

Summary

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Introduction

This summary is automatically generated. To maximize the level of details in the summary, complete the following tasks before running this function:

- clustering and labeling by using the **All in One** button
- run the burst detection function from the **Burstness** tab in the Control Panel
- compute the betweenness centrality from the Nodes menu
- save the current visualization as a PNG image in the project folder

The summary highlights major clusters first, including citing articles and cited references. The importance of nodes will be summarized in terms of citation-based metrics such as citation counts and citation bursts, network-based metrics such as degree centrality and betweenness centrality. Sigma is a combination of both types, i.e., burst and betweenness centrality.

There are other features that are not included in the current summary, for example, structural variation analysis, analysis of uncertainties, concept trees, and dual-map overlays.

MAJOR CLUSTERS

Cluster information is not available.

CITATION COUNTS

The top ranked item by citation counts is GLOBAL ENVIRON CHANG in Cluster #, with citation counts of **107**. The second one is CLIM POLICY in Cluster #, with citation counts of **94**. The third is CLIMATIC CHANGE in Cluster #, with citation counts of **88**. The 4th is CLIM DEV in Cluster #, with citation counts of **53**. The 5th is WORLD DEV in Cluster #, with citation counts of **51**. The 6th is NAT CLIM CHANGE in Cluster #, with citation counts of **49**. The 7th is P NATL ACAD SCI USA in Cluster #, with citation counts of **48**. The 8th is ENVIRON SCI POLICY in Cluster #, with citation counts of **47**. The 9th is MITIG ADAPT STRAT GL in Cluster #, with citation counts of **46**. The 10th is WIRES CLIM CHANGE in Cluster #, with citation counts of **45**.

| Citation Counts | Node Name | DOI | Cluster ID |
|-----------------|----------------------|-----|------------|
| 107 | GLOBAL ENVIRON CHANG | | |
| 94 | CLIM POLICY | | |

| | | | |
|----|----------------------|--|--|
| 88 | CLIMATIC CHANGE | | |
| 53 | CLIM DEV | | |
| 51 | WORLD DEV | | |
| 49 | NAT CLIM CHANGE | | |
| 48 | P NATL ACAD SCI USA | | |
| 47 | ENVIRON SCI POLICY | | |
| 46 | MITIG ADAPT STRAT GL | | |
| 45 | WIRES CLIM CHANGE | | |

BURSTS

The top ranked item by bursts is ECOL ECON in Cluster #, with bursts of **5.57**. The second one is IDS BULL-I DEV STUD in Cluster #, with bursts of **4.44**. The third is MITIGATION AND ADAPTATION STRATEGIES FOR GLOBAL CHANGE in Cluster #, with bursts of **4.42**. The 4th is CLIMATE CHANGE 2014: IMPACTS in Cluster #, with bursts of **4.18**. The 5th is J CLEAN PROD in Cluster #, with bursts of **3.80**. The 6th is WEATHERING THE STORM: OPTIONS FOR FRAMING ADAPTATION AND DEVELOPMENT in Cluster #, with bursts of **3.69**. The 7th is AM ECON REV in Cluster #, with bursts of **3.51**. The 8th is SCIENCE in Cluster #, with bursts of **3.49**. The 9th is SUSTAINABILITY-BASEL in Cluster #, with bursts of **3.33**. The 10th is INV FIN FLOWS ADDR C in Cluster #, with bursts of **3.25**.

| Bursts | Node Name | DOI | Cluster ID |
|--------|--|-----|------------|
| 5.57 | ECOL ECON | | |
| 4.44 | IDS BULL-I DEV STUD | | |
| 4.42 | MITIGATION AND ADAPTATION STRATEGIES FOR GLOBAL CHANGE | | |
| 4.18 | CLIMATE CHANGE 2014: IMPACTS | | |
| 3.80 | J CLEAN PROD | | |
| 3.69 | WEATHERING THE STORM: OPTIONS FOR FRAMING ADAPTATION AND DEVELOPMENT | | |
| 3.51 | AM ECON REV | | |
| 3.49 | SCIENCE | | |
| 3.33 | SUSTAINABILITY-BASEL | | |
| 3.25 | INV FIN FLOWS ADDR C | | |

DEGREE

The top ranked item by degree is ENVIRONMENT in Cluster #, with degree of **26**. The second one is J INT DEV in Cluster #, with degree of **26**. The third is ADAPTING TO CLIMATE CHANGE: THRESHOLDS in Cluster #, with degree of **24**. The 4th is ENERG POLICY in Cluster #, with degree of **23**. The 5th is DELIVERING REAL CHAN in Cluster #, with degree of **22**. The 6th is SOCIETIES in Cluster #, with degree of **22**. The 7th is ENHANCED DIRECT ACCE in Cluster #, with degree of **22**. The 8th is GUID NOT PLAN MAINST in Cluster #, with degree of **22**. The 9th is UNASYLVA (ENGLISH ED.) in Cluster #, with degree of **22**. The 10th is COMMUNITY-BASED ADAPTATION TO CLIMATE CHANGE: SCALING IT UP in Cluster #, with degree of **22**.

| Degree | Node Name | DOI | Cluster ID |
|--------|---|-----|------------|
| 26 | ENVIRONMENT | | |
| 26 | J INT DEV | | |
| 24 | ADAPTING TO CLIMATE CHANGE: THRESHOLDS | | |
| 23 | ENERG POLICY | | |
| 22 | DELIVERING REAL CHAN | | |
| 22 | SOCIETIES | | |
| 22 | ENHANCED DIRECT ACCE | | |
| 22 | GUID NOT PLAN MAINST | | |
| 22 | UNASYLVA (ENGLISH ED.) | | |
| 22 | COMMUNITY-BASED ADAPTATION TO CLIMATE CHANGE: SCALING IT UP | | |

