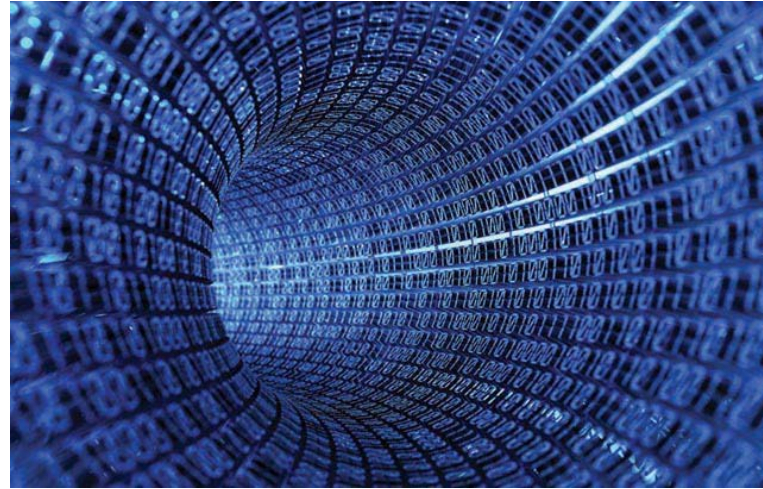
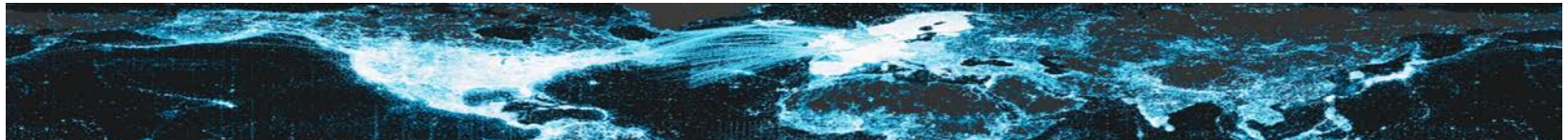


# Biodiversity Atlas Sweden

## Swedish Biodiversity Data Infrastructure (SBDI)



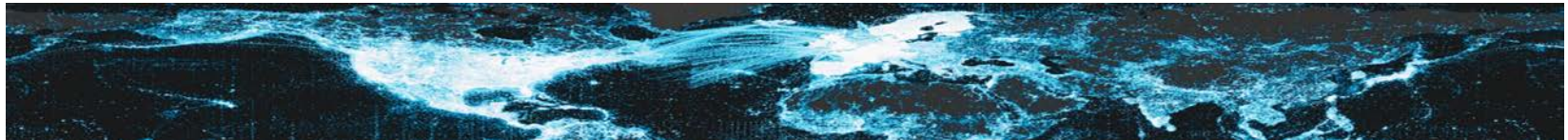
**Manash Shah** Swedish Museum of Natural History



# Biodiversity Atlas Sweden

## Swedish Biodiversity Data Infrastructure (SBDI)

- Aggregate and present biodiversity data and functionalities for research.
- Components from Atlas of Living Australia platform.
- UI components, Web services, Databases, Index, File Storage, Offline processing components.
- Java, Groovy, JavaScript, Grails, Tomcat, MySQL, Postgres, Cassandra, SOLR, Geoserver.

