BOVINE EPHEMERAL FEVER VIRUS DISTRIBUTION
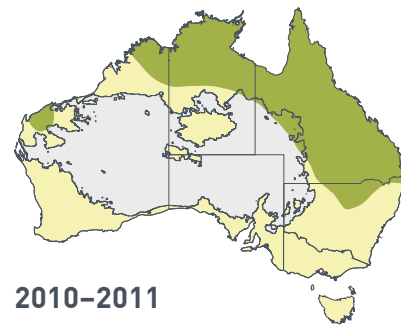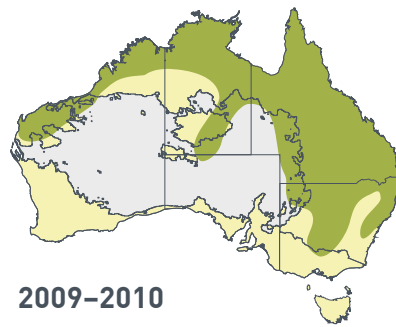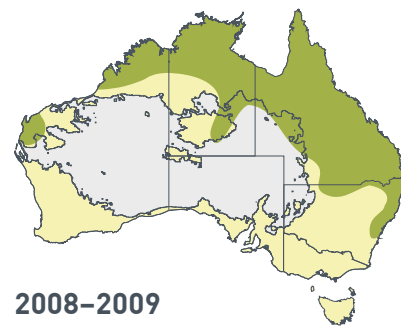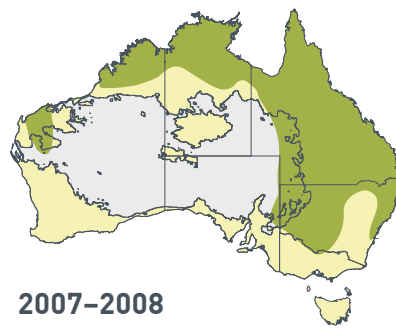## 2007-2008 to 2016-2017

The National Arbovirus Monitoring Program (NAMP) monitors the distribution of economically important arboviruses (insect-borne viruses) of ruminant livestock and associated insect vectors in Australia. Arboviruses monitored by NAMP include bluetongue, Akabane and BEF viruses. NAMP data are gathered throughout Australia by serological monitoring of cattle in sentinel herds, strategic serological surveys of other cattle herds (serosurveys), and trapping of insect vectors (*Culicoides* midges - excludes vectors of BEF virus). Blood samples from groups of young cattle that have not previously been exposed to arbovirus infection are tested at regular intervals for evidence of new infection with the bluetongue, Akabane and BEF viruses.

Bluetongue, Akabane and BEF viruses are noncontagious and are biologically transmitted by their insect vectors. Climatic factors (rainfall and temperature) determine the distribution of potential vectors. The arboviruses are transmitted only if vectors are present in sufficient density. The main vector of BEF virus in Australia is generally considered to be the mosquito *Culex annulirostris*. *C. annulirostris* has different ecological thresholds from the main vector of both BTV and Akabane virus (*Culicoides brevitarsis*), particularly its tolerance to lower temperatures, which accounts for its wider distribution and its occurrence in regions not affected by BTV or Akabane virus. BEF virus is endemic in northern Australia (Northern Territory, Queensland and Western Australia), where fever can occur in both the dry and wet seasons (spring, summer or autumn). In New South Wales and parts of southern Queensland, occurrence of the virus is limited by the effect of cold winters, restricting the distribution of its mosquito vector.

NAMP annual reports are available from the Animal Health Australia website NAMP page[1]. Contact officers for the NAMP are published in the NAMP report.
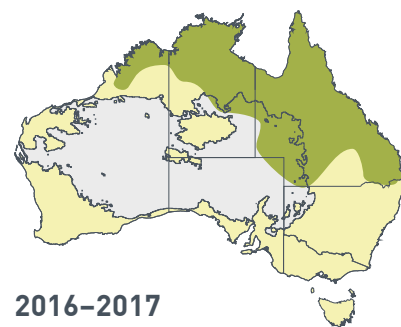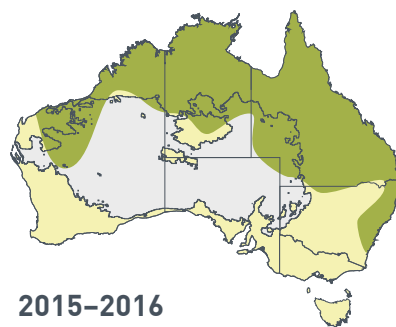
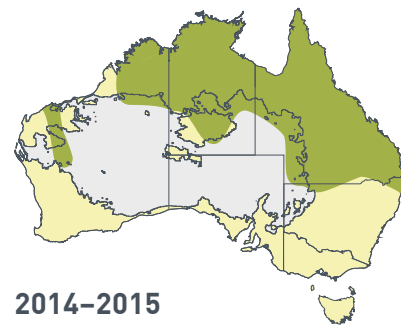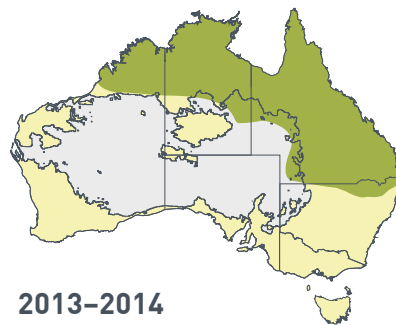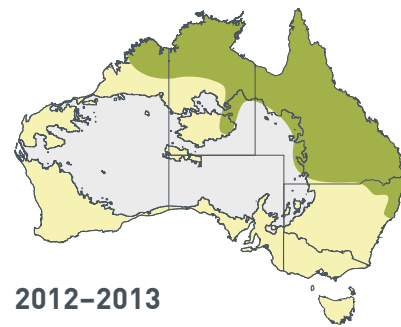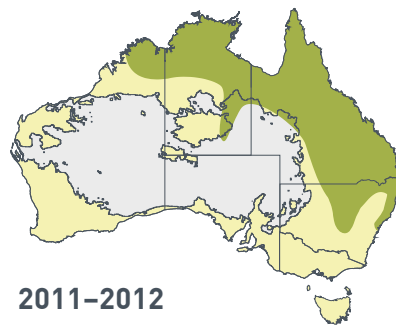1   https://www.animalhealthaustralia.com.au/what-we-do/disease-surveillance/national-arbovirus-monitoring-program/

2007–2008

2008–2009

2009–2010

2010–2011

Distribution of bovine ephemeral fever virus in Australia, 2007-2008 to 2016-2017

These figures show the limits of distribution of BEF virus based upon virus monitoring in annual arbovirus transmission seasons (September to August).

2011–2012

2012–2013

2013–2014

2014–2015

2015–2016

2016–2017

● Bovine ephemeral fever virus distribution   ● Bovine ephemeral fever virus–free areas   ○ Desert[a]

a   Köppen climate classification
     http://www.bom.gov.au/climate/averages/climatology/gridded-data-info/metadata/md_koppen_classification.shtml