CENTRALITY

The top ranked item by centrality is TECHNICAL REPORT in Cluster #, with centrality of **0.37**. The second one is J INT DEV in Cluster #, with centrality of **0.21**. The third is P NATL ACAD SCI USA in Cluster #, with centrality of **0.21**. The 4th is ENERG POLICY in Cluster #, with centrality of **0.20**. The 5th is SCI REP-UK in Cluster #, with centrality of **0.20**. The 6th is GLOBAL ENVIRON POLIT in Cluster #, with centrality of **0.18**. The 7th is PROG HUM GEOG in Cluster #, with centrality of **0.17**. The 8th is NATURE in Cluster #, with centrality of **0.16**. The 9th is CLIMATIC CHANGE in Cluster #, with centrality of **0.16**. The 10th is REG ENVIRON CHANGE in Cluster #, with centrality of **0.13**.

| Centrality | Node Name | DOI | Cluster ID |
|------------|----------------------|-----|------------|
| 0.37 | TECHNICAL REPORT | | |
| 0.21 | J INT DEV | | |
| 0.21 | P NATL ACAD SCI USA | | |
| 0.20 | ENERG POLICY | | |
| 0.20 | SCI REP-UK | | |
| 0.18 | GLOBAL ENVIRON POLIT | | |

| | | | |
|------|--------------------|--|--|
| 0.17 | PROG HUM GEOG | | |
| 0.16 | NATURE | | |
| 0.16 | CLIMATIC CHANGE | | |
| 0.13 | REG ENVIRON CHANGE | | |

SIGMA

The top ranked item by sigma is ECOL ECON in Cluster #, with sigma of **1.85**. The second one is ENERG POLICY in Cluster #, with sigma of **1.77**. The third is CLIMATE CHANGE 2014: IMPACTS in Cluster #, with sigma of **1.45**. The 4th is MITIGATION AND ADAPTATION STRATEGIES FOR GLOBAL CHANGE in Cluster #, with sigma of **1.40**. The 5th is IDS BULL-I DEV STUD in Cluster #, with sigma of **1.34**. The 6th is SCIENCE in Cluster #, with sigma of **1.27**. The 7th is CARBON CLIMATE LAW R in Cluster #, with sigma of **1.22**. The 8th is J CLEAN PROD in Cluster #, with sigma of **1.16**. The 9th is INV FIN FLOWS ADDR C in Cluster #, with sigma of **1.10**. The 10th is AM ECON REV in Cluster #, with sigma of **1.06**.

| Sigma | Node Name | DOI | Cluster ID |
|-------|--|-----|------------|
| 1.85 | ECOL ECON | | |
| 1.77 | ENERG POLICY | | |
| 1.45 | CLIMATE CHANGE 2014: IMPACTS | | |
| 1.40 | MITIGATION AND ADAPTATION STRATEGIES FOR GLOBAL CHANGE | | |
| 1.34 | IDS BULL-I DEV STUD | | |
| 1.27 | SCIENCE | | |
| 1.22 | CARBON CLIMATE LAW R | | |
| 1.16 | J CLEAN PROD | | |
| 1.10 | INV FIN FLOWS ADDR C | | |
| 1.06 | AM ECON REV | | |

References

- Chen, C. (2004) Searching for intellectual turning points: Progressive knowledge domain visualization. PNAS, 101 (suppl_1), 5303-5310. [10.1073/pnas.0307513100](https://doi.org/10.1073/pnas.0307513100) **CiteSpace Original**
- Chen, C. (2006) CiteSpace II: Detecting and visualizing emerging trends and transient patterns in scientific literature. Journal of the American Society for Information Science and Technology, 57(3), 359-377. [10.1002/asi.20317](https://doi.org/10.1002/asi.20317) **CiteSpace II**
- Chen, C., Ibekwe-SanJuan, F., Hou, J. (2010) The structure and dynamics of cocitation clusters: A multiple-perspective cocitation analysis. Journal of the American Society for information Science and Technology, 61(7), 1386-1409. [10.1002.asi.21309](https://doi.org/10.1002.asi.21309) **cluster labeling**

- Chen, C. (2012) Predictive effects of structural variation on citation counts. Journal of the American Society for Information Science and Technology, 63(3), 431-449. [10.1002/asi.21694](https://doi.org/10.1002/asi.21694) **structural variation analysis**
- Chen, C. (2017) Science Mapping: A Systematic Review of the Literature. Journal of Data and Information Science, 2(2), 1-40. [10.1515/jdis-2017-0006](https://doi.org/10.1515/jdis-2017-0006) **a show-case study**
- Chen, C., Song, M. (2019) Visualizing a Field of Research: A Methodology of Systematic Scientometric Reviews. PLoS One, 14(10), e0223994. [10.1371/journal.pone.0223994](https://doi.org/10.1371/journal.pone.0223994) **cascading citation expansion**
- Chen, C. (2020) A Glimpse of the First Eight Months of the COVID-19 Literature on Microsoft Academic Graph: Themes, Citation Contexts, and Uncertainties. Frontiers in Research Metrics and Analytics, 5:607286. [10.3389/frma.2020.607286](https://doi.org/10.3389/frma.2020.607286) **citation contexts; uncertainties**