

Tsunami Disaster Detection StarLogo Nova code

Team 41, Justice Code

```
when setup pushed
  clear terrain
  set clock to 0
  set Timer data box to clock
  print Seismograph 1 (E wave) data box to 1
  print Seismograph 1 (S wave) data box to 1
  print Seismograph 2 (E wave) data box to 1
  print Seismograph 2 (S wave) data box to 1
  print Seismograph 3 (E wave) data box to 1
  print Seismograph 3 (S wave) data box to 1
  print Seismograph 4 (E wave) data box to 1
  print Seismograph 4 (S wave) data box to 1
  print Seismograph 5 (E wave) data box to 1
  print Seismograph 5 (S wave) data box to 1
  delete everyone
  call epicenter
  create 100 E wave (s)
  each do
    set my color to random brown
    set my size to 3
    teleport to
      x: x data box
      y: y data box
      z: 0
  with 100% chance
  create 100 Tsunami (s)
  each do
    set my size to 3
    set my color to random blue
    teleport to
      x: x data box
      y: y data box
      z: 0

when setup pushed
  create 1 Seismograph1 (s)
  each do
    set my color to random orange
    set my size to 3
    set my shape to random Fortress
    teleport to
      x: -15
      y: -35
      z: 0
  create 1 Seismograph2 (s)
  each do
    set my color to random orange
    set my size to 3
    set my shape to random Fortress
    teleport to
      x: -25
      y: -35
      z: 0
  create 1 Seismograph3 (s)
  each do
    set my color to random orange
    set my size to 3
    set my shape to random Fortress
    teleport to
      x: -35
      y: -35
      z: 0
  create 1 Seismograph4 (s)
  each do
    set my color to random orange
    set my size to 3
    set my shape to random Fortress
    teleport to
      x: -10
      y: 25
      z: 0
  create 1 Seismograph5 (s)
  each do
    set my color to random orange
    set my size to 3
    set my shape to random Fortress
    teleport to
      x: -35
      y: 10
      z: 0

procedure: epicenter
  add parameter
  var: epicenter (x) data is random -30 to 30
  set x data box to value of epicenter (x)
  var: epicenter (y) data is random -30 to 30
  set y data box to value of epicenter (y)
  return nothing

when Epicenter pushed
  create 1 epicenter (s)
  each do
    set my shape to random X
    set my color to random white
    set my size to 3
    set my x to x data box
    set my y to y data box
```

```
while forever toggled
  set Timer data box to clock
  forward 2.7
  if abs my x >= 49 or abs my y >= 49
    delete
```

```

while forever toggled
  set Timer data box to clock
  forward 0.64
  if abs my x >= 49 or abs my y >= 49
    delete
  
```

```

on collision with E wave
  do
    if my color = color orange
      set Seismograph 1 (E wave) data box to Timer data box
  
```

```

on collision with Tsunami
  do
    if my color = color orange
      set Seismograph 1 (S wave) data box to Timer data box
  
```

```

when Detect distance from Seismograph 1 pushed
  create 60 x Seismograph 1 (S wave) data box Seismograph 1 (E wave) data box radius (s)
  each do
    set my color to color blue
    pen down
    repeat Seismograph 1 (S wave) data box Seismograph 1 (E wave) data box times
      if abs my x >= 49 or abs my y >= 49
        delete
      else
        forward 1
  
```

```

on collision with E wave
  do
    if my color = color orange
      set Seismograph 3 (E wave) data box to Timer data box
  
```

```

on collision with Tsunami
  do
    if my color = color orange
      set Seismograph 3 (S wave) data box to Timer data box
  
```

```

when Detect distance from Seismograph 3 pushed
  create 60 x Seismograph 3 (S wave) data box Seismograph 3 (E wave) data box radius (s)
  each do
    set my color to color yellow
    pen down
    repeat Seismograph 3 (S wave) data box Seismograph 3 (E wave) data box times
      if abs my x >= 49 or abs my y >= 49
        delete
      else
        forward 1
  
```

```

while forever toggled
  if abs my x >= 49 or abs my y >= 49
    delete
  
```

```

on collision with E wave
  do
    if my color = color orange
      set Seismograph 5 (E wave) data box to Timer data box
on collision with Tsunami
  do
    if my color = color orange
      set Seismograph 5 (S wave) data box to Timer data box
  
```

```

when Detect distance from Seismograph 1 pushed
  create 60 x Seismograph 4 (S wave) data box Seismograph 4 (E wave) data box radius (s)
  each do
    set my color to color blue
    pen down
    repeat Seismograph 4 (S wave) data box Seismograph 4 (E wave) data box times
      if abs my x >= 49 or abs my y >= 49
        delete
      else
        forward 1
  
```

```

on collision with E wave
  do
    if my color = color orange
      set Seismograph 2 (E wave) data box to Timer data box
on collision with Tsunami
  do
    if my color = color orange
      set Seismograph 2 (S wave) data box to Timer data box
when Detect distance from Seismograph 2 pushed
  create 60 x Seismograph 2 (S wave) data box Seismograph 2 (E wave) data box radius (s)
  each do
    set my color to color red
    pen down
    repeat Seismograph 2 (S wave) data box Seismograph 2 (E wave) data box times
      if abs my x >= 49 or abs my y >= 49
        delete
      else
        forward 1
  
```