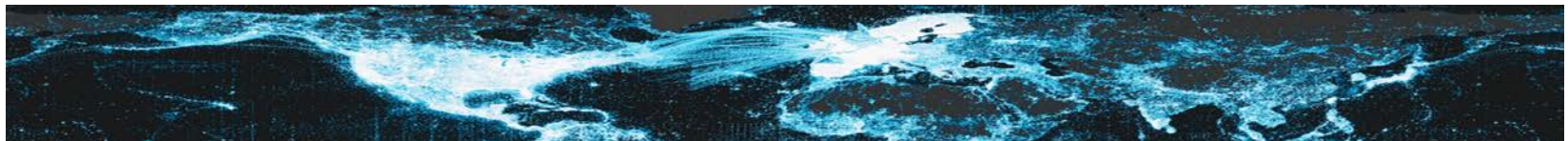


# Biodiversity Atlas Sweden

## Swedish Biodiversity Data Infrastructure (SBDI)

### Functionalities

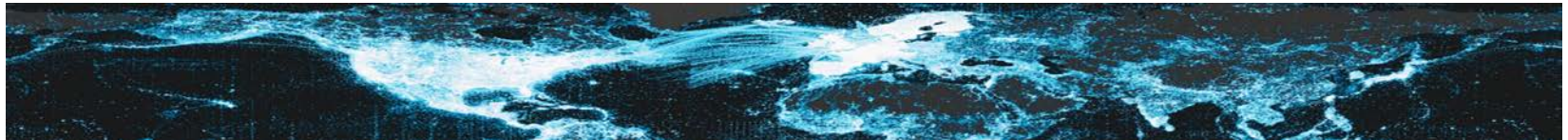
- Loading, sampling, processing and indexing of occurrence records
- Manage metadata that describe biodiversity collections and providers of biodiversity data
- Web UI and an API back-end service providing full-text search and record retrieval for occurrences
- Species/Taxonomic search components



# Biodiversity Atlas Sweden

## Swedish Biodiversity Data Infrastructure (SBDI)

- Manage species lists (checklists)
- Present regional data breakdowns
- Spatial layers processing & analysis components
- Mirroreum & ALA4R: software stack supporting reproducible research in biodiversity informatics
- User authentication components

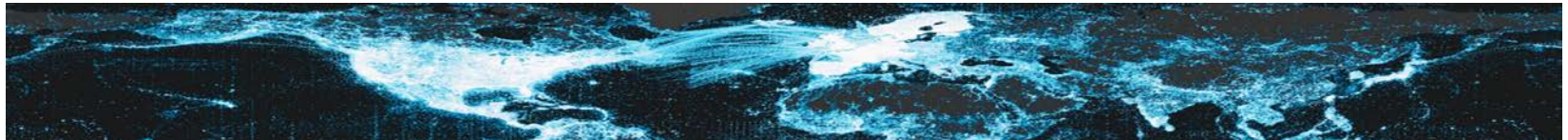


# Biodiversity Atlas Sweden

## Swedish Biodiversity Data Infrastructure (SBDI)

### Implementation

- Infrastructure as a service (IaaS) from Safespring on SUNET
- Secure data centers within Sweden providing high availability
- Multi host environment on Openstack : Cluster of Docker hosts
- Services deployed as Docker containers in Swarm mode
- Named volumes for persisting data



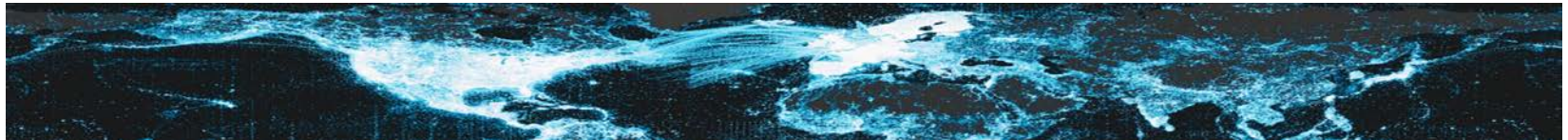
# Biodiversity Atlas Sweden

## Swedish Biodiversity Data Infrastructure (SBDI)

### Build, Install, Configure, Manage

<https://github.com/bioatlas/ala-docker>

- Makefiles to build the components from scratch or to deploy
- Dockerfiles to create docker images of individual components
- External Properties files & Template files to store environment variables and credentials
- Docker Compose / Docker Swarm for service orchestration

