –** All images must have an alt attribute (whether it describes an informative image or hides a decorative one), and linked images especially rely on the alt to describe the purpose or destination of the linked image.
2. **Link Purpose –** Many links have similar or identical link text but the links perform different or unique actions. This can result in confusion when similarly named links do or reach different things.
3. **Semantics –** Many issues with semantic headings and group labels being programmatically associated with groups exist. Errors with semantics often misrepresents the structure of information on the page.

Accessibility findings

Project wide issues

The issues presented in this section were identified in multiple pages and are recorded here to avoid repetition. These are applicable to each screen. Due to particularities, similar issues are still reported on a page per page basis, where applicable.

Automated findings using Axe

Issues found through automated testing come from the Axe plugin, an open source accessibility testing tool that is available for Chrome, Firefox and Edge. Details here: https://www.deque.com/products/axe/.

1. **SC 4.1.1 A** – The page contains elements that have been given IDs that are duplicated. Duplicated IDs include: logo-GeoScienceWorld, MicrositeSearchIcon, search-dropdown, MicrositeSearchTerm, micrositeSearchTermInputHint, navbar-search-filter-site, logo-Elements, hfSolrAutoSuggestMinimumCharactersLength, hfSolrJournalName, hfSolrJournalID, micrositeAutoCompleteResults, hfParentSiteName, hfSolrMaxAllowSearchChar, hfJournalShortName, hfGlobalSearchSiteURL, hfSiteURL, hfQuickSearchUrl, logo-GeoRef
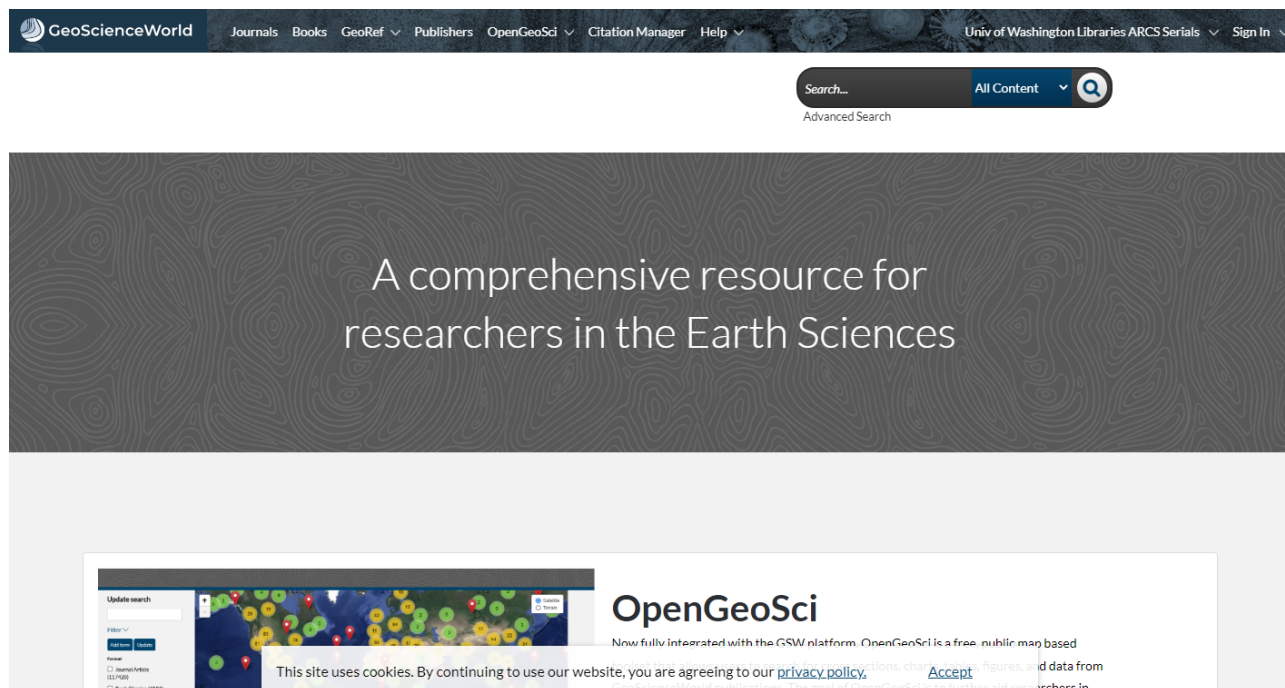
Additional manual findings using NVDA screen reader

1. **SC 2.4.4 A** – Several header links share the same link text as links in the footer, but perform a different task or function. Affected links include: GeoScienceWorld, Journals, GeoRef, OpenGeoSci, Help
2. **SC 2.4.3 A** – The header section contains functionality that is visually hidden but is included in the natural tab order: Search Dropdown Menu, Search input auto suggest
3. **SC 1.3.1 A** – The 'Explore', 'Connect', 'Resources' and 'About' section headings in the footer are not semantically identified as headings.