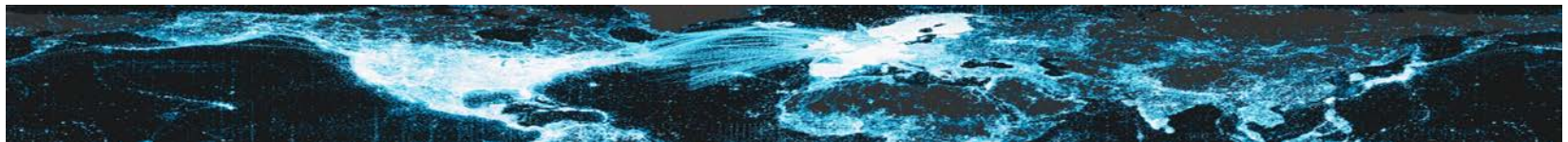


# Biodiversity Atlas Sweden

## Swedish Biodiversity Data Infrastructure (SBDI)

### Open Development

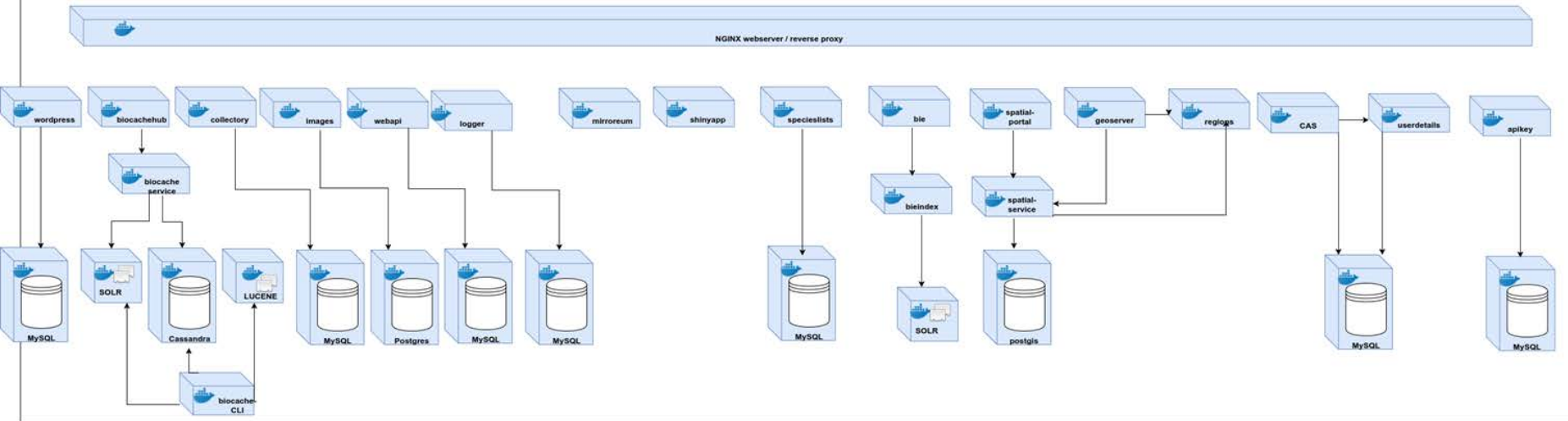
- Code : <https://github.com/bioatlas>
- Docker Images : <https://hub.docker.com/u/bioatlas/>
- Travis CI for build and release: <https://travis-ci.org/bioatlas/>
- Github Releases for binaries
- Living Atlases community : <https://living-atlases.gbif.org/>



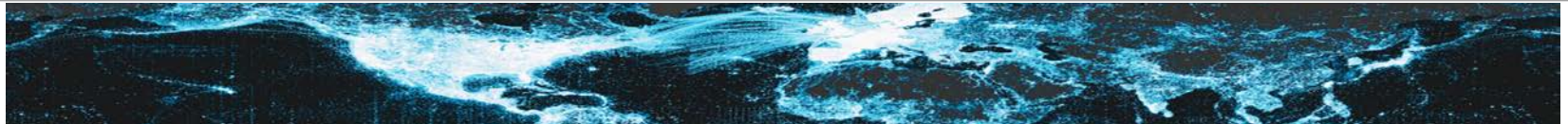
# Biodiversity Atlas Sweden

## Swedish Biodiversity Data Infrastructure (SBDI)

Openstack ON SUNET



NFS MOUNT





# Biodiversity Atlas Sweden

## Swedish Biodiversity Data Infrastructure (SBDI)

<https://bioatlas.se/>

<https://beta.bioatlas.se/>