1. **Landing Page**

Source: https://pubs-geoscienceworld-org.offcampus.lib.washington.edu/

Test case: Test initial interface/landing page to ensure menus, search box, images, icons, sort by, etc. are accessible.

Automated findings using Axe
No issues found.

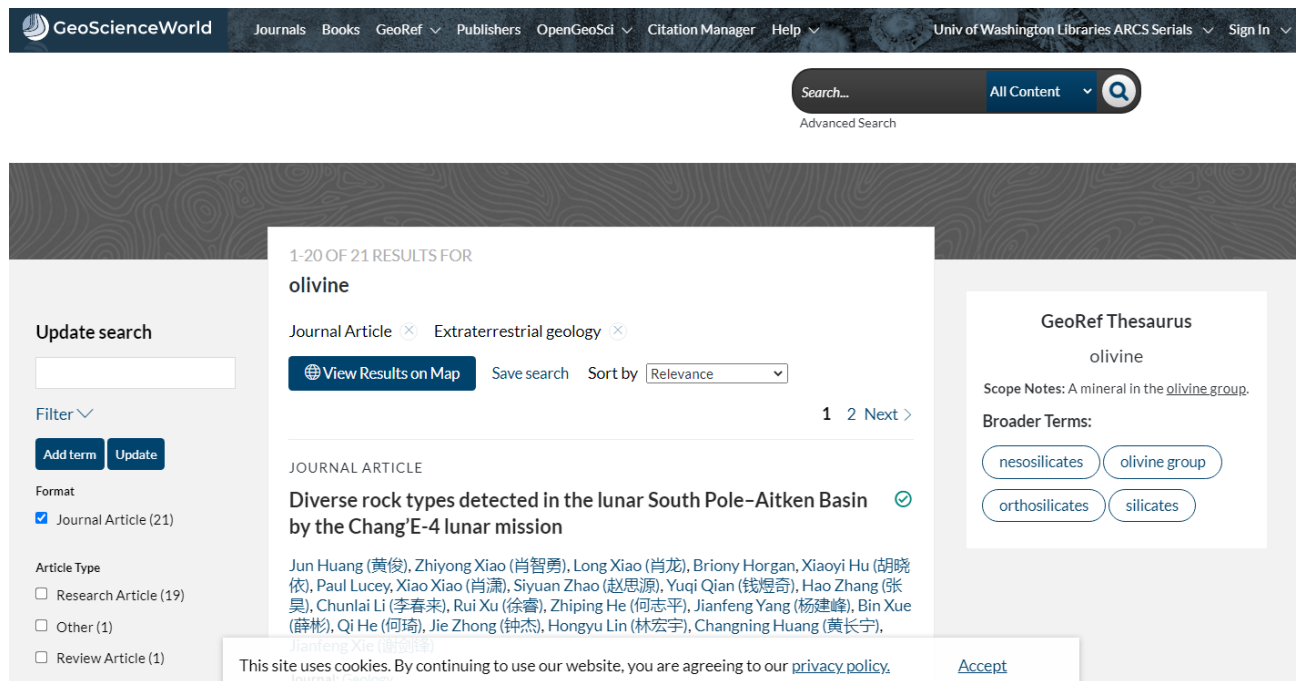**Additional manual findings using NVDA screen reader**
1. **SC 3.1.2 AA** – The GSW Publishers section contains content that is not in the primary language of the page, and the affected content does not have its language programmatically defined.
2. **SC 1.1.1 A** – The "OpenGeoSci screenshot" image is decorative but is not ignored by Assistive Technology

2. Search Results

Source:
https://pubs-geoscienceworld-org.offcampus.lib.washington.edu/georef/term/5/25511/olivine?f_Content
Type=Journal+Article&fl_SiteID=155&fd_GeoRefKeywords=olivine&exPrm_LegacyGbosId=olivine&page=1
&f_GeoRefCategoryCode=Extraterrestrial+geology

Test case: From the initial interface, perform a search for: olivine. Test results page, including Filter and sort by options. Limit Format to Journal Article. Limit GeoRef Categories to Extraterrestrial geology.

Automated findings using Axe

1. **SC 4.1.1 A** – The page contains elements that have been given IDs that are duplicated. Duplicated IDs include: instance_QueryBuilderSearchTerm, chk.
2. **SC 1.1.1 A** – All linked images/figures in all search results are missing an alt attribute with descriptive text.
3. **SC 4.1.2 A** – All linked images/figures in all search results are missing link text, which would be provided through an alt attribute.
4. **SC 1.4.3 AA** – The "1-20 of 21 Results for" content is low in contrast. A 2.19:1 contrast ratio was detected where a 4.5:1 ratio is expected.

Additional manual findings using NVDA screen reader

1. **SC 2.4.4 A** – All instances of the 'PDF' link in search results share the same link text but lead a user to a unique document. There is no additional context to differentiate the unique purpose of the same-named links.
2. **SC 2.4.4 A** – All instances of the 'Abstract' link in search results share the same link text but perform a unique function. There is no additional context to differentiate the unique purpose of the same-named links.
3. **SC 2.4.4 A** – All instances of the 'Add to Citation Manager' link in search results share the same link

text but perform a unique function. There is no additional context to differentiate the unique purpose of the same-named links.

4. **SC 3.2.2 A** – When a user uses any filter option, the page is automatically refreshed without the user having applied or confirmed their filter choice.
5. **SC 1.3.1 A** – The 'Update Search' input field is not programmatically associated with its visible label.
6. **SC 1.3.1 A** – All groups of filter options are not programmatically associated with their group labels. For example, 'Article Type' options have a group label of "Facet list".
7. **SC 1.3.1 A** – All headings for all groups of filter options are not semantically identified as headings.
8. **SC 2.1.1 A** – All options within the 'GeoRef Subject' section cannot be operated by a keyboard only user
9. **SC 4.1.2 A** – All options within the 'GeoRef Subject' section are missing a semantic role
10. **SC 4.1.2 A** – All options within the 'GeoRef Subject' section are missing their expanded/collapsed state
11. **SC 4.1.2 A** – The 'Apply' link is missing an href attribute
12. **SC 1.3.2 A** – The date picker functionality is included at the very end of the page when exposed, therefore a keyboard only and Assistive Technology user is unable to ever encounter the functionality before it disappears
13. **SC 4.1.2 A** – The 'Prev' and 'Next' links in the date picker are missing an href attribute
14. **SC 2.4.4 A** – The 'remove [filter name] filter' links do not have an appropriate link name. Current: "close, link"
15. **SC 3.1.2 AA** – The search results can sometimes contain content that is not in the primary language of the page, and the affected content does not have its language programmatically defined. E.g. "黄俊", "肖智勇", "肖龙", "胡晓依" etc.
16. **SC 4.1.2 A** – When the Abstract for a search result is expanded, the expanded/collapsed programmatic state is not updated.
17. **SC 1.3.1 A** – When the Abstract for a search result is expanded, the newly expanded content is inappropriately hidden from Assistive Technology with aria-hidden.
18. **SC 2.4.3 A** – When the Abstract for a search result is expanded, keyboard user focus is set to the PDF and Add to Citation Manager controls, except the controls are not visible and are hidden due to the expanded content.
19. **SC 1.3.1 A** – The 'GeoRef Thesaurus' and 'Broader Terms' section headings are not semantically marked up as headings.
20. **SC 1.4.11 AA** – The orange lock icon representing 'Open Access' in the search results is informative but low in contrast. A 2.6:1 contrast ratio was detected where a 3:1 contrast ratio is expected.
21. **SC 1.4.11 AA** – The grey shopping cart icon representing 'Available for purchase' in the search results is informative but low in contrast. A 2:1 contrast ratio was detected where a 3:1 contrast ratio is expected.
22. **SC 1.4.11 AA** – The 'Update Search' text input can only be visually identified and the visual boundary is low in contrast. A 1.38:1 contrast ratio was detected for the visual boundary where a 3:1 contrast ratio is expected.

3. Article Landing Page

Source:
https://pubs-geoscienceworld-org.offcampus.lib.washington.edu/msa/elements/article/12/3/165/137667/Cosmic-Dust-Building-Blocks-of-Planets-Falling?searchresult=1

Test case: Select "Cosmic Dust: Building Blocks of Planets Falling from the Sky" – test individual landing page of article.

Automated findings using Axe

1. **SC 1.3.1 A** – The 'Data & Figures', 'Contents', 'GeoRef', 'References' and 'Related' controls are semantically identified as 'tab's but are not nested within a required parent.
2. **SC 1.4.3 AA** – The "Standard View", "PDF", "Cite", "Share" and "Tools" text content is low in contrast. A 3.37:1 contrast ratio was detected where a 4.5:1 ratio is expected.
3. **SC 4.1.1 A** – The page contains elements that have been given IDs that are duplicated. Duplicated IDs include: 13877368, Config_ViewMoreLink
4. **SC 4.1.2 A** – The 'Abstract' section contains an empty link.

Additional manual findings using NVDA screen reader
Not completed due to insufficient time.

4. Advanced Search

Source: https://pubs-geoscienceworld-org.offcampus.lib.washington.edu/advanced-search

Test case: Test advanced search. Search for Title "Lead Isotopes". Limit to journal "Journal of Sedimentary Research"

Automated findings using Axe
1. **SC 4.1.1 A** – The page contains elements that have been given IDs that are duplicated. Duplicated IDs include: chkAdvancedSearchContentType, chkAuthorJournal, exactMatch, chkAdvancedSearchJournal
2. **SC 1.3.1 A** – All custom checkboxes are not programmatically associated with their visible labels.
3. **SC 3.3.2 A** – The 'Exact Match' checkboxes contain multiple programmatic labels, which is not well-supported.

Additional manual findings using NVDA screen reader
Not completed due to insufficient time.